

# The Fusion of Chinses Iron Painting

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## Abstract

The art of iron painting, a unique traditional craft of China, originated during the Kangxi period of the Qing Dynasty. It represents a significant fusion of traditional iron forging techniques and Chinese painting. In the fast-paced modern era, iron painting faces challenges in transmission and innovation, struggling to keep pace with contemporary demands. Research objectives trace the historical development of Chinese iron painting, analyze representative works resulting from collaborations between artisans and artists, and identify core factors influencing its evolution. Recommendations for sustainable and high-quality development of Chinese iron painting are proposed. Qualitative research methods were employed, comprising literature reviews, field surveys, case studies, expert interviews, data collection, and data analysis. The study systematically analyzes the historical factors promoting development, the current challenges, and representative works that resulted from artisan-artist collaboration.

The findings reveal that artists have played an integral role in every developmental phase of Chinese iron painting. Due to artisans' limited knowledge of painting and aesthetics, collaboration with artists has been particularly pivotal. Representative works are often the results of such partnerships. Establishing a cooperative model between artisans and artists or cultivating artisans skilled in techniques, painting, and design could achieve the organic Fusion of "technique" and "art" in Chinese iron painting, thus fostering its sustainable, high-quality development.

**Keywords:** Intangible Cultural Heritage; Traditional Craft; Chinese Iron Painting; Craft Fusion; Sustainable Development

## Introduction

Chinese iron painting is a traditional folk art that emerged in the late Ming and early Qing Dynasties. Renowned for its distinctive production techniques and artistic expression, it is a signature craft of Wuhu, Anhui Province. This art form employs low-carbon steel, crafted through processes such as cutting, forging, welding, polishing, rust removal, painting, and mounting. Adhering to the color schemes of Chinese painting, it embodies the cultural values of Confucianism, Buddhism, and Taoism, reflecting a simple, natural, and unpretentious aesthetic (Huang Hui and Luo Yuan, 2016: 26-30). As a fusion of traditional Chinese painting and agricultural-era ironworking, iron painting exemplifies a material manifestation of Chinese art. Its distinct characteristics include stark black-and-white contrasts, strong three-dimensionality, a balance of flexibility and hardness, and visible hammer marks, signifying the cultural essence of Eastern aesthetics.

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In 2006, Chinese iron painting was inscribed on the first list of national intangible cultural heritage, and in 2018, it was included in the first Traditional Crafts Revitalization Plan. Within the context of cultural and tourism Fusion, innovation is essential for revitalizing Chinese iron painting to meet modern lifestyle needs and promote the inheritance and development of traditional culture.

However, the craft faces numerous challenges due to societal changes and other factors. First, the thematic and formal aspects of its products remain conventional, with significant homogenization and a lack of functional diversity. Second, the transmission of techniques faces difficulties, as the workforce diminishes, educational levels remain low, and skills in painting and design are scarce. Lastly, the products fail to align with consumer demands, leading to low market value and shrinking demand. The low cultural and aesthetic standards among practitioners have resulted in "technique without art," making the craft less appealing to new consumer demographics (Li Pin and Guo Bingyao, 2019: 92-93). Despite having highly skilled artisans, the field lacks professional, high-level designers. Without innovation and creativity, any art that relies solely on craftsmanship risks losing competitiveness and becoming obsolete (Song Yao and Huang Kai, 2013: 102-104). Given these issues, this study investigates the core factors driving the development of Chinese iron painting throughout its history and representative works, aiming to address the challenges of sustainable and high-quality development.

## Research Objectives

- 1.To identify key factors driving the development of Chinese iron painting across different historical periods.
- 2.To examine the current state of Chinese iron painting and analyze successful representative works.
- 3.According to the development characteristics of Chinese iron painting industry, puts forward the strategy of Chinese iron painting Fusion.

## Research Methodology

This research employs qualitative methods, integrating cultural hierarchy theories and modern design concepts into the study of Chinese iron painting. The following methods were used:

### 1. Literature Review

Relevant academic literature and publications on Chinese iron painting were reviewed to understand its historical development and to delineate its distinct periods. The process involved keyword searches using the CNKI database, university library databases, Google Scholar, and the Kongfuzi online bookstore to access articles and books. The gathered materials were analyzed to identify the historical phases and factors influencing the craft's evolution.

