

A. Historical context

The paintings are located in Patan Palace, one of the three royal palaces of the Kathmandu valley, mostly constructed in XVIIth century, under the Malla dynasty. The paintings are in a room on the second floor of Sundari Chowk, one of the three courtyards of the palace. Sundari Chowk is one of the most beautiful place of this palace, because of very high quality of woodcarving work of its windows, and because of Tusa Hiti, the ritual bath of King Siddhi Narasingha Malla, in the centre of the courtyard, which stone and gilt-copper statues are amongst the finest in Nepal.

The paintings were discovered accidentally when loose lime wash fell off the walls in the room in 1995.

B. Description

The paintings are located on two walls facing each other (North and South), on the second floor of the south wing of Sundari Chowk. The dimensions are 197 X 240 cm for south wall, and 195 X 210 cm for North wall.

The place has been regularly whitewashed during the years that it was used as police headquarters. The whitewash layers are partially removed on both walls.

During this mission, the work has been completed on North wall only ; the painting on South wall is partially cleaned. All the observations about the technique are thus made out of examination of North wall.

The composition consists of four superimposed bands, each of them of about 50 cm in height. The bands are separated from each other by decorative friezes.

Upper band

Only two small parts of the upper band are visible, extremely damaged on the left side, and more legible on the right side. It represents beautifully dressed figures, men and women, inside a building, facing both sides of a table.

Second band

This band is in the best state of conservation, though only the right side is preserved. It represents a procession of people playing lots of different musical instruments, preceding and following an elephant with a cornack and palanquin.

Third band

This band is very damaged and only a small part on the right side as legible. It shows a shikharā style temple, with two persons standing in front, and further to the left traces of a red four-arms deity.

Bottom band

This band is extremely damaged and nothing is legible. It was probably only decorative pattern, or plain colour, due to its very low position, on the floor.

C. Technique

All the observations are made from eye examination. No sample were analysed.

a. Mud plaster

The brick walls are rendered with two layers of traditional Nepalese plaster :

- The first layer is composed of cow dung, sandy mud, and rice husks (used as fillers) mixed with water and left to ferment for seven days before use. This layer seems quite thick and might be made of two superimposed layers.
- The second layer is composed of sandy mud (mixed with clay ?) and cow dung only, without rice husks. This layer is about 3mm thick and provides a smoother surface for the plaster.

b. Plaster

On top of these mud plaster layers a very thin and smooth layer of white plaster is spread to even the surface. This layer (probably mainly composed of lime) is smoothed to provide the most suitable surface for the drawing.

c. Preparatory drawing

The drawing is visible in many parts where the colour fell of the wall. It is made with a thin brush, with red ochre colour only, and is very firm and free. It gives the main indications for the figures and architecture, but no small details like dress ornaments, or features of faces. The evenness of the surface of the plaster and drawing suggests that it may have been executed « a fresco », that is when the lime plaster is still fresh.

No evidence of pounced drawing (used to report a drawing from paper to wall) has been found.

d. Engraved lines

Some straight engraved lines (directly in the lime plaster, used as preparatory drawing) have been found in the upper part of the north painting. They indicate an architecture that does not correspond to the actual one represented. No other evidence of this technique has been found, possibly indicating a change of mind when starting the painting.

e. Paint layer

The paint layer is « a secco », that is, executed when the plaster is dried and smoothed. This is one of the reasons of their poor condition, because the secco paintings are more likely to flake and fall off the wall than true fresco paintings. The pigments are mixed with an aqueous binder, probably animal glue or vegetal gum. The pattern of cracking and flaking of the colour, especially in the faces, suggests animal glue in too high concentration, thus retracting too much when drying and then easily flaking.

The painting is made of a complex layer superimposition, different according to colours.

Examples

Background of the medium band

It appears red with traces of brown : the red base was probably painted « a fresco », and the brown background came « a secco » on top of it. Today this brown is nearly entirely gone, leaving the red base visible.

Carnations

They seem to be all more or less brown, in a relatively thin layer, on top of the brown, the eyes are drawn with white lines. No traces are left from mouths or noses, which could have been in darker colour.

f. Decorative ornaments and patterns

The painting shows traces of an extremely rich and refined variety of decorative patterns on dresses, clothes, and background. The comparison with the 55 windows palace paintings in Bhaktapur, which are very similar, but in much better condition gives a better idea of these decorations.

The study of decoration traces shows different patterns :

1. Flowers : they are very frequently used.

In upper band, red flowers on a brown-black background, with yellow dots in each petal, and included in a losange pattern drawn in the same red undulated line. The same stratigraphy is used for a very similar pattern in the architecture behind.

