

The Inheritance and Research of Mentougou Glazed Techniques in Beijing

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Abstract

Mentougou colored glaze originates from ancient Chinese culture, has a long history, and has unique production technology and artistic value. The inheritance and development of this skill is not only the respect and inheritance of history and culture, but also a contribution to human civilization. The production process of Mentougou colored glaze is complex and unique, and each step requires exquisite skills and meticulous operation. The shape and pattern design of glass products have certain specifications and requirements, which fully embody the essence of traditional culture. Currently, the inheritance and development of Mentougou colored glaze faces some challenges, such as the dilemma of the inheritors, the single method of inheriting skills, and insufficient policy support. In order to solve these problems, we need to take some measures, such as strengthening policy support, innovating skills inheritance methods, and cultivating more inheritors. In short, Mentougou colored glaze is a treasure of ancient Chinese culture and has extremely high historical and cultural value. We should pay attention to the inheritance and development of this intangible cultural heritage and make greater contributions to the development of human civilization.

Keywords

Mentougou colored glaze; intangible cultural heritage; inheritance.

1. Introduction

Mentougou colored glaze is an intangible cultural heritage with a long history and unique production techniques. Its history can be traced back to the early Yuan Dynasty, when the Liuli Kiln was established in Liuliqu Village, which has a history of more than 700 years. According to the "Visit to the Zhao Family at Liuli Kiln", the glaze firing technique in Liuliqu Village was introduced from Shanxi by the Zhao family of the Liuli Kiln family, and was passed down by the Guo family for three generations. In 2008, glaze firing techniques were included in the second batch of national intangible cultural heritage lists.

Mentougou colored glaze, as a traditional architectural colored glaze, was widely used in the decoration of palaces, temples and other buildings during the Ming and Qing Dynasties. Its unique production techniques and exquisite shapes not only have artistic value, but also reflect the unique charm of ancient Chinese architectural culture. In addition, Mentougou colored glaze also has rich cultural connotations. Its production techniques are considered to be representative of traditional handicrafts and inherit the excellent traditional culture of the Chinese nation. At the same time, the glaze firing technique of Liuliqu Village, as a representative of royal glaze production, is also of great significance to the study of traditional Chinese architecture, ancient culture, religious folk customs, and aesthetics. Therefore, Mentougou colored glaze has important historical and cultural value. It is not only an important part of traditional Chinese architectural culture, but also one of the representatives of the excellent traditional culture of the Chinese nation.

2. The historical and cultural background of Mentougou colored glaze

2.1. The origin, development and status of Mentougou colored glaze in traditional culture

The origin of Mentougou colored glaze can be traced back to the early Yuan Dynasty, when a colored glaze kiln was set up in Liuliqu Village and the making of colored glaze began. During the Ming and Qing Dynasties, Liuliqu Village became the origin of imperial colored glaze, providing colored glaze products to various places such as the Forbidden City, Temple of Heaven, and Beihai Park (see Figure 1).

The development of Mentougou Liuli is inseparable from the construction of Beijing city. After the Yuan Dynasty, with the construction of Beijing, the demand for colored glaze products gradually increased, and the glaze firing skills in Liuliqu Village were further developed. During the Ming Dynasty, the glaze-making skills in Liuliqu Village were very mature, and there was an official management organization, which further promoted the improvement and development of glaze-making skills[1, 2].

In the Qing Dynasty, Liuliqu Village became the "Hometown of Royal Liuli". In the 29th year of Kangxi, the Qing Dynasty promulgated the first "Qing Hui Dian" and "Hui Dian Cases", which set out clear requirements for the construction regulations of the royal palace. As the origin of royal colored glaze, Liuliqu Village's production techniques and scale have been further developed and expanded. At the same time, the production techniques and shapes of Mentougou colored glaze have continued to develop and evolve with the changes of the times. In the Qing Dynasty, Liuliqu Village's glaze-making skills were very mature and had a dedicated management organization for management. The shapes of colored glaze during this period were also more abundant and diverse, including not only the traditional images of dragons, phoenixes, lions, etc., but also products with auspicious animals, flowers and birds, landscapes and other themes (see Figure 2). In short, the origin and development of Mentougou colored glaze are inseparable from the construction and historical changes of Beijing city. After centuries of development and evolution, the production techniques and shapes of Mentougou colored glaze have become an important part of traditional Chinese architectural culture and one of the representatives of the outstanding traditional culture of the Chinese nation[3].



