Conservation of Thangka Paintings: A Cultural Heritage from the Himalayan Region
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ABSTRACT: Thangka paintings are religious banners or scroll paintings from Tibet, Nepal and Bhutan. These are generally on cotton cloth. The execution of Thangkas is considered to be an act of meditation and worship. Thangkas depict various aspects of Buddhism. These are regarded as portable icons, an educational tool carried by the monks from place to place in order to illustrate their teaching and awaken the divine spirit among the general population. The author has studied the technique of these paintings and presents the preventive and curative methods to minimize the effect of deterioration so as to preserve them for the future.

Introduction

Tibetan Thangka painting is one of the great arts of Asia. It is rich not only in its iconography, religious content and stylistic development, but also in terms of the materials and skills that the painters and their patrons lavished upon it. By looking upon these paintings, one cannot help being impressed by the exquisite materials and consummate skill that went into their creation.

The traditional story of Thangkas in Tibet goes back to the 7th century when king Stron-btsan-sgam-po married a Japanese princess and a Chinese princess, both of whom brought Buddhist books, sculpture and Thangkas in their dowries. Stron-btsan-sgam-po adopted Buddhism, installed it as the state religion and patronized the art of making Thangkas. In early Tibetan paintings some impact, however, was noticed from another tradition, which is called the Kashmiri tradition. Tibetans occupied Tunhuang (in western China) in 759 AD. During this period, a cultural exchange took place between China and Tibet. For this reason, Chinese or Central Asian influences are sometimes noticed on Thangkas. Yet the earliest example of painting in Tibet dates considerably later, in the 9th or 10th century.

Normally the theme in a Thangka is:

1. Enlightened beings viz. Buddhas, Bodhisattvas, Arhats and great adepts;
2. Ista Devtas or other meditational deities;
3. Dharmapalas or protectors or guardians of Dharma;
4. Mandalas; and
5. Illustration of Dharma portraying the totality of the Buddhist teaching.
There are various types of Thangkas. Some Thangkas depict terrifying scenes portraying bodies disintegrating, ejecting blood, skeletons, dead creatures and various forms of mutilations of the body. The ‘tantic’ Thangkas depict ‘siddhas’, gods, goddesses, demons, ‘apasaras’ and ‘yoginis’ in various yogic postures. These are believed to ward off the ‘evil eye’ and maleficent influences, to prevent disease and mental illness. The religious beliefs and practices that led to the creation of Thangkas may have been inspired by the universal human desire to avoid suffering, to gain happiness and longevity, and to ensure a happy state of existence following death.

**Technique**

There are six steps for creating a Thangka scroll painting:

1. Preparation of the painting surface;
2. Establishment of a design on that surface by means of a sketch or transfer;
3. Laying down the initial coats of paint;
4. Shading;
5. Outline;
6. Finishing touches.

Thangkas are painted on coarse cotton cloth or linen cloth, in the proportion of 4:8 or 2:5. Thangkas may be painted, embroidered or done in appliqué technique. There are ceremonial Thangkas which are as big as 15 feet by 40 feet. Thangka painting is generally carried out on coarse cotton cloth which has been washed, dried and treated with slaked lime. The canvas is dipped in lukewarm water with glue and lime and then stretched on a thin frame made of wood or bamboo to dry. The surface is rubbed on both sides to attain a drum-like sound, and then the sketching and filling of color is carried out.
One bamboo strut is sewn to each edge to the cloth, which are further tied to the wooden frame (Figure 1). The cloth is then coated with gesso (consisting of 1 part lime to 2 parts animal glue) grounded to a paste on both sides of the surface (Figure 2). The surface requires dampening and polishing with a conch shell as well as starching to make it smooth (Figure 3). The process is repeated until the correct smoothness is achieved. Next, a sketch is made either by free hand using red paint, or is transferred on the canvas by punching the charcoal powder through the stencil.

The pigments used are plant and mineral in content, and mixed with lime and glue (Figure 4). According to Prof. Giuseppe Tucci (Tibetan Painted Scrolls, 1950) the main ones are:

1. Indigo: extracted from plant.
2. Green: extracted from vitriol.
3. Red: extracted from the earth.
4. Yellow: extracted from arsenic.
5. Vermillion: extracted from mercuric sulfide.
6. White: This is simply a whiting or lime.
Other sources\(^1\) indicate the following origins for the palette of colours used:

1. Blue and green were extracted from some mineral rocks.
2. Yellow was extracted from the Utpala lotus flower.
3. Red came from sulfides of mercury – this pigment, vermillion, came ready prepared from India.
4. Gold powder came from Nepal.
5. Black was made from crushed burnt firewood.
6. Blue was made from crushed lapis lazuli stone from Persia and India.
7. Blue might also come as Indigo from India. It was extracted from the Nil plant (\textit{Indigofera tinctoria} etc.)

