

Analysis on Current Situation of Standards for Thang-ga in China

Hanfang Hou, Huan Chen, and Jiaqi Zhao

Abstract—This paper summarizes the origin and features, artistic characteristics and development status of Thang-ga in China, introduces the preparation of Thang-ga standards, interprets the main contents of the current Thang-ga standards, and puts forward suggestions for future researches on and preparation of Thang-ga standards. This paper pushes ahead with the research of the series standards regarding Thang-ga. Aiming at standardizing Thang-ga industry chain with a further improvement, research and prepare relevant national standards that are applicable to the standardization and protection of Thang-gas throughout China is a necessary programme. The aim of this paper is to protect the traditional art of Thang-ga and reach the goal of standardizing Tibet Thang-ga market.

Index Terms—Thang-ga, standards, definitions, technical requirements.

I. OVERVIEW OF THANG-GA

Being the religious scroll painting drawn or mounted on cotton cloth, paper or other materials, Thang-ga is a unique form of painting art in Tibetan culture. Emerging in Songtsen Gampo period and with a history of over one thousand years, Thang-ga is known as the art treasure of Chinese ethnic painting, and the precious intangible cultural heritage in Chinese folk art [1].

Thang-ga features distinctive ethnic characteristics, strong religious color and unique artistic style. With diverse varieties and textures, most Thang-gas are drawn on cloth and paper. In addition, there are also barbola, embroidery, applique and other kinds of Thang-gas, and some are even decorated with jewels or jades.

Subject matters of Thang-gas are all embracing and include paintings that are religious, biographical, historical, genre reflecting the customs of life, and scientific reflecting astronomical and calendar calculations, Tibetan medicine and anatomy of the human body, etc. Known as the encyclopedia of Tibetan culture, the popular, easy-to-understand and interesting Thang-gas not only concentrate on knowledge, but also touch religions, processes and other elements.

Mainly popular in Tibetan areas in Tibet, Qinghai, Sichuan, Gansu and Yunnan, Thang-ga is well received throughout China and even the international world of art for its unique style, exquisite processes and historical inheritance.

Attaching great importance to Thang-ga, China has now included Thang-ga in the list of national intangible cultural heritage and further increased the governments' input for better protection. Since the Eleventh Five-Year Plan, Qinghai Province has allocated over RMB 8 billion from the central finance to support the Thang-ga protection. The Government of the Tibet Autonomous Region adopted Thang-ga as its cultural name card and leading brand, and enacted the Opinions on Accelerating the Development of Thang-ga Industry in 2014. As a result, the capacity for industrialization of Thang-ga is gradually enhanced, and a preliminary market integrating with production, operation and marketing is formed [2].

II. CURRENT SITUATION OF PREPARATION OF THANG-GA STANDARDS

Qinghai Province and Tibet Autonomous Region, two main origins of Thang-ga, successively practiced the Thang-ga standardization, prepared, enacted and implemented such standards as Regong Thang-ga (DB63/T677-2007) and Classification of Thang-ga (DB 54/T 0095-2016), in a bid to protect and inherit the traditional ethnic art, standardize the Thang-ga market and ensure the quality of Thang-ga.

A. Regong Thang-ga (DB63/T677-2007)

In October 2007, Qinghai issued the local standard Regong Thang-ga (DB63/T677-2007), the first standard concerning Thang-ga. This standard specifies the technical requirements, product classification, raw materials, judgment rules, marks and other aspects of Regong Thang-ga, which is applicable to the painters of Regong Thang-ga. Main contents are as follows:

Definitions. In Tibetan language, Regong Thang-ga refers to scroll paintings painted manually with mineral dyes such as gold, silver and precious stones, plant dyes like saffron, tarragon, rhubarb and other raw materials in Tongren Area, Qinghai Province.

Specifications and processing of raw materials. Main raw materials of Regong Thang-ga are cloth and dyes. The cloth used shall be clean, smooth, thick white cotton cloth and linen cotton cloth in pure color and without perforation. The length-width ratio of canvas shall be suitable for Thang-ga painting. As for the splicing of small canvas, the leftover of the cloth shall be on the back, without wrinkles and thread. Dyes include mineral dyes, plant dyes, water powder dyes, chemical dyes, etc., which will be mixed with bone glue and a few bile of cattle, sheep or other animals for fixation. This standard also specifies the processing and production of canvas. Main processes are as follows: canvas cutting,

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cleaning, drying, fixation on frame; canvas splicing; glue preparation and canvas painting; gypsum powder application; canvas polishing. The method for preparing the mineral dye is to grind the pigment ore into powder, immerse in water, and filter with fine gauze to obtain juice. The method for preparing the plant dye is to dry the dye and grind the plants.

