

Research on the Ancient Papermaking Technology of the Gelao in Wuchuan County

LI Shirun^{[a],*}

^[a] Guizhou City Vocational College, China.
*Corresponding author.

Supported by 2021 Theoretical Innovation Project (Joint Project) Project of Guizhou Provincial Federation of Social Sciences under grant No. GZLCLH-2021-57.

Received 18 March 2022; accepted 22 May 2022
Published online 26 August 2022

Abstract

Through field research on the papermaking culture of the Gelao people in Xinchang Village, Wuchuan County, it is found that there are still many ancient crafts in it. As China's precious intangible cultural heritage, the protection of this technology is imminent. Thanks to China's national intangible cultural heritage policy, Wuchuan ancient papermaking has been industrialized to ensure the inheritance of this craft. This will promote the common development of the local economy and culture, which becomes an important guarantee for the continuous development of Wuchuan ancient papermaking.

Key word: Gelao; Ancient papermaking; Craft

Li, S. R. (2022). Research on the Ancient Papermaking Technology of the Gelao in Wuchuan County. *Canadian Social Science*, 18(4), 68-72. Available from: <http://www.cscanada.net/index.php/css/article/view/12675>
DOI: <http://dx.doi.org/10.3968/12675>

Papermaking has a long history in China, whose invention has promoted the development and prosperity of world culture. From the invention of papermaking in the Western Han Dynasty to Cai Lun in the Eastern Han Dynasty, the papermaking process has been reformed, which led to the emergence of plant fiber paper (Chen, et al. (2011)). Due to the different raw materials for papermaking, the process of papermaking is diverse. In the history of handmade papermaking of various nationalities in China, numerous crafts have been developed, creating a wealth of handmade paper varieties. With the continuous

development of modern industrialized papermaking, development and protection of ancient papermaking inheritances are at risk. One of them is the ancient Gelao papermaking craft in Xinchang Village, Wuchuan County, Guizhou Province. The method of making paper from the bark of *Broussonetia Papyrifera* Vent has been recorded as early as in Song Yingxing's "Tian-kung Kai-wu" in the Ming Dynasty, but this craft has basically disappeared in many areas of China. However, the Zaozhitang stockade in Xinchang Village, Wuchuan County, deep in the mountains of Guizhou Province, still inherits this ancient and unique papermaking craftsmanship well up to now due to inconvenient transportation and lack of cultural exchanges.

1. THE HISTORY OF ANCIENT PAPERMAKING OF THE GELAO IN WUCHUAN COUNTY

Zaozhitang stockade is located in Xinchang Village, Fengle Town, Wuchuan Gelao and Miao Autonomous County, Zunyi City. In 1955, the first Xinchang papermaking cooperative was established in Zaozhitang. With the gradual expansion of production, the name had been changed to Xinchang Paper Mill in 1958, and the former stockade name "Caozhitang" had been changed to "Zaozhitang". The ancient method of papermaking in Zaozhitang has a long-standing reputation in history and is a special product of ancient Wuchuan. In 2009, the ancient Gelao papermaking crafts of Wuchuan were included in the 3rd batch of provincial intangible cultural heritage list in Guizhou Province. The superior ecological environment and exquisite ancient papermaking skills have created the high-quality and unique paper products from the Gelao people. Due to various reasons, there are still problems such as loss of core technology, insufficient market share, and lack of brand promotion in the process of protection and development of Wuchuan Ancient

Gelao Papermaking. The ancient papermaking history of the Gelao people in Wuchuan is very long. Although it has a history of thousands of years, it has basically maintained the traditional manufacturing process of ancient papermaking. The crafts include processes such as steaming and boiling, grinding, and pulping, which is similar to that recorded in Song Yingxing's "Tian-kung Kai-wu". Wuchuan Paper has a long history of production. In this long development process, the advantages of uniform and fine fibers and high pulp yield have gradually formed. As a traditional Chinese handicraft, its craftsmanship is excellent, reflecting high technical value, economic value, and historical-cultural research value.

2. WUCHUAN GELAO ANCIENT PAPERMAKING CRAFT

The production process from *Broussonetia Papyrifera* Vent, "Goupi" in Chinese, to a sheet of paper is numerous and complex, requiring huge labor costs. Whether it is the extraction of plant fibers or the final papermaking, the essence of handmade papermaking is actually the result of the interaction of chemical reactions and mechanical engineering. According to the survey, the Wuchuan paper mainly includes fire paper, bark paper, burr paper, etc., but mainly produces bark paper. The craft is summarized as follows.