Construction

A thangka has several parts (Figure 5), each of which performs a function and has its own significance.

1. First, the central part is a painted one.
2. Secondly, there are borders which are stitched to all four sides of the paintings. Borders are made of silk, often with brocades woven with gold and silver threads.
3. Thirdly, there are two wooden or bamboo rods, one stitched on the top and the other stitched on the base, which is slightly heavier than the former. There are two ornamental knobs fitted on the lower rods or decoration.

4. Fourthly, there is a veil or cover, which protect the Thangka from the eyes of disrespectful viewers and also from smoke and dirt.

5. And, fifth, two ribbons are provided on the top of the veil. They are attached to the upper stick. They are lower and are hanged by the use of small sands bag for weighting.

No lining is attached to the back of the picture but the lining is stitched to the bordar of the mounting. All the components are joined together by stitching.

**Deterioration**

Thangkas, just like other works of art, deteriorate in the course of time. The reason for the deterioration can be identified as:

1. The frequent rolling and unrolling of a Thangka results in wear and tear as well as abrasion of the paint. The various components of a Thangka, namely the borders and the painted areas, do not have the same composition or thickness. Consequently, when a Thangka is rolled, the pressure is not equal on all the parts. This results in unequal stresses on different areas, causing cracks on the painting surface.

2. Soot and smoke emitted by incense sticks, candles, lamps, and other material, form deposits on the surface of Thangkas.

3. Other possible causes of deterioration include climate, light and biological agents.

**Condition and Appearance of Damages**

The following is a list of possible conditions, often seen on Thangkas:

1. Weakening of the painting support, i.e. cotton, silk and whatever material has been used for the painting. Sometimes portions are completely lost.

2. Accumulation of dirt, oil, grease and smoke on the surface as well as on the back.

3. Appearance of cracks and losses in the ground under the paint (Figure 6); cracks and flaking of the paint as well as of the ink.

4. Folds and creases in the paintings.

5. Previous improper restoration causing weakening of the fabric of the borders and the lining.
6. Separation of the borders from each other and from the painting due to the weakening and opening of the stitches (Figure 7).

7. Weakening of the fabric of the veil and of the ribbons.

8. Weakening of the wooden rods or damages caused by insects.


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**Case study**

**Title:** Buddhist deity (Maha Kala)
**Size:** 59 cm by 38 cm.
**Medium:** Tempera on cloth.
**Date:** 18th Century.
**Acc. No:** 87.622/2, National Museum of India, New Delhi.

**Condition**

The thangka before treatment is shown in Figure 8a. The auxiliary components (silk or cotton borders, wooden rods, veil, ribbons and loose support from the back) were missing.

The painted cotton cloth was very fragile, weak and torn out at a number of places. A portion was also missing. Fold marks and cracks were present in the support. The cloth
was highly acidic (pH 4). Ground was also missing at a few places due to wear and tear. The lost ground was easily visible if seen against transmitted light.

The paint surface had darkened due to the accumulation of dust, dirt and smoke, that hid the details. Paint spots are also present at the border areas, perhaps due to the carelessness of the artist. There were stains due to droplets of holy water containing turmeric powder or kumkum (holy powder colours). Greasy material was found deposited on the paint surface; this may be due to the burning of butter lamp in the monasteries. Flaking and loss of paint was also observed.

Conservation Treatment

The various steps of a conservation treatment are shown in Figures 9, 10 and 11; the Maha Kala Thangka after treatment is shown in Figure 8b.

Local consolidation was carried out with one percent polyvinyl acetate (PVA) solution in toluene in areas of flaking, cracking and loss of paint. The painting was cleaned first with soft brushes to remove surface dust and dirt. Stains caused by droplets of water containing turmeric and kumkum were removed with alcohol and water. A mixture of toluene, benzene and trichloroethylene in the ratio of 1:1:2 was used to remove smoke and greasy deposits on the surface. The mixture was not rubbed on the surface but was rolled with cotton swabs.
The old adhesive at the back of the painted surface was also removed mechanically and the back was cleaned to make it rough for lining. Care was taken to avoid abrading the paint surface. It became flexible after the process.