### 2. Field Surveys

Field investigations were conducted in Wuhu, Anhui Province, the hub of Chinese iron painting production and sales. Visits were made to enterprises and studios to collect first-hand data. From December 25 to 31, 2023, surveys were carried out at establishments such as the Wuhu Arts and Crafts Factory, Tingchewei Iron Painting Studio, Chu Jinxia Master Studio, Huiyifang Iron Painting Company, Feilong Iron Painting Company, and Nie

Chuanchun Master Studio. These visits provided insights into the current state of production, craftsmanship, representative works, and sales.

### 3. Case Studies

Representative and innovative works of Chinese iron painting, such as the functional pieces “Guest-Welcoming Pine” and “Floral Vessel”, as well as decorative works like “Iron Grass” and “Galloping Horse”, were analyzed. These pieces, recognized for their cultural significance and emotional resonance, were well-received by experts, practitioners, and consumers, highlighting the success of artisan-artist collaborations.

### 4. Expert Interviews

Planned interviews with key stakeholders, including inheritors, industry managers, and enterprise leaders, were conducted to gather objective insights. Interviewees included national-level masters, inheritors of intangible cultural heritage, and academic experts, such as Ling Xiaohua, Yang Yong, Gao Wenqing, Shen Tao, and Professor Huang Kai from Anhui Polytechnic University.

### 5. Data Collection

Data were collected from literature reviews, field surveys, and expert interviews. This combination enabled the identification of historical phases, influencing factors, and challenges in the development of Chinese iron painting.

### 6. Data Analysis

The collected data were categorized and systematically analyzed, identifying four key periods: the Formation and Maturity Period, the Decline Period, the Prosperity Period, and the Revival Period. This analysis provided comprehensive insights into the development trajectory and influencing factors of Chinese iron painting.

By employing these methods, this study compiled a wealth of textual and visual materials, ensuring the robustness and comprehensiveness of its findings.



**Figure 1.** Photos from field research and interviews, in China (Ling Xiaohua, master of arts and crafts in Anhui Province, demonstrates Chinese iron painting production)

Source: Photo by Xia Shuai guo, 2023



**Figure 2.** Photos from field research and interviews, in China (The head of Flying Dragon Iron Painting introduces Chinese iron painting to the researchers)  
Source: Photo by Xia Shuai guo, 2023



**Figure 3.** Photos from field research and interviews, in China (Researchers and Anhui arts and crafts master Yang Yong photo)  
Source: Photo by Xia Shuai guo, 2023



**Figure 4.** Photos from field research and interviews, in China (The researcher interviewed Shen Tao, secretary general of China Iron Painting Association)

**Note:** Photo by Xia Shuai guo, 2023

## Conceptual Framework

The Fusion of Chinses Iron Painting			
Research Background	Research Objectives	Research Methodology	Research Results
Policy support Inherit fine culture Face innovation dilemma	1.To identify key factors driving the development of Chinese iron painting across different historical periods.	Literature Review Data Collection Data Analysis	The cooperation between craftsmen and artists promoted the development of Chinese iron painting.
Research Theory Cultural hierarchy theory Outer visual symbol Middle behavioral function Inner mental emotion	2.To examine the current state of Chinese iron painting and analyze successful representative works.	Case Studies Field Surveys Data Collection Data Analysis Expert Interviews	The main reason for the dilemma is the lack of innovation ability, and the representative iron painting works are the result of cooperation between craftsmen and artists.
Modern design concept Serving people's needs Form and function balance emotional resonance Healthy and sustainable	3.According to the development characteristics of Chinese iron painting industry, puts forward the strategy of Chinese iron painting Fusion.	Expert Interviews Data Collection Data Analysis	Different subjects need to work together to build the integration of Chinese iron painting technology and art.

