



## Classic case study of Chinese tin craft creativity and practice

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**Abstract:** Since the discovery of tin, people have started the continuous development and research of tin. From the ancient Bronze Age to the present era of highly civilized science and technology, the importance of tin and its extensive and expanded application have been highlighted. Nowadays, tin has not only become a necessary raw material in the advanced production technology of machinery, construction, electronics and other industries, but also developed from People's Daily necessities to meet spiritual needs, representing people's spiritual pursuit and cultural ideas of unique artistic charm handicraft. On the basis of thinking about the development and innovation of the current Geold tin process, and giving full play to the advantages of information technology and talent strategy of colleges and universities, we are making some efforts. The creativity is not limited to the innovation of tin handicraft itself, but from the root of tin culture, to refine the interpretation and expression of tin in the context of the current digital information age. The creative case involves the digital protection and development of tin craft, the new style of tin crafts in different application fields, and the promotion and dissemination of tin craft.

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Gejiu is a city born and developed by tin. This city is the birthplace of Yunnan's industrial civilization. Dozens of mining and smelting sites and thousands of kilometers of tunnels are still well preserved. Within the city, a variety of Chinese and Western architectural relics can still be seen, such as traditional tin workshops, ancient smelting furnaces, ancient temples, inch rail stations, and 19th-century French architecture. It is tin that creates the unique culture here, and it is this culture that gives Gejiu tin craft its unique charm.

### Digital display platform for tin crafts

Tin craft can be said to have lasted for hundreds of years in Gejiu, can be called intangible cultural heritage, the declaration work is also underway. The tin making technique passed down from generation to generation and once in the process of inheritance of Gejiu tin craft spread ballads, words and phrases of the craft. With the progress of modernization and urbanization, the advancement of modernization, such as large-scale population displacement, reduction and even death, the inheritance of tin craft is facing the serious threat of destruction, forgetting and even gradual disappearance. With the support of national policies and with the development of modern science and technology, we are making great efforts to protect our traditional cultures to ensure their integrity and inheritance. Such as video, audio recording, digital multimedia, text and other true and comprehensive protection and recording of endangered and precious

intangible cultural heritage, the establishment of databases and archives, is an important part of our project to protect Chinese national and folk culture, can not be ignored. Therefore, the digital protection of Gejiu tin process is also very necessary.

First, This kind of digital protection can record and preserve existing data and information. Through the use of processing technology and digital information acquisition technology, can be tin process of various archival data, such as art pictures, music, manuscripts, images, photos, etc., for editing, and converted to digital format, stored in the computer hard disk, CD and other material media, in order to better use and preserve these data. Through digital technology, we can comprehensively record the state of folk art, the archives of artists, the production, dissemination and development process of various art forms, as well as the historical factors in them, and store these information in a national database. At present, we have collected and sorted out a large number of photos and videos of the process of Gejiu tin process, personal information of folk artists, works and award information, directory and brief information of Gejiu enterprises engaged in tin process production, etc.

Secondly, The advantage of digital technology is that it can reproduce the historical geographic information in the real world, and at the same time, it can also reproduce the faded traditional image to the public. Virtual technology is used to reproduce the use of handicraft, production mode and consumption mode.

The methods of transmission and transmission have brought the culture back to light. Just click the mouse, you can see the whole process of tin production. On the occasion of the theme activity of "Creative Gejiu" in 2011, we tried to make a virtual representation of Gejiu traditional tin process, and made the audience intuitively understand some scenes and states of traditional tin process by interacting with the audience on the scene. Third, the digital technology can not be underestimated in the product design stage of the predictive function, change the traditional tin process design can only draw a sketch, and then according to the specific size of the drawing to make, after the basic formation of adjustment and modification of the design of production mode. Using digital virtual technology, customers and workers in the production process can have intuitive understanding and confirmation of the product before production, which can greatly improve the efficiency and accuracy of design and production. When designing the work "Flow in", it originally comes from a shape composed of curves. The inspiration of this shape comes from the soft state of tin after melting. The softness of liquid metal also has the connotation of decisiveness and fortitude. Therefore, "flow Ying" adopts a unique asymmetric streamline shape, filled with a flowery beauty, giving the ordinary vase a new image of nobility and personality. The combination of flow and metal texture seems to be contradictory, but in fact it reveals the designer's unique understanding and artistic quality of tin. If the design and production is carried out in the traditional way, this concept is difficult to communicate among all links. However, with the use of digital three-dimensional virtual technology, the original idea can be easily adjusted and modified. At this time, the designer can concentrate more on the artistic feeling of the work, and the modeling, material, proportion and contrast can be visualized in the virtual state And laid the foundation for the final realization of the work. With virtual product drawings, each link of production can more efficiently understand the purpose and requirements of an artistic concept, but also the most intuitive way of production to confirm customer opinions and requirements.