Figure 1 :BBMG Liuli Cultural and Creative Industrial Park



Figure 2 : Glazed pillars of BBMG Glazed Cultural and Creative Industrial Park

2.2. The technical inheritance and school of Mentougou colored glaze

The inheritance of Mentougou colored glaze skills is mainly achieved through family inheritance and master-disciple inheritance. In terms of family inheritance, the Zhao family of the Liuliqu Village is one of the main inheritors. They have been firing colored glaze in Liuliqu Village since the Yuan Dynasty and have been passing it down to this day. In terms of master-disciple inheritance, the masters in Liuliqu Village pass on the glaze-making skills to their apprentices through oral and personal teaching, thus ensuring the inheritance and development of this skill.

The technical schools of Mentougou colored glaze are mainly divided into two types: official kilns and private kilns. Official kilns were mainly used to produce glazed products for the royal family. The production techniques required strict requirements and the shapes were exquisite. They were one of the main materials for palace architectural decoration. Folk kilns, on the other hand, mainly produce glaze products for the people. The production techniques are relatively simple and the prices are relatively affordable. They are one of the main materials for folk architectural decoration.

In terms of production techniques, Mentougou colored glaze has unique characteristics. The production process includes steps such as material collection, crushing, refining, mold forming, cutting, decoration, and firing. The most critical step is firing. Only by mastering parameters such as furnace temperature and time can you produce high-quality colored glaze products. In short, Mentougou colored glaze plays a very important role in traditional culture, and its skill inheritance and schools are also an important part of Chinese traditional culture. Through family inheritance and master-disciple inheritance, this skill has been passed down to this day and continues to grow and develop.

3. The production technology and characteristics of Mentougou colored glaze

3.1. Selection and processing of raw materials

The selection and processing of raw materials for Mentougou colored glaze are very important. In terms of raw material selection, Mentougou colored glaze mainly selects high-quality natural ores and clays. Among them, for the selection of ores, ores with bright colors, hard texture and fewer impurities are usually selected. For the selection of clay, clay with low iron content and small ignition loss is mainly selected. The selection of these raw materials directly determines the quality and stability of colored glaze products.

In terms of raw material processing, Mentougou colored glaze mainly processes raw materials through crushing, mixing, refining and other steps. First, the selected ore and clay are crushed,

then mixed together and refined. During the refining process, the temperature and time need to be mastered to ensure the full fusion and drying of the raw materials. In addition, some details need to be paid attention to during the raw material processing process. For example, for some relatively fragile raw materials, they need to be handled carefully to avoid cracks or breakage. At the same time, for some raw materials with high iron content, iron removal treatment is required to ensure the color and quality of colored glaze products. In short, the selection and processing of raw materials for Mentougou colored glaze is an important part of making colored glaze products. The quality of raw materials and the processing process need to be strictly controlled to ensure the quality and stability of the products.

3.2. Furnace temperature control and firing technology

In the production process of Mentougou colored glaze, the control of furnace temperature is achieved by controlling the heat. Different heat conditions will affect the temperature of the furnace, which in turn affects the quality of the glass products. Therefore, it is very important to master the firing technology.

In terms of firing technology, Mentougou colored glaze is mainly achieved by controlling factors such as heat, firing time, and furnace temperature. First of all, it is very important to control the heat. During the firing process, different heat temperatures need to be selected according to the different requirements of the glass products. At the same time, the firing time and temperature also need to be determined according to the shape and size of the glass product. Secondly, the control of furnace temperature is also very important. The temperature of the furnace directly affects the quality and stability of glass products. Therefore, the furnace temperature needs to be strictly controlled during the firing process to avoid the temperature being too high or too low. In addition, there are some details that need to be paid attention to in terms of firing technology. For example, during the firing process, it is necessary to avoid contact between the glass products and the furnace wall to avoid scorching or deformation. At the same time, safety issues need to be paid attention to during the firing process to avoid accidents such as fires. In short, furnace temperature control and firing technology are one of the key links in the Mentougou colored glaze production process. Factors such as heat, firing time, furnace temperature, etc. need to be strictly controlled to ensure the quality and stability of colored glaze products. At the same time, you also need to pay attention to some details to avoid scorching, deformation or safety issues[4].