**Table 1.** Research framework and ideas  
Source: Constructed by the researcher

## Research Results

### **1. The fusion of craftsmen and artists during different historical periods has been the key factor driving the development of Chinese iron painting.**

Chinese iron painting has a history of nearly 350 years, spanning four distinct developmental periods: the Formation and Maturity Period, the Decline Period, the Prosperity Period, and the Revival Period. Currently, Chinese iron painting is in the initial stage of its Revival Period. Artisans, entrepreneurs, practitioners, academic researchers, and cultural authorities are actively exploring methods to revitalize this traditional craft and chart its future course.



**Figure 5.** History of Chinese iron painting  
Source: Researcher Photograph, 2023

#### **1.1 Formation and Maturation (1644–1775): Collaboration Between Blacksmith Tang Tianchi and Painter Xiao Yuncong**

The collaboration between blacksmith Tang Tianchi and painter Xiao Yuncong led to the creation of Chinese iron painting. Although the exact time of its inception remains uncertain, based on the lifetimes of Tang Tianchi and Xiao Yuncong, it can be inferred that Chinese iron painting originated during the Shunzhi and Kangxi periods of the Qing Dynasty (1644–1722). Taking into account the active period of Liang Zaibang, the craft likely matured between 1644 and 1775. Currently, the industry widely recognizes that Chinese iron painting has a developmental history of approximately 350 years. According to Yang Guanghui and Zhang Kaili (1989), the Xin'an painting school played a critical role in the emergence of Chinese iron painting, with Xiao Yuncong, a leading figure of the school, being instrumental in its formation.

Historical records in the Wuhu County Gazetteer from the Qing Dynasty describe the impact of Xiao Yuncong on Tang Tianchi. In his spare time as a blacksmith, Tang often visited his neighbor Xiao Yuncong to observe his painting. Inspired by these visits, Tang began experimenting with his tools, "using the hammer as a brush and the anvil as an inkstone, forging iron into paintings." With Xiao Yuncong's guidance and after numerous

attempts, Tang ultimately developed Chinese iron painting, which not only captured the essence of Chinese painting but also introduced a sense of dimensionality, enhancing the visual effect.

Liang Zaibang later inherited and refined Tang Tianchi's craft, bringing it to full maturity. A scholar by background, Liang focused on imbuing his iron paintings with a strong sense of brushstroke and texture. His works featured lifelike scenery and fluid, natural lines, adding innovative qualities to Chinese iron painting. Liang's artistic approach emphasized refined aesthetics, producing compositions that conveyed profound meaning, poetic resonance, and sophisticated craftsmanship without the typical "craftsman's touch" (Yang Guanghui & Zhang Kaili, 1989: 18).

Surviving works by Liang Zaibang, including Reeds and Crabs, Flowers and Birds, and Landscapes, are now housed in the Anhui Provincial Museum. These iron paintings, characterized by a literati painting style, have significantly influenced subsequent generations of creators. While Tang Tianchi and Xiao Yuncong pioneered the art of Chinese iron painting, Liang Zaibang advanced the craft, transforming it into a mature and distinctive art form (Yang Guanghui & Zhang Kaili, 1989: 19).

The collaboration between painter Xiao Yuncong and blacksmith Tang Tianchi exemplified the fusion of blacksmithing techniques with the aesthetic principles of Chinese painting, resulting in the unique art of Chinese iron painting. Although painters did not participate directly in its later stages of development, Liang Zaibang's dual expertise as a painter and blacksmith allowed him to bridge the gap between art and craftsmanship. As a comprehensive talent who combined artistry and technical skill, he propelled Chinese iron painting into maturity.

In conclusion, the fusion of technology and art was central to the emergence and development of Chinese iron painting as a distinctive traditional handicraft.