Finally, Information sharing, network communication and other technologies are used to promote the cultural transmission of tin culture, so as to let the world know our tin culture and stimulate the cultural transmission of tin culture. At present, this part of the work needs to be collected and improved in the early stage and further sorted out and developed. The digital media Studio of the School of Design is working on this topic. The School of Design has had many successful experiences in this aspect. For example, from 2006 to 2008, the digital collection and sorting of the course "Yunnan Characteristic Folk

Crafts" supported the main resources of the course, and won the first prize of Yunnan Teaching Achievement Award. At the beginning of 2011, the theme website "Entering the Huayuan Yi" was completed for the national inheritance and protection of Shipping Huayuan Yi in Yunnan. In this process, it not only collected dances, Musical Instruments, embroidery, festivals, costumes, etc., by various multimedia means. And the classification of ritual and architectural form. Through Flash animation, audio, image processing and other technologies; Video and other technical means have greatly restored the culture and handicraft industry of Huayu Yi nationality. Through this theme website, it can be presented to the world in a more perfect way. This way of website communication exceeds the single experience mode of traditional media, so that it can provide better cultural interaction. The establishment of the website is very successful, has been highly affirmed by Shipping Cultural Bureau, has also been recognized and welcomed by relevant experts and the public. On the basis of these successful experiences, the School of Design will make great efforts to deepen the digitization of tin process, actively study the cutting-edge technologies of The Times, in order to better display, introduce and promote the culture, technology and other information of Gejiu tin process, and contribute to the development of tin process industry.

### **Innovation experiment of tin crafts**

Can the definition of tin artifact change in today's era of cultural diversity and material abundance? Can the Angle and means of creating and treating tin have new possibilities? Through the teachers and students of the School of Design of Yunnan Arts University years of understanding and excavation of Gejiu tin process, we have harvested some experimental results of tin process innovation in recent years. There are specific cases in the combination of tin and other materials, types of tin handicrafts, handicrafts decoration and other aspects. Through these cases, we hope to play a role in attracting jade and broadening our creative ideas.

### **1. Decorative Appliance -- Time Container by Ma Lin and Chen Dekai**

Two students from the folk art design major were surprised and surprised by the combination of tin and stone. They named this set of furniture decoration utensils "Time Container ", giving this set of works a poetic conception:

Vessel of time

Authors: Ma Lin, Chen Dekai

When the tide of time washes away the lead

Honor and disgrace, prosperity

Who will testify to it

Only the wild grass and flowers were left  
 Only long gravel remains, time has erased the edges

The inspiration of their design comes from their deep understanding of the tin culture in Gejiu. What is injected into their works is their understanding of the tin culture, Gejiu and railway in their mind. This understanding collides with their emotions and thus expresses their perception of time and years. You may know the Yunnan-Vietnam Railway, but you may not know the Bishi Railway. This railway has carried the city's growth and witnessed every era that has passed it by. It used to be a symbol of unyielding, also used to be a bustling artery. In the heart of the old generation of Honghe people, everyone has his own old railway, because this old railway has their memories and stories, joys and sorrows, passion or nostalgia. But the railway now lies quietly in the mountains, through valleys and rivers, among wild flowers. "No more sirens on the hills, no more crowds at the station. Railway and mountain into one, in the mumbling about the past, talk about the old railway people and things. As if only wildflowers and stones in the quiet listening, and the old railway guard the years, waiting for people to pick up those belong to their memories and stories. Stone has been time to erase the edges and corners, record the old railway has gone through the time, as if every stone put people's time, those stories. If a stone is a vessel, then everyone should have a stone of their own in which to store our stories and memories."

The students who found the inspiration were very excited to experiment with the process. After numerous experiments, they found a solution. They succeeded in combining tin and stone. In order to find the right stone, busy in the bus station and river ditch, as if each stone hidden treasure, and pull the stone from the stone field, pull the car bad mess. In order to carve stones, the clear glass of the laboratory into "ground glass", in order to carve stones, Lao Chen turned himself into white hair" Father Time "to the teacher's surprise. Take a soldering iron to a long distance station and be searched for a dagger." After the success of the experiment, the students made their own satisfactory works "full of sincerity to complete the production, perhaps our work is still very young, but it has included all our gratitude."