Technical requirements. This standard specifies the requirements on inherent and appearance quality of Regong Thang-ga. Requirements on inherent quality mainly include full composition, prominent subject, unique design, full image of characters and scenery, expressiveness, clear color, etc., while requirements on appearance quality mainly include smooth surface, complete layout, matched color, scale of Buddha statue, Buddhist scripture and pagoda conforming to the requirements on quality of the Tibetan Buddhist paintings.

Product classification and judgment rules. Regong Thang-ga is classified as colored, golden, red and black Thang-gas by color, Thang-ga paintings, scroll paintings and large Thang-gas by dimension (length and width). In this standard, Thang-gas are classified into several grades, including specially manufactured boutique, boutique, superior, conformed and non-conformed, with clear judgment rules defined.

Finally, this standard also specifies the marking, packaging, transportation and storage of Thang-gas [3].

B. Determination of Mineral Dyes in Thang-ga: X-ray Fluorescence Spectrographic Method (Spectroscopy) (DB63/T1678-2018)

In June 2018, Qinghai Province enacted Determination of Mineral Dyes in Thang-ga: X-ray Fluorescence Spectrographic Method (Spectroscopy) (DB63/T1678-2018) which specifies the instruments, equipment, test conditions and other technical requirements for the determination of mineral dyes in Thang-ga, and is applicable to the semi-quantitative determination of such elements as gold, covellite, verdigris, realgar, orpiment, cinnabar, clam white, gypsum and other elements in Thang-ga. Main contents are as follows:

Principles for determination. The sample element emits the characteristic X-ray fluorescence spectrum after it is excited by X-ray (the penetration thickness is usually several microns to dozens of microns) for qualitative analysis based on its characteristic spectral line (energy). There is a certain linear relation between the intensity of X-ray fluorescence of different elements and its content. As the content of the element increases, this linear relation intensifies and the calculation method gradually changes from direct method to normalization method and subtraction method. Semi-quantitative analysis can be made by comparing with the working curves of standard substances.

Instrument and equipment. During measurement, instrument and equipment needed include energy-dispersion type fluorescence spectrophotometer, gold, covellite and other standard substances, as well as sample cup.

Test conditions. Test conditions include ambient conditions and instrument conditions of the laboratory, working curves defined for standard values and intensity

values, as well as preparations made as per the test conditions and standard spectrums of the spectrograph.

Test methods and procedures. Test methods are visual inspection, qualitative analysis of sample, generation of correction curve by measuring standard substances, correction curve verification, sample test, calculation of mean value, and finally comparison the spectrums of samples with standard spectrums.

Factors affecting measuring results and evaluation of uncertainty of measurement. Considering unique features of Thang-ga, the detection may be affected by measurement time, dye cover thickness, sample measurement area and other factors due to limitation of methods. Therefore, this standard stipulates that the testing laboratory shall evaluate the uncertainty of measurement results and determine the measurement result range as per the evaluation result. [4]

C. Classification of Thang-ga (DB 54/T 0095-2016)

Issued by the Tibet Autonomous Region in May 2016, the Classification of Thang-ga (DB 54/T 0095-2016) stipulates the definition, classification principle and basic classification methods of Tibetan Thang-ga and is applicable to the drawing, production, scientific research, teaching, marketing, promotion, management, etc. of Thang-ga. Main contents are as follows:

Principles for classification. The classification of Thang-ga shall show respect to the Tibetan religion, history, culture and art traditions and conform to the actual conditions of the development of Thang-ga art in Tibet.