**Figure 6.** Tang Tianchi's Chinese iron painting "Four Seasons of Flowers on Four Screens" is now in the Palace Museum (Qing dynasty)

Source: Provided by Shen Tao, 2023



**Figure 7.** Liang Zaibang's Chinese iron painting “Reeds and Crabs” is now in Anhui Provincial Museum (Qing dynasty) .

Source: Provided by Shen Tao, 2023

### **1.2 Decline Period (1776–1954): Collaboration Between Monk Liaochen and Iron Craftsmen**

Following the deaths of Tang Tianchi and Liang Zaibang, Chinese iron painting entered a prolonged period of decline, lasting roughly from 1776 to 1954. After Tang's death, attempts to replicate his methods failed, and his techniques were largely lost within a decade. The fusion of traditional Chinese painting and blacksmithing remained unparalleled, leaving the craft without inheritors (Zheng Chang, 2014: 371). During this low point, a monk named Liaocheng from a temple in Wuhu played a pivotal role in reviving the art. Although Liaocheng lacked blacksmithing skills, he was adept at painting and organized local blacksmiths to replicate earlier works, thereby preserving and transmitting the craft. Among those he trained was Shen Guohua, who advanced the tradition.

The opening of Wuhu as a trading port in 1876 following the “Sino-British Yantai Treaty” stimulated iron production, indirectly benefiting the iron painting craft. Shen Guohua’s forge began creating iron paintings alongside other iron products, attracting foreign merchants and missionaries who brought these artworks abroad. Today, some of these pieces can still be found in museums in the UK and the US.

After Shen Guohua’s death in 1924, his son Shen Dejin continued the practice. In 1928, Chu Yanqing, a young blacksmith, opened the “Chu Yongchang Forge,” further contributing to the preservation of iron painting. However, during this period, the craft was limited to small-scale works without notable masterpieces.

### **1.3 Prosperity Period (1955–2002): Government-Organized Collaboration Between Iron Painting Craftsmen and Artists**

The establishment of the People's Republic of China marked a new beginning for cultural and artistic endeavors under the “let a hundred flowers bloom” policy. In 1955, the government sought to revive the lost techniques of Chinese iron painting and identified Chu

Yanqing, then the sole surviving craftsman skilled in the art, to lead the restoration efforts. At age 53, Chu successfully completed the first significant work of this period, “The Legend of the White Snake: Meeting at Broken Bridge” , in 1956. However, the artistic and aesthetic quality of the piece was limited due to Chu’s lack of formal training in painting.



**Figure 8.** The first iron painting of New China “The Legend of the White Snake: Meeting at Broken Bridge” (1956)

Source: Provided by Shen Tao, 2023

To elevate the artistic quality of iron paintings, the Wuhu municipal government organized collaborations between prominent painters like Zhang Zhenyi, Wang Shicen, and Liu Wentian, and iron artisans. These collaborations not only resulted in the creation of acclaimed works such as “Guest-Welcoming Pine”, “Meishan Reservoir”, and “Pine and Eagle” but also trained a new generation of craftspeople skilled in both painting and blacksmithing.

In 1965, the invention of the electric welding machine revolutionized the craft, replacing coal furnaces and increasing efficiency by 70%. This innovation facilitated higher productivity, improved artistic outcomes, and made large-scale production feasible. Despite interruptions during the Cultural Revolution, iron painting resumed production in 1970, and the following decades saw the creation of numerous masterpieces and the diversification of products, including screen panels, porcelain-mounted iron paintings, and three-dimensional iron artworks. However, the prosperity period ended in 2002 with the bankruptcy of the Wuhu Craft Art Factory.



**Figure 9.** Boom period artisans making Chinese iron painting scene  
Source: Researcher Photograph, 2023

#### **1.4 Revival Period (2003–present) Free Collaboration Between Iron Painting Craftsmen and Artists**

The closure of the Wuhu Craft Art Factory in 2002 marked the beginning of a new phase for Chinese iron painting, characterized by private enterprises and workshops taking the lead in preserving and innovating the craft. Despite ongoing efforts, the industry faces numerous challenges.

In 2006, the craftsmanship of Chinese iron painting was inscribed on the National Intangible Cultural Heritage List of China, drawing renewed attention to this traditional art form. Subsequently, governmental and academic research efforts were initiated to explore its preservation, inheritance, and innovation. By 2012, Chu Jinxia was designated as a national representative inheritor of the iron painting craftsmanship. In 2018, iron painting craftsmanship was included in the first batch of the National Traditional Craft Revitalization Directory, reaffirming its status as a key area of national support and protection.

