Inheritance, Protection and Innovative Development of China's Intangible Cultural Heritage—Carved Lacquerware

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Abstract: This paper studies the protection and inheritance of this precious China’s intangible cultural heritage from the aspects of carving lacquer technology, personnel training and innovation. Focusing on the protection of carving lacquer technology and the innovation in the design and production of carved lacquer handicrafts, it is proposed to protect the carving lacquer technology from three aspects which is intellectual property right, personnel training and raw material. In terms of technical innovation, the possibility of combining carved lacquer with various materials is studied and analyzed.

Keywords: Carved lacquer; Arts and crafts; Lacquerware; Intangible cultural heritage

1 Introduction

Carved lacquer is a unique category of arts and crafts in China. It can also be called Tihong, Tihuang, Tihei, Ticai and Tixi, because of its different colors. Among them, Beijing carved lacquerware is the most representative example, and has many quality products in the world. Carved lacquer has a long history. According to records, it can be traced back to the Tang Dynasty. The Yuan Dynasty carved lacquer gradually flourished, and the Ming and Qing Dynasties were its heyday of development. Carved lacquer handicrafts have won many awards in international expositions and earned a lot of foreign exchange for the country in special period. In 2006, carved lacquer was listed in the first batch of national intangible cultural heritage list in China. Unfortunately, since the 1990s, the carved lacquer industry has gradually shrunk, as the number of employees is extremely reduced and the trend is aging, cause the inheritance of skills has seriously broken down. It is urgent that how to revive and inherit this ancient Chinese traditional art. Carved lacquer faces the problem that the shape and pattern of handicrafts are too traditional and lack of modern flavor. While retaining the carving skill, it is also the practitioners’ responsibility to design and make carved lacquer works conform to the modern aesthetics.

2 Technique of Carved Lacquer

Lacquer carving process is composed of a series of complex steps. According to the production
sequence, it can be roughly divided into four stages: design, tire making, carving and grinding. Each stage has more detailed production links.

2.1 Design

First of all, the birth of a carved lacquer handicraft is to design its shape, that is, the design of the shape of the bases. Then the decorative patterns should be designed, and finally the production’s process and steps of the whole work must be considered.

2.2 Base Making

(1) Base making: Lacquer exists in liquid state, which needs to be attached to a certain body to form and carve on it. This body is the carrier of lacquer, that is, the base. There are many kinds of materials that can be used to make bases. Wood, metal, pottery and linen are commonly used in the traditional way, while bakelite and synthetic bodies are widely used in modern times.

(2) Processing the base: after finishing the base according to the design draft, before painting the surface of it, it is necessary to conduct certain treatment on the surface of the base, commonly known as "Qidizi", also known as "Zuodi". The processing steps of different materials are different, but the purpose is to make the base more firm (especially the wooden base, which can isolate moisture and enhance the non-deformability of wooden base), and the surface adhesion would be stronger in order to lacquer easily and firmly.

(3) Making lacquer: the main material of carved lacquer is natural lacquer, which is natural sap excised from lacquer tree, also known as raw lacquer. After drying, the lacquer has excellent characteristics of acid, alkali, corrosion and high temperature resistance. It was used in daily life by our ancestors as early as 7000 years ago. Raw lacquer needs to go through four processes before it can be used as a cover for carved lacquerware. The first step is to filter and purify the raw lacquer to obtain "net raw lacquer"; the second step is to add a certain proportion of water to make up for the water which lost during other processes in order to stabilize its performance. That is called the "wet lacquer"; the third step is to add appropriate proportion of boiled Tung oil to prolong the drying time so that the lacquer remain soft after it is applied to the appropriate thickness. Otherwise the lacquer will become too hard to be carved. Now we get "finish-coat paint lacquer"; the fourth step is to add the required color powder to the finish-coat paint lacquer. The commonly used colors are red, black, yellow, green, and so on. Finally, the crucial material for lacquer carving is obtained.