Classification. This standard defines three kinds of classification: Thang-ga is classified as painting, barbola and gemstone Thang-gas by materials and production process; holy image, story-based, dharma and discipline, traditional Tibetan medicine, astronomical calendar, folk custom, architecture and other Thang-gas by contents and genres; Nepalese painting, Qiugangba (Qigang) painting, Miantang painting, Qinzi painting, Gaichi painting, Miansa painting and other Thang-gas by styles and schools. [5]

D. Traditional Hand-Painted Thang-gas (DB 54/T 0151-2018)

Issued by the Tibet Autonomous Region in July 2018, the Traditional Hand-painted Thang-gas (DB 54/T 0151-2018) stipulates the requirements on raw materials, drawing processes, quality and appearance, conformed and boutique grades judgment, as well as marking, packaging, transportation and storage of traditional hand-painted Thang-gas, and is applicable to its drawing, production, scientific research, teaching, marketing, promotion, management, etc. Main contents are as follows:

Definitions. This standard specifies that the traditional hand-painted Thang-ga refers to Thang-ga paintings manually painted on cotton, silk and other materials in traditional image scale with dyes made of natural minerals and plants.

Requirements on raw materials. This standard specifies that the raw materials include cloth, dyes, drawing tools, etc. The cloth used shall be clean and smooth white cotton cloth, linen cotton cloth, silk, etc. in pure color and without perforation. When drawing large-scale Thang-ga paintings, appropriate length-width ratio shall be chosen. In the case of small canvas, extra canvas may be spliced on both sides

with the leftover on the back and the splicing part shall be clean without wrinkle and thread. Dyes include mineral dyes made from ores, as well as plant dyes made from colored plants, flowers and grass. Drawing tools include carbon sticks, ink brushes, ball pens and stone pencils. Other materials needed are oxihide glue, stretch wire, mantle cloth, selvage, roll bar and lintel rod and axle head. This standard specifies the production methods and textures of such materials.

Drawing processes. Processes for manufacturing of traditional hand-painted Thang-ga start with canvas processing, dyes preparation, drawing and finally framing. Among them, drawing involves drafting, coloring, drawing the outline, outlining in gold, grinding and eyes drawing.

Technical requirements. This standard also specifies the requirements on inherent and appearance quality of Thang-ga. The form mainly focuses on its artistic creation, while the latter on its technological level.

Specifications and judgment. The specifications of Thang-ga may be customized by the user. Generally, there are mini, small, middle, large and super-large Thang-gas by length-width ratio. Thang-gas are also divided into boutique and common Thang-gas. The boutique Thang-gas are further classified into Grade I, II and III. In the meantime, this standard also defines the judgment rules and criteria for conformed Thang-gas.

Finally, this standard specifies the requirements on marking, packaging, transportation and storage of Thang-gas. [6]

III. SUGGESTIONS FOR RESEARCH AND PREPARATION OF THANG-GA STANDARDS

A. Preparing National Standards

Thang-ga art originates from 5 provinces in China and Thang-ga works are distributed across the country, with far-reaching influence for its superior technological processes and quality. Currently, only Qinghai Province and the Tibet Autonomous Region prepared and issued local standards for Thang-ga. However, due to regional limitations, those standards are not applicable to Thang-gas in other regions and cannot play their roles throughout China. Therefore, it is recommended to prepare the national standards for Thang-ga, thus putting forward unified requirements at the national level.

B. Preparation of Local Standard Series for Thang-ga

As Thang-ga industry chains have been formed in Qinghai Province and the Tibet Autonomous Region, it is necessary to prepare a series of standards for Thang-ga. First, basic and generic standards for Thang-ga, which mainly include standards regarding nouns, terminologies, graphic symbols, measuring, etc. of Thang-ga. Second, standards regarding materials and tools necessary for Thang-ga, such as those for the production of Thang-ga. Third, product standards, including standards regarding painting, barbola and gemstone Thang-gas. Fourth, standards for evaluation of Thang-ga works and artists, such as standards for evaluation of grade of painting Thang-gas and Thang-ga painters. Fifth, service standards regarding Thang-ga, including standards regarding repair, tracing, framing,

identification, teaching, etc. of Thang-ga.

IV. CONCLUSION

Thang-ga is a unique and precious form of painting art in Tibetan culture. Governments at all levels have attached great importance for the protection and inheritance of Thang-ga culture. Some local governments prepared and issued standards to inherit Thang-ga art, standardize Thang-ga market and guarantee the quality of Thang-gas. For the next step, we should keep researching the series standards regarding Thang-ga, further standardize Thang-ga industry chain, research and prepare relevant national standards that are applicable to the standardization and protection of Thang-gas throughout China.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

Hafang Hou conducted the research and wrote the paper; Huan Chen analyzed the data; Jiaqi Zhao translated the paper; all authors had approved the final version.

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