3.3. Shape and pattern design of glass products

The shape and pattern design of colored glaze products is one of the important links in the production process of Mentougou colored glaze. The shape and pattern of glass products directly affect their beauty and practicality, so the design requirements are very high.

In terms of shape design, Mentougou glass products come in a variety of shapes, including bottles, bowls, plates, cups, vases, etc. Different shapes can be used for different occasions and purposes, for example vases can be used to decorate indoor spaces, while bowls and plates can be used for occasions such as dining and worship. In terms of pattern design, the patterns of Mentougou colored glaze are also very colorful. Traditional Mentougou colored glaze patterns mainly include auspicious animals such as dragons, phoenixes, lions, and unicorns, as well as natural landscapes such as landscapes, flowers and birds. These patterns are molded or carved by hand, requiring exquisite skills and creativity[5].

In the design, Mentougou Liuli also pays attention to the combination with culture and history. For example, during the Ming and Qing dynasties, Liuliqu Village produced many glazed products for royal buildings such as the Forbidden City and the Temple of Heaven. The shapes and patterns of these products were closely related to the architectural style and cultural background of the time. In addition, modern Mentougou colored glaze products also focus on

innovation and diversification in design. For example, some designers combine modern elements with traditional techniques to create many modern and practical glass products. There are also designers who use different colors and materials to make the appearance and texture of glass products more diverse.

The shape and pattern design of colored glaze products is one of the key and important links in the production process of Mentougou colored glaze. It requires exquisite skills and creativity, while focusing on the combination and innovation with culture and history. Only in this way can we create glass products with unique charm and practicality.

3.4. The unique style and artistic value of Mentougou colored glaze

Mentougou colored glaze has unique style and artistic value. Its unique style is mainly reflected in the following aspects:

- (1) Rich colors: Mentougou colored glaze products are very rich in colors, mainly including green, yellow, blue, purple, etc. The use of these colors makes the glass products more eye-catching and has a strong visual impact.
- (2) Good light transmittance: Mentougou glass products have good light transmittance, crystal clear, giving people a clear feeling. This light transmittance makes glass products more beautiful under light.
- (3) Exquisite craftsmanship: Mentougou glass products are made with very exquisite craftsmanship, using traditional lost wax casting technology and repeated firing. This technology makes the details of glass products more perfect and have high artistic value.
- (4) Rich cultural connotation: Mentougou glass products contain rich cultural connotations, such as auspicious animals such as dragons, phoenixes, and lions, and natural landscapes such as mountains, rivers, flowers and birds, all of which reflect the characteristics of Chinese traditional culture. This rich cultural connotation makes glass products have high artistic value and collection value.

The artistic value of Mentougou glass is mainly reflected in the following aspects:

- (1) Decorativeness: Mentougou glass products are a kind of highly decorative artwork that can be used to decorate homes, offices, hotels and other places. Its rich colors and light transmittance can bring visual enjoyment to people, and can also increase the layering and beauty of the space.
- (2) Historical value: Mentougou colored glaze products are an important part of traditional Chinese architectural culture, with a long history and unique cultural connotations. Its production techniques and shapes reflect the characteristics and development process of ancient Chinese architectural culture, and have high historical value.
- (3) Technique inheritance: Mentougou glaze making technique is a traditional pottery making technique with high technical content and difficulty. Its production process requires repeated firing and processing many times, requiring the maker to have exquisite skills and experience.
- (4) Representativeness and uniqueness: Mentougou colored glaze products are one of the representative works in traditional Chinese architectural culture and have unique styles and characteristics. Its production techniques and shapes have distinctive regional characteristics and cultural connotations[6,7].