(4) Lacquering: is to paint the prepared lacquer on the processed base until the thickness is enough to carve. Lacquer must be painted layer by layer, and each layer of lacquer should get dry before the next layer can be brushed. The thickness of each paint layer should not be too thick, so as to let the lacquer get dry completely and prevent the wet lacquer in the middle. Generally, it should paint 18-20 times to get 1 mm thickness. Under the most suitable condition of temperature and humidity, the lacquer can only be painted 2-3 times a day at most. Therefore, it will take a few months to make a lacquer base with enough thickness to carve, and sometimes the lacquer painting will last for years. When the base get enough thickness, the shape of it needs to be fixed to keep the original design, and then the next step can be carried out.
2.3 Carving

(1) Painting: well-designed patterns need to be transferred onto the base which is prepared before carving. The traditional transferring method is called tracing yellow, using yellow mineral pigment. The draft will be drawn on the semitransparent paper and then transferred to the corresponding position onto the base. Now more and more designers would like to use computer to do the designing jobs, because the drafts can be printed into self-adhesive directly and then paste to the correct place to complete the transferring.

(2) Carving: This is the most important symbol that distinguishes lacquer carving from other lacquer arts, and it is also the most wonderful step. According to the different parts of carving, it can be divided into low relief carving pieces and brocade-style inlay pattern. The brocade-style inlay pattern can be divided into two types: patterns of the background and patterns of other things. Low relief carving are the main parts of the whole design. There are generally six techniques for carving this part: piercing, raising, slicing, chiseling and sketching. Brocade pattern is the icing on the cake for lacquer carving. There are many kinds of brocade patterns with fine craftsmanship, which are used to set off the main relief pattern and fill the blank part. Patterns of other things refer to more detailed carving of leaves, houses, rails, dragons scales and so on. Carving lacquer emphasizes no regret when cutting. Only when the maker has a certain knowledge of sculpture and skilled knife work can they produce exquisite lacquer carving works.

2.4 Sanding

(1) Drying: carved works can not be polished immediately, because the lacquer layer must be dried to harden before polishing. So the finished carving pieces are often put in an oven or drying room for at least half a month of drying. It can also get dry and become harden naturally, but it will take a lot longer.

(2) Sanding: when the pieces are hard enough, they can be sanded. The traditional way is to make grindstones into needed shapes, and to remove knife marks on the pieces left by carving, so that the surface of the pieces will become smoother. Sandpaper is widely used in today’s sanding which makes it easier to do the job. No matter how, sanding is a very important step and can make the whole work more perfect.

(3) Polishing: after sanding, the polishing machine with cloth buffing wheel and 500 meshes of thin mortar can be used, so as to further show the gentle and smooth of lacquer.

After polishing, a carved lacquer work is basically finished. According to different kinds of products, some still need to smooth inside, foil inside, wax the surface, make bases and some further improvement.

3 Problems Confronted by Carved Lacquer

3.1 The Inheritance of Lacquer Carving Skills is Broken

Beijing Carved Lacquerware Factory, which was once glorious, doesn’t exist any more. As a
representative of Beijing carved lacquer technology, its closure is undoubtedly devastating to the inheritance of carved lacquer craft. In Beijing, there are only a few small workshop-type carved lacquer factories and a handful carved lacquer studios. With many problems such as older age, low educated, lack of technical talents, there are no more than 100 people engaged in the lacquer carving industry. Take Lingyun carved lacquer factory, which is the largest factory at this moment and has the most complete processes in Beijing, as an example. The only lacquer maker in the factory has already passed the retirement age, but he has no apprentice to train. In order to improve production efficiency, some smaller processes have been omitted or simplified. For example, the Shunqi process is almost not done now, so it is possible to lose the production of lacquer bolt, which is the tool for the Shunqi.

3.2 Fake Carved Lacquer is Rampant in the Market

Nowadays, most of the so-called carved lacquer crafts in the tourist handicraft market are injection molded products with synthetic resin as raw materials, so that they have no artistry or technology. This kind of product imitates the appearance of carved lacquer, and its material has nothing to do with lacquer, nor does it use carving and other technological means. The fake carved lacquer made by the mold so they are all the same without the subtle difference and charm of handicraft products, and the color is also gaudy because of the resin material. These cheap plastic products, which are eager for quick success and instant benefit, have greatly damaged the reputation of carved lacquer and had a very bad impact on the creative development of carved lacquer.

4 Protection and inheritance of carved lacquer

4.1 Protection of Intellectual Property Rights

The production of carved lacquer is extremely time-consuming, and the materials are also very expensive. The government should legislate to protect the original design from infringement of intellectual property rights. At the same time, the use of the specific noun "carved lacquer" must be restricted, so that the imitated carved lacquer products of injection molding should not be called carved lacquer.