2.1 Preparation Stage

During the off-season from July to August in the lunar calendar, soak the sun-dried Goupi in river water and wash it by hand as shown in Figure 1. Generally soaking for about 3 to 6 days, the specific soaking time depends on the weather and temperature.



Figure 1
Soak *Broussonetia Papyrifera* Vent bark

Then, the Goupi is wrapped in lime slurry, stacked on the open space to dry naturally for 4 to 5 days, and the Goupi could be steamed later. The steamed Goupi is put into the river for scrubbing. Afterwards, the rubbed Goupi material is naturally dried. Soak it in fresh water for about 10 days. Moreover, wash the soaked Goupi directly in the pond to thoroughly clean the textured lime (Figure 2). Finally, place the cleaned Goupi on a wooden board and let it dry slowly. Break the sun-dried Goupi with a wooden stick and put it on the rafter room for later use.



Figure 2
Clean "Goupi"

2.2 Production Stage

The Goupi is taken out of the rafter room, soaked in the sink for a while, and softened with the foot, and then steamed. In a cooking pot, add 3 catties of salt (i.e. soda ash) to 100 catties of Goupi and cook for about 10 hours. After the Goupi has been cooked, put it in a pool for cleaning, and the washed Goupi can be dried before proceeding to the next process.

The first is to pound the material with a pestle. In the process of pounding the material, one person holds the bark plate while the other pounds the pestle. As shown in Figure 3, after the bark plate is thin, fold it in half from the middle, and repeat this operation until the bark material is formed into a long strip. Put the pounded Goupi on the bark stool, fix the bark material from the middle with a wire rope, and tie a wooden stick to the other end of the wire rope. When cutting the material, step on both sides of the workbench with one foot on the wooden stick, and use the wire rope to pull the bark material taut. Bevel from left to right with the knife in both hands. Then, put the cut Goupi into the hole, add an appropriate amount of water, one person beats the material with a wooden box, and the other pulls the bark into the hole, just like the pounding material, it also needs a tacit match. After the material is pounded, in order to protect the pestle head and the pestle nest, a bridge is placed on the nest, a cloth is placed on the bridge, and then the bowl is gently placed on the cloth, which also prevents dust.



Figure 3
Pestle "Goupi"

Pour the bark material into the paper slot, generally 20 pounds of bark material in a slot and 4 pounds of paper tendons. After adding water to the paper slot, tap slowly with a slot stick for about 60 minutes to make it evenly distributed. Then, add the root water (Figure 4).



Figure 4
Paper rib

Before adding root water, find a cloth bag with good filtering effect, and fix the mouth of the cloth bag into a circular shape with an iron ring. Then put the cloth bag into the paper slot for papermaking. Put the mouth of the cloth bag on a thin bamboo pole at the edge of the paper slot, and pour the root water into the bag and let it sit for a while. At this time, remove the iron ring, lift the cloth bag, and pour the rest of the root water into the bag. In the paper making tank, and stir it evenly as shown in Figure 5.



Figure 5
Stirring paper pulp

Moreover, put the curtain frame on the pole, align the paper curtain head with the curtain frame baffle, and then clamp the paper curtain at both ends. In the process of making paper, hold the curtain frame, push the pole away, dig and send water back and forth, and repeat this several times to make it more even. Further, pull back the support rod, place the curtain frame on the rod, and move the head to the sides. Hold the head of the paper curtain with one hand and the tail of the paper curtain with the other hand, and turn the peg on the head of the curtain to align it with the nail post. Then put the wet paper on the stack, press down the paper head, and slowly lift the curtain. At this time, the paper surface of the curtain head is slightly thicker, which makes it easier to tear one by one as shown in Figure 6. One person can make 5 to 6 hundred sheets a day.



Figure 6
Make wet paper sheets

Leave the wet paper overnight. After the next day, put a layer of straw on it, and then place the planks, squares, yards and pressure bars on it. The pressing rod is connected with the roller by the squeeze rope, and the moving rod is inserted into the hole of the roller. By moving the roller, the pressing rope is tightened since the pressing rod is connected, so that the paper pile is slowly squeezed by the lever principle, leading the water in the paper pile to be slowly squeezed out. At last, release the paper, and then lift up the paper stack (Figure 7).