In short, Mentougou colored glaze has unique style and artistic value, and is one of the treasures in traditional Chinese architectural culture. Its rich colors, good light transmittance, exquisite craftsmanship and rich cultural connotations make glass products of high artistic value and collection value. At the same time, Mentougou colored glaze also represents the uniqueness and diversity of Chinese traditional architectural culture, providing an important reference and basis for future generations to understand and study Chinese traditional architectural culture.

4. Current status and challenges of inheritance of Mentougou colored glaze

4.1. Dilemmas and solutions for contemporary inheritors

Contemporary inheritors of Mentougou Liuli face some difficulties. First of all, with the acceleration of the modernization process and the development of the market economy, the traditional glaze production technology is facing the risk of being eliminated. Secondly, because the production of glass products requires a lot of time and energy, and the process is complicated, many young people lack interest and enthusiasm for learning this skill. In addition, some inheritors also face problems such as insufficient funds and difficulties in market development.

To resolve these dilemmas, the following measures can be taken:

- (1) Increase protection: The government and society should increase the protection of Mentougou glaze-making techniques and promote the inheritance and development of glaze-making techniques through policy support, financial support, publicity and promotion.
- (2) Cultivate young talents: Through school education, social training, master apprenticeship, etc., cultivate more young talents, let them understand and learn the craftsmanship of Mentougou colored glaze, and inject new vitality into the inheritance and development of this craft.
- (3) Innovation and development: On the basis of maintaining traditional skills, inheritors can combine modern elements and market demand to innovate and develop the design and production skills of glass products to improve their artistic value and market competitiveness.
- (4) Establish brand image: Inheritors can establish their own brand image, win the recognition and trust of consumers through high-quality products and good services, and increase market share.

In short, the contemporary inheritors of Mentougou Liuli need to overcome difficulties and actively explore new development paths and methods to promote the inheritance and development of this ancient skill. At the same time, the government, all sectors of society and the inheritors themselves should also work together to create a better environment and conditions for the protection and development of Liuli skills.

4.2. Methods and dilemmas of skill inheritance

The inheritance of Mentougou colored glaze techniques mainly relies on the traditional family inheritance and master-disciple inheritance methods. However, with the acceleration of the modernization process and the development of the market economy, this inheritance method also faces some difficulties.

First of all, the traditional family inheritance method relies on the inheritance relationship within the family. However, with the development of society and the increase in population mobility, the stability of family inheritance is gradually challenged. At the same time, due to the long learning cycle and high investment cost of glaze making skills, many young people lack interest and enthusiasm for learning this skill, resulting in no successors for family inheritance. Secondly, the traditional master-apprentice inheritance method relies on the skill level of the master and the learning ability of the apprentice. However, as the older generation of artists retire or pass away, some complex glaze-making skills have been lost. At the same time, due to fierce market competition and reduced economic benefits, some young people are unwilling to invest time and energy in learning this skill, leading to the dilemma of master-disciple inheritance.

To resolve these dilemmas, the following measures can be taken:

(1) Establish a skill inheritance mechanism: The government and society should establish a complete skill inheritance mechanism, including policy support, financial support, publicity and promotion, etc., and encourage young people to learn glaze making skills to provide guarantee for the inheritance and development of this skill.

(2) Innovative inheritance methods: Inheritors can innovate inheritance methods, such as carrying out skills training, holding skills competitions, establishing studios, etc., to attract more young people to participate in and learn glaze making skills.

(3) Promote cultural value: Promote the cultural value of glaze making skills through publicity and education, so that more people understand and recognize the artistry and cultural connotation of this technique, thereby enhancing young people's enthusiasm and motivation to learn glaze making skills.

(4) Strengthen cooperation and exchanges: Inheritors can cooperate and exchange with other industries and fields, expand their own development space and channels, and increase the visibility and influence of colored glaze making techniques.

In general, although the inheritance of Mentougou colored glaze techniques faces many difficulties, by innovating education models, promoting its unique cultural values, and strengthening cooperation and exchanges among various industries, we can promote the inheritance and development of colored glaze making techniques. At the same time, the government, all sectors of society, and the inheritors themselves should work together to create a more favorable atmosphere and conditions for the protection and development of Liuli skills.