When the works were presented in the exhibition, they received the affirmation and admiration of everyone. What they have experienced is a transformation of the Midas touch, and they have successfully expressed their thoughts with the expression language of design. This is the essence of design, and also the happiness of design!" This is the 'vessel of time', a place, a history of a group of people, some stories, and emotions. Is also a group, two students to four years of college life people and things

look back, emotion and gratitude. It is also a fusion of time and beauty, nostalgia. I hope it hides some of your past too."

## **2. Decorative Ornaments -- Moon Dance Appendix by Tony Tao Chengzhu**

"One cut butterfly, half oblate the appendices" is his creation philosophy. The main shape of his works is made of solid wood, decorated with a small amount of tin flower and butterfly decoration. The tin decoration is completed by relying on the stone casting process in the traditional tin ware, contrasting the exquisite and dazzling tin with the warm and dull wood. Tin, as the finishing touch of the work, is used in a small amount of tin, which reduces the consumption of increasingly depleted tin raw materials and enhances the sense of rarity of tin. The decoration breaks through the traditional flat bas-relief form of tin ware, and intersperses a more multi-level aesthetic viewpoint in the sparse and clear form.

## **3. Jewelry Design -- Flowers on Strangers by Deng Shaoying**

Jewelry is an essential item of fashion life. The work of interpreting fashion with tin is a girl's collection of strange flowers in the rain forest of old vines, and "dyeing" them by means of "tying". The techniques of cloying, folding and piling constitute a simple gorgeous, cherishing the language of "tin" and singing. This work is a combination of tin and tie-dyeing, two unique technologies in Yunnan. The author's love and affection for tie-dyeing and tin technology have created this set of works with hardness and softness, which is a good "sitting in the flowers listening to Yan language, and leaving the fragrance of flowers in the breeze".

## **4. Tin Sculpture Works -- Thinker Authors: He Shufeng, Yao Chengjun, Wang Cheng, Zhu Qifu, Lu Xiuning, Li Yusheng**

Tin, as a traditional case of sculpture, is very common. From the tin cultural pillars standing high in Gejiu Jinhu Square, to the tin lions at the gate of the Cloud tin Company, to various tin tripod and all kinds of beasts praying for good fortune and warding off evil spirits, tin plastic works are widely "manufactured". But with the scarcity of tin resources, will sculptures containing dozens or more than hundreds of tons of tin become "scarce resources" together with tin ore? The author integrates a series of questions about tin into the works of "Thinker". Using hollow carving, he cuts tin pieces into words and symbols related to tin, and then welds them together to create an image of "thinker" with a strong sense of The Times.

## **5. Decorative mural -- "Xiyou Wood" by Zuo Rui,**

**Xie Wei, Bai Junjun, Liu Xinting, Yang Xiaoxu**

Tin painting played a role as a monument in the development of tin craft, and now it has a new interpretation in the hands of students from the School of Design of Yunnan Art University. Tin paintings don't just hang on walls, they can be better integrated into modern household items, such as screens made of tin paintings. The material of tin painting is not a single combination of pure tin, but a combination of other materials. For example, tin can be inlaid and bonded with wood in the "Story of Edge Wood" work. The tin decorative paintings splicing together form a screen, and can be separated into independent paintings.

**Household decoration series**

Modern home design design as the direction of the pursuit of modern quality of life in the field of design is very important, household products in the creative is also very outstanding. "Ximu Furniture" author: Li Aiqiu, Li Yingrui, Li Zhiyin, Wen Zhirong, Li Gang, the work uses the combination of tin and wood, the tin wire in the pattern way inlaid into the wooden vessels, the contrast between the two materials is very sharp, the metal luster of tin to the soft wooden vessels to enhance the sense of nobility, and wood also plays a household goods to bring people's sense of intimacy.

The tin ornaments themed on the Chinese zodiac are very popular with people. The authors are Chen Linding, He Zijin and You Qiao. The innovative experimental works of this series have a very unique approach when displaying this theme It has to be modern.

**Conclusion**

With the development of tin craft in Gejiu, the contemporary tin craft has moved from the traditional manual workshop mode to the small batch production stage of machine. However, while the mass production increases the productivity, it is confronted with the great change of tin craft cultural ecology.

Gejiu tin technology is moving forward in the new era, the old "tin street" has disappeared, but as long as we make unremitting efforts, it is believed that in the near future, Gejiu will usher in a new tin technology industrial park, tin technology distribution center and other more suitable for the modern tin technology new situation.

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