Figure 7
Moisture of extruded pulp

2.3 Completion Stage

After the paper is pressed, move the stack of paper to the paper holder, with the paper head facing upwards. Hold the paper clip to release the stack with a hand brush in your right hand, and tear the upper right corner of the stack at the same time. Follow the left hand to tear diagonally from right to left along the upper edge. After tearing off all the paper ends, tear the paper from the stack from top to bottom. Use a brown brush to brush the ripped paper from the center to the sides, sticking it to a flat wall or plank until it is slowly brushed flat. When drying the paper, stick 5 sheets of paper on the wall as shown in Figure 8, and stagger each two sheets by about 0.5 cm. On sunny days, the paper can dry in half an hour, while on cloudy days, it usually takes 1 to 2 days or longer.



Figure 8
Drying paper

When removing the dry paper from the wall, one person should hold the end of the paper and the other person should lift the paper. In this way, the two of them work together to tear off the stickers one by one (Figure 9), otherwise the paper could be easily torn.



Figure 9
Take the paper off

Take a hundred sheets of paper as a reference. Hold the end of the paper with both hands, shake the paper up and down, if there is any irregularity in the paper, hold the paper with one hand, straighten the paper with the other hand and fold the paper into 3 folds. In the end, the paper is bundled with 10 tins as a bundle.

3. CHARACTERISTICS AND FUNCTIONS OF WUCHUAN BARK PAPER

The Wuchuan bark paper is not only white, thin, and of good quality, but also has good toughness. At that time, students' books, homework books, classroom window paper, lanterns, kites, sophomore playing cards, Qingming paper, and wrapping paper were all bark paper, and even the banknotes were bundled with Wuchuan paper. This kind of paper is used in ancient house deed books that can be preserved for two or three hundred years. The Wuchuan bark paper is used for umbrellas in Chongqing. In addition

to ordinary large umbrellas, some exquisite flower umbrellas are also made. There are beautiful patterns on the umbrella surface, and the paper strips inside are fresh and beautiful, small and exquisite.

There is also a special function of bark paper, which is to hold tung oil. First, weave bamboo threads into a shape like a jar, paste the inside with bark paper, and then use lard and lime water to make a sticky paste. This specially made utensil is strong, leak-proof and light in weight. It was the main utensil for picking tung oil to Chongqing at that time.

4. THE VALUE OF THE ANCIENT PAPER-MAKING METHOD OF THE GELAO PEOPLE IN WUCHUAN

The Gelao papermaking is the relic of the intangible cultural wealth left by the people of Wuchuan to mankind. Its value is mainly reflected in several aspects:

1) Historically, the ancient method of papermaking in Wuchuan has specific historical research value. Wuchuan county has a long history of papermaking, more than 1,000 years. It is of great value and significance for us to understand the development of society in various periods in ancient China.

2) In terms of culture, Wuchuan ancient papermaking could be used not only for calligraphy and painting paper, but also for ancient book restoration paper. This also reflects the value of its cultural heritage and development. Wuchuan ancient papermaking is not only a technology, but also reflects the national culture.

3) In terms of craft, it embodies extremely high technical value. There are many crafts in Wuchuan papermaking, which also requires sufficient patience in the production process. These manual techniques are irreplaceable by modern machines. It also represents the wisdom of the long-term labor and production practice of the local people. They are not only valuable technical wealth, but also important spiritual wealth.

5. CONCLUSION

The ancient papermaking skills of the Gelao people in Wuchuan County are still quite intact, which can also provide an example for the study of traditional Chinese papermaking methods. The paper-making process of the Gelao people in Wuchuan is very complicated. The processes of pounding, cooking, mashing, and selecting materials all show the meticulous spirit of the Gelao people in traditional craftsmanship. As a precious cultural resource in China, this intangible cultural heritage cannot be restored as long as it disappears. Nowadays, with the impact and collision of cultures around the world, we should pay more attention to the protection and research

of intangible cultural heritage. As a part of the intangible cultural heritage, the papermaking of the Gelao people in Wuchuan County has the same important value and significance as other intangible cultural heritages in China. As an important carrier of the splendid civilization of the Chinese nation, it reflects the special spiritual culture.

REFERENCES

Chen, B., Li, J. H., Liu, J., et al. (2011). Investigation and research on white paper of Gelao nationality in Xiangshuyuan Village, Shiqian County. *Journal of Guangxi University for Nationalities: Natural Science Edition*, 17(1), 8.