4.3. Policy support and the promotion of intangible cultural heritage protection

Policy support and intangible cultural heritage protection also play an important role in promoting the inheritance and development of Mentougou colored glaze skills.

First of all, policy support provides a strong guarantee for the inheritance and development of Liuli skills. The government encourages young people to learn and inherit the art of glass making by formulating relevant policies and providing financial support, providing a stable environment for the inheritance and development of this art. Policy support can not only improve the living standards and social status of inheritors, but also enhance their sense of identity and belonging to Liuli skills, so that they can become more actively involved in the inheritance and development of skills. Secondly, the protection of intangible cultural heritage provides an important platform for the inheritance and development of glass craftsmanship. By listing the glass-making skills in the list of intangible cultural heritage, the government and society attach great importance to the protection and inheritance of this skill. The intangible cultural heritage protection project can not only help inheritors protect and inherit the glass-making skills, but also let more people understand and appreciate the unique charm of glass products through exhibitions, performances, cultural exchanges, etc., thereby enhancing the public's awareness of glass craftsmanship and protection. In addition, policy support and intangible cultural heritage protection can promote each other and form a virtuous circle. Policy support can provide financial and resource support for intangible cultural heritage protection, while intangible cultural heritage protection can provide practical and theoretical basis for policy formulation. The two work together to better promote the inheritance and development of glass craftsmanship. In short, policy support and intangible cultural heritage protection have played an important role in promoting the inheritance and development of Mentougou glass craftsmanship. They can not only provide support and protection for inheritors, but also enhance the public's awareness of glass craftsmanship and protection, and create a good environment and conditions for the inheritance and development of this skill.

5. Sustainable development and innovation path of Mentougou glass

The integration of traditional craftsmanship and modern technology can expand application fields and market demand, while strengthening international exchanges and cultural dissemination, innovative talent training and intangible cultural heritage education strategies. First of all, the integration of traditional craftsmanship and modern technology can bring new expansion to the application fields of colored glaze craftsmanship. By introducing modern technology and design concepts, the glass production technology can be upgraded and improved, production efficiency can be improved, and costs can be reduced. At the same time, more modern and practical glass products can be developed to meet the needs of different fields. For example, colored glaze can be used in construction, decoration, gifts, art and other fields to provide more diversified choices for modern society. Secondly, the integration of traditional craftsmanship and modern technology can promote the development of market demand. With the improvement of people's living standards and the change of aesthetic concepts, the demand for high-quality and culturally connotated glass products is also increasing. Through the integration with modern technology, more high-quality glass products can be produced that meet market demand and satisfy consumers' pursuit of beauty. Third, the integration of traditional craftsmanship and modern technology can strengthen international exchanges and cultural dissemination. As one of the traditional Chinese handicrafts, colored glaze has unique cultural connotation and artistic value. Through the combination with modern technology, the cultural connotation of glazed craftsmanship can be better inherited and carried forward, and brought to the world stage. Through international exchanges and cooperation, we can promote mutual understanding and communication between different cultures and enhance the international influence of Chinese culture. Finally, the integration of traditional craftsmanship and modern technology can innovate talent training and intangible cultural heritage education strategies. By introducing modern technology into the teaching of traditional crafts, more young talents with innovative abilities and practical experience can be cultivated. At the same time, through intangible cultural heritage education projects, we can strengthen the protection and inheritance of Liuli skills and cultivate more inheritors and enthusiasts[8,9].

In short, the integration of traditional craftsmanship and modern technology can bring new opportunities and challenges to the inheritance and development of Mentougou colored glaze craftsmanship. Through the implementation of measures such as expanding application fields and market demand, strengthening international exchanges and cultural dissemination, and cultivating innovative talents and intangible cultural heritage education strategies, the inheritance and development of Liuli skills can be promoted towards a better future.

6. Conclusion

6.1. Re-understanding the historical and cultural value of Mentougou colored glaze

The cultural value of Mentougou colored glaze is not only reflected in its historical and artistic value, but also in its regional characteristics and cultural connotation. The production of Mentougou glaze products requires multiple processes, and each link has strict process requirements and technical standards. The inheritance and development of this technique also represents the development process of local culture and handicrafts. In addition, the shapes and patterns of Mentougou glaze products also have distinctive regional characteristics and cultural connotations, such as dragons, phoenixes, lions and other auspicious animals and natural landscapes such as mountains, rivers, flowers and birds, all embodying the characteristics of traditional Chinese culture.