In 2008, Zhang Jiakang led a team of iron painting craftsmen in collaboration with renowned sculptor and mural artist Zhao Jianfeng to create the three-dimensional, relief-style iron painting “Iron Art Painting”. This 2.5-meter-high and 9-meter-long work was exhibited in the Third Chinese Mural Exhibition in Beijing, where it won an award. The piece successfully integrated the strengths of iron painting and sculpture, showcasing a harmonious balance of rigidity and flexibility, making it visually engaging from multiple perspectives. In 2009, Chu Jinxia’s team collaborated with renowned calligrapher Zhang Zhihe to create the iron painting “Ode to China”, a large-scale calligraphic work based on Zhang’s Kaishu style calligraphy. Measuring 18 meters in length and 3.72 meters in height, the work was displayed in the Golden Hall of the Great Hall of the People in Beijing. In 2015, Zhang Jiakang produced the iron painting “Dwelling in the Fuchun Mountains”, inspired by Yuan Dynasty painter Huang Gongwang’s masterpiece. The work, measuring 10.9 meters in length and 0.62 meters in height, highlighted the unique artistic appeal of iron painting craftsmanship. In

2017, Chu Jinxia's team partnered with painter Wang Xiaolin to create the monumental iron painting "The Prosperity of Huizhou Merchants Began in Jiuzi". This work, which merges iron painting with architectural art, earned recognition as the world's largest iron painting by Guinness World Records. Covering an area of 115.91 square meters (15.77 meters long and 7.35 meters high), it vividly depicted iconic scenes such as ancient Huizhou villages, Tianmen Mountain in Wuhu, and Jiuzi Old Town.

In 2023, Yang Yong and a design team from Anhui Jianzhu University collaborated on the public art installation "Happiness at Home", located in Hefei Luogang Central Park. This work employed welding techniques to create a three-dimensional iron painting, introducing a novel artistic style that combines traditional craftsmanship with contemporary public art, delivering a visually striking and aesthetic experience.

## **2. Current Status and Challenges of Chinese Iron Painting**

### **2.1 The Current State of Chinese Iron Painting**

The craftsmanship of Chinese iron painting remains actively practiced in Wuhu, Anhui, where it is considered a hallmark cultural industry. According to Shen Tao, Secretary-General of the Chinese Iron Painting Association, the industry currently generates an annual output value of approximately 20 million RMB, with its products primarily serving as gifts for governments and enterprises or as souvenirs for conferences and tourism. Individual consumer demand remains limited, and the current market scale lags significantly behind its peak historical levels.

#### **1. Lack of Innovation in Design.**

The creativity of iron painting products is significantly constrained, leading to high product homogeneity. Most craftsmen lack formal training in art and design, and iron painting enterprises often do not employ dedicated designers or design departments. Consequently, craftsmen predominantly replicate traditional Chinese painting styles without adapting to modern market demands. As highlighted by Cheng Zhiyong (2015), the infusion of professional design talents could revitalize this traditional craft with innovative perspectives and methods.

#### **2. Limited Market and Low Production Value.**

Compared to other traditional crafts, the market for iron painting is relatively small, with low market share and production value. Iron paintings are mainly positioned as local specialties or gifts, with limited products catering to contemporary aesthetic and practical needs. Furthermore, inadequate promotion and public awareness of the cultural and artistic value of iron painting have reinforced outdated perceptions, restricting market expansion.

#### **3. Challenges in Craftsmanship Inheritance.**

The number of active iron painting craftsmen has dwindled to around 50, most of whom are older than 35. The craft primarily relies on a master-apprentice transmission system, which is time-consuming and labor-intensive. Combined with low economic returns and the physically demanding nature of the work, this has deterred younger generations from pursuing the craft, creating a serious gap in its inheritance.