4.2 Training and Reserve of Talents

In 1980, it was the first time that carved lacquer major was set up in Beijing Arts and Crafts Vocational High School, with only 30 students were enrolled. After graduation, these people worked in Beijing Carved Lacquerware Factory. But within a year, most of them chose to leave. Today, only two of them are still engaged in carved lacquer industry, including Li Zhigang, who has already become the master of Chinese arts and crafts. In 1997, 40 students were enrolled in this major again. They studied in the school for three years, and then went to the lacquer carving factory for two years’ training. At that time, however, the benefits of the factory were not as great as before, there were very few students willing to engage in the this industry, and so far only 4 people were still engaged.
In early stage, personnel training mode of carved lacquer was separated into two parts: schools focused on the cultivation of students’ art quality, while the cultivation of skills was trained by enterprises, which is the mode of master leading apprentices. This kind of personnel training mode resulted that the students lacked of comprehensive understanding of the carved lacquer industry.

In 2013, Beijing Arts and Crafts Senior Technical School set up the carved lacquer major once again and recruited 10 students. This time, the school introduced Master Studio into the campus, so that students have opportunities to practice under the guidance of the master during their study period, and have a close working experience of lacquer carving. The mode of "3 + 2" is adopted in the educational system. The original three-year diploma courses are added with two more years’ courses to further improve students' cultural and artistic skills and basic technical skills. Although half of the students in this class chose to drop out of school, those who persevered finally achieved something, and that was the new hope for the cultivation of lacquer carving talents.

After lacquer carving was included in China’s intangible cultural heritage, with the support of the state, the old artists of lacquer carving industry passed on their technical skills through the form of training apprentices. Now they all focused on the cultivation of carving talents, but what lacquer carving industry faced was the lack of talents in each process and type of work. As a complex craft with long working hours needed, a piece of carved lacquerware is almost impossible to be done by individuals. It is necessary to pay attention to the integrity of the system to protect and pass on the work in each process.

4.3 Protection of Raw Materials

The main material of carved lacquer is natural lacquer. The output and quality of lacquer is related to the development and inheritance of not only carved lacquer but also other lacquer arts. It’s very hard to collect raw lacquer. People often use "one kilogram of lacquer for hundreds of miles and thousands of cut" to describe the difficulty of lacquer collecting. Therefore, fewer and fewer young people are willing to do this job. The decrease of raw lacquer production and the number of lacquer farmers has caused the continuous rise of lacquer price, and the phenomenon of shoddy goods for quality good has occurred from time to time. At present, both the cultivation of lacquer trees and collection of raw lacquer in China are in a state of sporadic distribution, which is not conducive to maintaining the stability of lacquer quality and output. The raw lacquer collecting industry should be separated from the small-scale peasant economy and develop with standardization, branding and large-scale production to ensure the quality of raw lacquer. The State shall provide guidance and support for policy planning about lacquer tree planting and lacquer production in traditional raw lacquer producing areas to form local specialties and protect them as geographical indication products.

5 Innovation of Carved Lacquer

In view of the high price, long production time and complicated process of traditional carved lacquerware, the innovation of carved lacquer shall focus on miniaturization and modularization, which can shorten working hours and reduce costs, so that the sales of carved lacquerware will be
easier. Miniaturization refers to the smaller size of carved lacquer crafts, such as traditional carved lacquer beads, bracelets, hand pieces and so on. Modularization means to combine lacquer chips with other handicrafts and make different cultural and creative products. The way to make lacquer chip is to paint the lacquer on a piece of tight cloth again and again to make a board. After dozens to hundreds of layers of lacquer, when it is thick enough, it can be removed from the cloth and cut into pieces of size needed. With no base inside, the lacquer chip can be cut into any shape and size, and the flat sheet of shape is easy to carve.

The innovation of carved lacquer can start from the material combined with carved lacquer. Examples below can show that the innovations are in practice or have achieved good results.