6.2. Reflection and outlook on the current situation of skill inheritance

Although the inheritance of Mentougou Liuli skills faces some difficulties, with the development of society and the support of the government, the situation of skill inheritance is gradually improving. Currently, some inheritors are actively promoting the inheritance and development of Liuli skills by innovating inheritance methods, promoting cultural values, and strengthening cooperation and exchanges. At the same time, the government has also increased its protection and support for traditional crafts, providing a strong guarantee for the inheritance and development of colored glaze craftsmanship.

In the future, we need to strengthen the inheritance of skills in the following aspects: first, strengthen the cultivation and protection of inheritors and provide more talent support for the inheritance of skills; second, strengthen the research and development of skills to improve the quality and added value of colored glaze products; third, strengthen publicity and education to improve public awareness and protection awareness of colored glaze techniques; fourth, strengthen international exchanges and cooperation to promote colored glaze techniques to the world stage[10].

6.3. Exploration and practical summary of sustainable development and innovation paths

The sustainable development of Mentougou Glaze needs to be combined with innovative approaches. First of all, we must pay attention to resource conservation and environmental protection. Glaze production consumes a lot of energy and resources, so effective measures need to be taken to reduce energy consumption and waste emissions. At the same time, attention should be paid to the use of environmentally friendly materials and green production methods to promote the development of glass products in an environmentally friendly and sustainable direction. Secondly, we must focus on technological innovation and product upgrading. As consumer demands continue to change and the market environment continues to change, glass products need to be constantly innovated and upgraded. It is necessary to combine modern technology and design concepts to improve and upgrade the glass production technology, improve production efficiency, reduce costs, and develop more modern and practical glass products to meet the needs of different fields. Finally, we must focus on brand building and market expansion. Brand is one of the important symbols of a product. By establishing a brand image, the popularity and influence of glass products can be enhanced. At the same time, we should actively expand the market, expand the sales channels and market share of colored glaze products, and promote the rapid development of the colored glaze industry.

6.4. Suggestions and prospects for future research

In the future, research on Mentougou colored glaze needs to be more in-depth and comprehensive. First of all, it is necessary to strengthen in-depth research on the history and culture of Liuli and further explore its cultural connotation and artistic value. Secondly, it is necessary to strengthen the research and inheritance of Liuli skills and explore more effective inheritance methods and education systems. Finally, it is necessary to strengthen the research and development of the colored glaze industry and promote the transformation, upgrading and innovative development of the colored glaze industry.

At the same time, it is also necessary to strengthen the research and exchange of similar traditional crafts in the world, learn from its experience and practices in protection, inheritance and innovation, and promote the international development of Mentougou colored glaze.

6.5. Conclusion

After in-depth research and exploration of the inheritance, historical and cultural background, production technology and characteristics of Beijing Mentougou glaze craftsmanship, I deeply feel the importance and uniqueness of this intangible cultural heritage. Mentougou colored glaze not only has artistic value, but also reflects the unique charm of ancient Chinese architectural culture and carries rich cultural connotations.

Mentougou colored glaze has important historical and cultural value. It is not only an important part of Chinese traditional architectural culture, but also one of the representatives of the excellent traditional culture of the Chinese nation. By studying the inheritance and development of Mentougou colored glaze techniques, we can better understand the profound heritage and unique charm of Chinese traditional architectural culture. At the same time, we should take effective measures and methods to protect and inherit this intangible cultural heritage to let more people understand and pay attention to the importance and value of Mentougou colored glaze craftsmanship.

In short, the Mentougou colored glaze technique is an intangible cultural heritage with profound historical and cultural heritage. Through in-depth research on its inheritance, historical and cultural background, as well as production techniques and characteristics, we can better understand and appreciate the unique charm of this traditional art. Therefore, we should continue to explore and innovate on the basis of protecting and inheriting ancient crafts, and inject new vitality and vitality into this intangible cultural heritage.

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