## 2.2 Representative works of Chinese iron painting

### Case 1: “Guest-Welcoming Pine”



Figure 10. Chinese Iron painting "Guest-Welcoming Pine" in the Great Hall of the People (1959) Source: Courtesy of Gao Wenqing, 2023



Figure 11. Premier Zhou Enlai poses for a group photo with foreign friends in front of the Chinese iron painting "Guest-Welcoming Pine" Source: Courtesy of Gao Wenqing, 2023

The Chinese iron painting “Guest-Welcoming Pine” is one of the most iconic works in this craft, displayed in the National Guest Hall of the Great Hall of the People. Measuring 4.5 meters in length and 2.75 meters in height, this iron painting serves as both a decorative screen and a symbol of Chinese culture. Created in 1959 by craftsman Chu Yanqing and his team based on a painting by Wang Shicen, a professor at Anhui Normal University, the work embodies elegance, functionality, and profound cultural symbolism. It represents the Chinese spirit of resilience and hospitality, akin to the ever-green pine tree, symbolizing lasting friendship and unyielding determination.

### Case 2: Chinese Iron Painting Artwork "Floral Vessel"



Figure 12. Chinese iron painting "Floral Vessel"

Source: Provided by Shen Tao, 2023.

The "Floral Vessel" iron painting is a dual-purpose piece serving as both a decorative ornament and a vessel for floral arrangements. Designed by Professor Wang Xiaoyuan from the School of Design at Anhui Polytechnic University and created by Chinese iron painting master Chu Jinxia in 2020, the work features traditional Chinese iron painting motifs of orchids and chrysanthemums. Through innovative design, the piece transforms the traditionally flat aesthetic into a three-dimensional form, integrating Jingdezhen ceramics to provide a fresh visual appeal and enhance functionality. The work contrasts the resilience of iron with the softness of ceramics—rigid versus supple, black against white—achieving a harmonious balance of dualities. This blend of abstract and figurative forms imbues the piece with a modern artistic sensibility, making it suitable for contemporary home décor and practical use.

### Case 3: Chinese Iron Painting Artwork "Iron Grass"

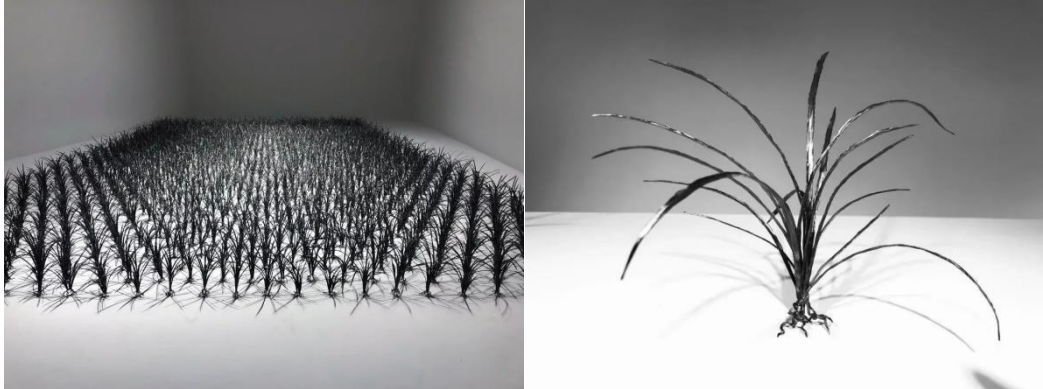


Figure 13. Chinese iron painting "Iron Grass"  
Source: Provided by YangYong, 2024

"Iron Grass," designed by Professor Tan Xun of Tianjin Academy of Fine Arts and crafted by iron painting artisan Yang Yong in 2018, employs three-dimensional techniques to reinterpret traditional semi-relief Chinese iron paintings. By spotlighting humble, everyday grass, the artwork symbolically honors ordinary individuals and their unnoticed contributions, offering a renewed sense of vitality. Through the concept of "blades of grass," the work breathes life into iron, presenting the flora as a metaphor for humanity's collective existence. The minimalist yet poignant aesthetic embodies humanistic care, transforming traditional craft into contemporary art. This collaboration exemplifies how artistic intervention elevates Chinese iron painting, as evidenced by the public acclaim the piece received during its exhibition in Shanghai.