Subsequently, the total paint surface was consolidated using one percent PVA solution and applying two coats, one after the other, with an interval. Strips of Japanese tissue paper were applied at tears to keep the edges together with starch paste. Two percent barium hydroxide in methanol was applied at the back of the surface with a brush to neutralize the acidity.

As the painted support was very weak and torn out in places, it was decided to reline the support with the starch paste, using destarched cotton cloth and minimum moisture. The recipe of paste contains starch 50 grams, gelatin 5 grams, alcohol 100 c.c. added after the preparation and cooling of the paste, a drop of glycerol and a small amount of sodium arsenide (a biocide) was added afterwards.

To make the surface smooth, large losses were infilled using cotton cloths with starch paste so that the fills remain slightly below the surface. Further filling was done with putty containing inert material and glue. The filling was smoothened to surface level and the area was toned down with watercolors to match the surroundings. The auxiliary components were not attached because they were not available.
Preventive Conservation

The following recommendations are intended for a museum setting:

1. The Thangka should not be hung near a fireplace, or in direct sunlight.

2. Water or color, roli or kunkum (holy powder colours), and turmeric powder should not be sprinkled on or applied, as these products stain.

3. Incense or butter lamps should not be burnt or lit near the painting as this leads to deposits of soot and tarry material.

4. The Thangkas should be stored flat in a cupboard rather than kept in bundles or piled one over the other. Silica gel and paradichlorobenzene crystals may be used to absorb high humidity and to reduce biodeterioration, respectively.

5. Thangkas must not be subjected to high humidity. Exhaust ventilation fans may be needed in the storage areas. Where the facilities for exhaust are not available, Thangkas should be stored in a place where there is good air circulation and there is not much variation in climatic conditions.

6. Painted Thangkas should be stored flat in museums, inside quality metal cabinets (Figure 12) rather than stored rolled-up.

Additionally, it is recommended that workshops on preventive conservation (Figure 13) should be organized regularly to create awareness among the religious users and also among collectors. One such workshop was organized by the National Museum and the National Museum Institute, New Delhi in collaboration with the Central Institute of Buddhist Studies Leh-Ladakh, in September 2001 at Leh. The workshop was largely attended by holy Lamas and the results were positive.
Conclusion

Remedial treatment of Thangkas is a specialized profession. Only a trained and experienced conservator should do this type of treatment because there can be a number of conservation problems that require professional expertise. Even simple cleaning of a Thangka requires the utmost care, patience and knowledge of the chemicals to be used, and a loving attention to preserve the artistic details on the surface.

Some of the major Thangka collections of the world can be seen at:

1. Hean Museum, Seoul, South Korea;
3. Palace Museum, China;
4. Tibet Museum, Beijing, China;
5. National Museum, New Delhi, India;
6. Rahul Collection of Thangka in Patna Museum, Bihar, India;
7. The Potala Palace, Tibet.

And as well, there are important Thangka collections in several monasteries of Sikkim, Arunachal Pradesh, Leh, Bhutan, etc.

Endnotes

1. These sources include the works by Professor Raghu Vira, a very well known Buddhist scholar and tibetologist of 20th century India; and also the works of his son Professor Lokesh Chandra. Both scholars have authored many books on Tibetan iconography. See also pigment studies in: David and Janice Jackson, 1984, *Tibetan Thangka Painting – Methods and Materials*; and in V. R. Mehra, 1970.

References


**BIOGRAPHY:** Sri. C.B Gupta was born on 13th March 1943, in the village of Tauru, Gurgaon district, Haryana, India. In addition to B.Sc degree from Punjab Technical University, an LLB degree, and a Diploma in Administration Law, he acquired professional qualifications in preservation and restoration of works and antiquities from ICCROM, Rome and from various institutions and conservation laboratories in Italy, the U.K. and the Netherlands. He was deputed to the Unions Research Institute of Restoration, Moscow (USSR) as an Indian expert. He has traveled widely, visiting various institutions, conservation laboratories, museums, archives and libraries in Brussels, Amsterdam, Geneva, Paris, Moscow, Leningrad, Irewan (USSR), Nepal, Singapore, the USA and Japan. He has published 48 papers in various journals, as well as 8 papers in French on the technique, material and conservation of paintings etc. published by ICCR. He is a Visiting Faculty Member at the National Museum Institute, New Delhi and Delhi Institute of Heritage Research and Management (Govt. of N.C.T of Delhi), teaching art conservation; Vice-President, Indian Association for the Study of Conservation of Cultural Property (IASC); Life member, Museum Association of India; Member of Indian Heritage Society; and Member for Eastern Paintings.

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