5.1 Combination of Carved Lacquer and Bamboo or Wood

Whether in the past or now, wood has been widely used to make lacquerware’s bases. This history can be traced back to Hemudu wooden lacquer bowl more than 7000 years ago. Because the drying of lacquer requires high temperature and humidity, the lacquerware needs to be put into the shade room for hundreds of times to dry, and after carved it needs to be put into an oven to dry at high temperature. This requires high stability of the wooden bases, and any carelessness may lead to cracking and deformation of wooden bases. Therefore, when selecting wood for lacquerware bases, pine, which is softer and more elastic, is generally selected as inner base material. In addition, "Zuo di" processes should be done to enhance the stability of wooden bases, prevent moisture and crack. Traditional lacquerware usually have patterns of the whole body. As a result of that, the time cost and process cost are greatly increased, the unique pattern of wood can not be presented, while the risk of wooden bases cracking is increasing. Actually, we can imitate Baibao inlay. Instead of whole-body carving, we can use inlaying or pasting techniques to place the single carved lacquer chip in the required position. In this way, we can not only shows the unique carving technology, but also simplifies the production process, shortens the cycle and reduces the risk.

5.2 Combination of Carved Lacquer and Metal

This combination can be mainly used in jewelry design. One of the author’s graduate works in Beijing Institute of Fashion Technology are a series of jewelry made by carved lacquer and silver. Combined with bezel setting and filigree, carved lacquer pieces can be used as pendants, ring faces and earrings, and made into jewelry.

5.3 Combination of Carved Lacquer and Pottery

The combination of lacquer and pottery has a long history. Lacquer pottery existed as early as the Neolithic age. It was very common during the Chunqiu period. However, the development of low-melting glaze pottery gradually replaced lacquer pottery. The rough surface of pottery has many tiny holes, so the lacquer can attached to it easily. Clay has strong plasticity which provides a great possibility for the design of cultural and creative products. One of the authors have tried to combine Nixing pottery with carved lacquer. Because Nixing pottery is hard and brittle after fired,
it is necessary to set aside some pits for inlaying carved lacquer chips on the greenware according to the design. After the pottery is fired, carved lacquer chips can be inlaid. Combining other lacquer techniques, the decorative effect will be enriched. The color of Nixing pottery is deep and steady, which creates a strong visual color contrast with the bright red of carved lacquer. The contrast between the rough pottery and the gentle delicate lacquer is also interesting.

5.4 Combination of Carved Lacquer and Acrylic

Acrylic is a very popular material in recent years. This plastic polymer material has good transparency and chemical stability, easy to be dyed and processed. It can also be designed with 3D printing technology, and can be made into many unique and interesting shapes. The use of this new material can greatly increase the possibility of sculpting carved lacquerware and design more aesthetic products. Li Zhigang, a master of Chinese arts and crafts, has designed and made a Chinese style seat with carved lacquer and acrylic.

5.5 Combination of Carved Lacquer and Lacquer Painting

In recent years, the development of lacquer painting is more and more diversified, and the application of comprehensive materials is more and more common in lacquer painting. It is possible to combine carved lacquer with lacquer painting. In practice, if the thick carved lacquer chip is used, it can be inlaid. If the carved lacquer chip is thin, it can be directly pasted on the surface.

Generally speaking, it is a feasible idea with more advantages than disadvantages to use carved lacquer chips for innovative design and production of carved lacquer cultural and creative products. The lacquer board is flat and base free. It is very convenient to use. It can be cut into any shape according to the design. It can also be combined with a variety of materials by pasting or inlaying. Sometimes, when the design is not perfectly finished, it is also possible to paint the lacquer board. It is not necessary to wait for the design is completed and the base is done, which greatly shortens the production cycle. However, from another point of view, the flatness of the lacquer chip has not only advantageous, but also disadvantages. When the lacquer chip is combined with something has cambered surface, the flat lacquer chip needs to take more tries to show the effect of arc better, which is the problem to be solved in the next step.

6 Conclusion

As one of those ancient arts and crafts, carved lacquer has complicated processes. We must comprehensively and completely preserve these skills. Although after carved lacquer has been listed as China’s intangible cultural heritage, the talent training of carved lacquer has gradually improved, it should be noted that the Masters of Chinese arts and crafts of carved lacquer are getting on for seventy, and there are few successors in the middle age, while the new generation of carved lacquer can’t take charge by themselves yet. In recent years, with the improvement of people’s life and the increase of income, the market of carved lacquer crafts is recovering. However, we should pay
attention to the fact that the market potential of traditional carved lacquer crafts is still relatively limited because of its high price, unfashionable aesthetic, unusefulness and some other factors, so we should not blindly expand the scale of production. Therefore, while inheriting the traditional skills, we should keep up with modern aesthetic needs in the product design, carry on innovation and development of carved lacquer handicrafts, so as to make them relevant to contemporary life. Only in this way can the art be revived and passed on.

References