### Case 4: Chinese Iron Painting Artwork "Gallop Horse"



Figure 14. Chinese iron painting "Gallop Horse" Source: Researcher Photograph, 2023

The "Gallopig Horse" iron painting conveys the traditional Chinese cultural concept of "success arriving swiftly." It was designed by renowned artist and Tsinghua University professor Han Meilin, and executed by iron painting master Ye He in 2023. Departing from the traditional line-based aesthetic, this piece employs cold forging to vividly depict the musculature, speed, and strength of a galloping horse. The unpainted iron surface retains its natural texture, resulting in a richly detailed composition with strong decorative appeal. The piece blends modern artistic abstraction with textural beauty, resonating with consumers and reflecting a contemporary reimagining of the craft.

The above examples illustrate that integrating "technology" and "art" is essential for designing and producing products that meet the needs of contemporary life, thereby addressing the challenges faced by the development of Chinese iron painting. Achieving this fusion requires collaboration between Chinese iron painting craftsmen, artists, and designers. As Pan Lusheng, Chairman of the China Folk Literature and Art Association (2024), stated, it is crucial to emphasize the empowering role of design, making it a bridge that connects the past with the present and unites functionality with aesthetics, while maintaining an open attitude toward traditional handicrafts. Historically, craftsmen and scholars combined their wisdom and skills to create masterpieces such as Song Dynasty porcelain and Ming Dynasty furniture, which represent the pinnacle of craftsmanship.

### **3. Strategies for Integrating Technology and Art in Chinese Iron Painting**

The development of Chinese iron painting has progressed through several stages, with each stage marked by collaborations between artists and blacksmiths. A closer and more cohesive collaboration has consistently led to better development outcomes. Historically, the foundation for the prosperity of Chinese iron painting has been the skilled craftsmanship of iron painters and the rich artistic techniques of painters (Fang Xin & Li Yiran, 2016: 38-39).

During the formation and maturation periods of Chinese iron painting, the craft relied on the personal collaboration between painters and blacksmiths, which established the art form. In its decline period, Monk Liao Cheng's cooperation with blacksmiths ensured the survival and continuity of the craft. During its peak, the government played a pivotal role in fostering collaboration between painters and iron painters, leading to the creation of numerous iron painting drafts and the training of craftsmen proficient in painting. In the current revival period, the creation of influential representative works is still the result of collaborations between artists and iron painters. However, a lack of cultural knowledge and design skills among iron painting craftsmen has limited their capabilities to "technical skills" without the ability to engage in "painting and design."

To achieve a revival of Chinese iron painting in the future, it is imperative to build platforms that foster collaboration between iron painting craftsmen and artists. These artists could include painters, designers, and sculptors. Notably, the need for designers in Chinese iron painting far exceeds that for painters, as painters emphasize artistic expression, while designers focus on aesthetics and functionality with the goal of meeting human needs.

At the government level, it is necessary to: Establish innovation and design centers for Chinese iron painting in collaboration with universities to provide design drafts and serve as a bridge between craftsmen and designers. Set up training centers for Chinese iron painting craftsmen to improve their aesthetic standards, painting skills, and design capabilities through training in drawing and design methods. At the enterprise level, companies should: Emphasize the role of design by establishing specialized departments for Chinese iron painting design

and hiring professional designers to focus on product innovation. Allow craftsmen to concentrate on the technical aspects of creating iron paintings, leveraging their skills for production. This division of labor aligns with the developmental trends of modern society, where designers and craftsmen each focus on their strengths to achieve synergistic outcomes. At the industry association level, efforts should focus on cultivating young talent to address the serious issue of aging among Chinese iron painting craftsmen. Attracting young university students, particularly those studying art or design, can help nurture talents like Liang Zaibang, who possess both technical expertise and artistic insight. At the individual level, craftsmen must actively seek opportunities to enhance their aesthetic and design skills. They can participate in government-led initiatives such as the public programs "China Intangible Cultural Heritage Inheritors' Training Program" and "China National Arts Fund Talent Training Program." They should also proactively engage with painters and designers to exchange ideas, broaden their perspectives, and expand their thinking. Through combined efforts from the government, enterprises, industry associations, and individuals, it is possible to change the current state of Chinese iron painting and revitalize this traditional art form, allowing it to thrive with renewed vigor.

## **Discussion**

### **1. Achieving Research Objectives**

This study has achieved primary objectives. The key factor driving the development of Chinese iron painting across different historical periods has been the fusion of "technology" and "art." Currently, Chinese iron painting faces numerous challenges, primarily due to craftsmen's lack of artistic and design capabilities and their insufficient collaboration with artists and designers. This has led to products failing to meet the demands of modern society. The successful cases of representative works demonstrate that these products are results of collaboration: craftsmen handle the technical aspects while artists focus on design. Moving forward, the revival of Chinese iron painting requires reconstructing a platform for collaboration between craftsmen and artists. This platform should unite the technical, artistic, and functional aspects of Chinese iron painting. The fusion process must also balance cultural inheritance with innovation, ensuring historical breakthroughs and revitalization for continuous progress.

### **2. Consistency of Research Findings**

The findings of this study align with those of previous researchers in several aspects. Regarding the impact of collaborations between craftsmen and artists during different periods of Chinese iron painting's development, Fang Xin and Li Yiran's study, *Thoughts on the Current Development and Future Prospects of Wuhu Iron Painting Art* (2016), emphasized that skilled craftsmen and artists with rich painting techniques formed the foundation of prosperity in every era of iron painting. On the lack of innovative products, Li Pin and Guo Bingyao's paper, "Iron" and "Painting"—A Study on the Development Status of Wuhu Iron Painting (2019), noted that craftsmen have overly emphasized technical craftsmanship, resulting in products that prioritize technique over artistic expression and fail to meet modern consumer needs. On the fusion of design, Shi Qixin's article, *Design, Craftsmanship, and Wuhu Iron Painting* (2010), highlighted the necessity of integrating technical innovation with creative visual design, involving skilled designers to incorporate modern aesthetics and develop diversified products that meet contemporary demands. Compared to these studies,

this research provides a more comprehensive perspective and proposes actionable strategies for the fusion and development of Chinese iron painting.

### **3. Limitations and Directions for Future Research**

Although this study identifies the fusion of "technology" and "art" as a critical factor in the development of Chinese iron painting and proposes strategies for achieving such fusion, certain limitations remain. Differences in technical proficiency among craftsmen and varying levels of understanding of subject matter and form by artists may lead to inconsistent outcomes. Additionally, the sample size of representative works analyzed in this study is relatively small. Future research should expand the scope of case studies to ensure more representative findings. A key issue in the current state of Chinese iron painting is the low cultural and artistic competence of craftsmen, coupled with their limited collaboration with artists. Future studies should explore how to cultivate craftsmen skilled in both iron painting techniques and design innovation.

## **Recommendations**

### **1. Theoretical Recommendations**

To protect and sustain intangible cultural heritage, traditional crafts must adapt to meet modern aesthetic, functional, and emotional needs, aligning with the theory of cultural stratification. Traditional Chinese iron painting primarily integrates with Chinese painting, emphasizing artistry and aesthetics. However, its modern and future development should focus on fusion with contemporary design, which prioritizes human needs and sustainability. The fusion of iron painting should not only consider artistic and functional aspects but also cultural preservation and safety. Designers must deeply understand the development patterns of industry culture, adopt modern design thinking and aesthetic concepts, and incorporate new visual languages to continually expand the forms and styles of iron painting.

### **2. Policy Recommendations**

Based on literature review, field research, case analysis, and expert interviews, this study provides fusion data that can serve as references for the government, industry associations, and enterprises in formulating policies to promote innovation and development in Chinese iron painting. Policies should address core issues such as products failing to meet modern societal needs and the lack of design innovation capabilities among craftsmen. Fundamentally, resolving the fusion of technology and art in iron painting is essential. The government and industry associations need to focus on promoting the creative design of Chinese iron painting, and strengthen policy and financial support for young practitioners.

### **3. Practical Recommendations**

This study highlights the importance of design in the development of Chinese iron painting for the industry and craftsmen. While focusing on technical expertise, equal attention must be paid to improving artistic and functional aspects. The revival of Chinese iron painting is closely tied to societal progress and consumer demand. By collaborating with artists and designers to create influential products that cater to modern needs, the industry can not only enhance the cultural impact of Chinese iron painting but also bring economic benefits to craftsmen, thus contributing to the preservation of exceptional cultural heritage.

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