In the medium band, in decoration on several dresses : little pale pink flowers with red centre, on a green-brown dress with white and red stripes ; big red flowers with little white and red centre, on a brownish dress ; little white daisies with red centre, surrounded by a yellow undulated line, on a light green dress.

In the friezes separating the bands, small red flowers on dark background, or big flowers drawn in white lines on a dark background.

2. Stripes : also very common pattern.

They could be regular (vertical light stripes on a dress, like the one in upper band), or with a special rhythm (two thin lines, a big space, two thin lines), and in colour combination (a white line, a red line, a white line, a big space, same combination again, etc), sometimes horizontal (women sitting (?) in upper band, left part, red and yellow horizontal stripes alternated), sometimes undulated (white thick undulated lines on a dark dress, medium band).

3. Dots

Representing pearls and jewellery or used only as decorative pattern, are found on several places like dresses and figures. They are always very thick, made with a drop of colour, and sometimes remain alone where the surrounding background has flaked off.

4. Combined patterns

Sometimes quite sophisticated, like white circles with thin petal-like lines inside, or red lily-like pattern combined with red stripes, or the very intricate pattern of the elephant's head decoration.

g. Inscriptions

An inscription has been found under the medium band in one of the two friezes. The letters written in golden colour have flaked a lot, thus some of them are missing. It seems to be written in Sanskrit. A special study should be made by an epigraphist to understand the significance.

h. Palette

The number of colours is quite limited : red, brown, black, white, yellow and green. The grey-violet colour used for the flag and some dresses seems to be made out of red and black, mixed with an amount of white. No trace of blue has been found (but it could have totally disappeared).

The yellow and green colours are particularly powdering, and were probably in thicker layers ; they now exist only as traces.

The use of golden colour is limited to the inscriptions.

D. Conservation treatment

a. Documentation

Before any treatment, close observation of the paintings and documentation of their existing condition has been made, in two different forms :

- Photographic record of the paintings, general views and close-up details
- Scaled drawing recording the number of layers, their identification and location and the painting losses already visible. This has been made on a particularly significant part of each painting. It is extremely important to dedicate time to this drawing, made on tracing paper directly on site, before starting the treatment : it requires a very accurate observation and leads to an understanding of the situation and the materials (what is to be removed, what is original painting). It is also a precise recording of the existing condition of the paintings before the treatment.

Photographic documentation, and drawings indicating the consolidation places were made also during the treatment.

b. Removal of the lime wash layers

Seven lime wash layers have been identified on the paintings : colours varying from bluish or cream to dark grey, thickness varying from very thin to 2 mm thick.

The successive layers had to be removed mechanically with scalpels. The last layer, directly on the painting, revealed extremely difficult to remove, because of its thinness and of its very good adhesion to the paint layer. In many places, we had to soften it with water and alcohol, and remove it extremely carefully with the scalpel, because the paint layer itself is very sensitive to water. This layer was not visible before starting, being always under other thicker layers. On North wall it was not present everywhere, and in some places luckily could be removed together with the upper layer. On South wall it is present nearly everywhere, and very rarely removed with the upper layer.

Because of the removal of this grey layer was so long, we decided to concentrate on one painting (North wall) to finish the conservation treatment within the time available. The

cleaning of the south wall painting was left at the grey layer level ; the cleaning of this painting will be very difficult and will need probably at least another month.

c. Cleaning of dust, whitewash remains and other materials

After the removal of lime wash layers, a veil of white powder and dust was left on the painting. This has been chemically cleaned with cotton swabs dampened with thinner and then with Dimethyl formamide/ Xylene (50/50).

The upper band in right side was covered in a brown opaque layer forming a sort of crust. Close examination led to the conclusion that it is probably some glue that could have been used for consolidation, and now became dark and hard. This was confirmed because the crust was softened with water. This brown glue layer has been partially removed mechanically under magnifying glasses, after softening with water. Unfortunately, it had to be left in some places, because it was impossible to remove without severe damage to the original layer (also very sensitive to water). In this place, the layer has been thinned using water and cotton swab.

d. Consolidation

During the whitewash removal, the original plaster was found flaking in many places. Local consolidation with acrylic resin in water was made using syringes, the flaking scale could then be reapplied with the finger through Mylar. The finger was used rather than any tool, which would be too hard and break the thin paint layer.

After the cleaning, general consolidation of the painted parts was made using a solution of Paraloid B 72 (7% in xylene). This resin is transparent, not sensitive to water, and not yellowing in time. Only one layer was made to keep the painting matt, as it was made originally.

e. Insect treatment

Termites attacked the left part of the painting after the cleaning ; Injections of Kill Germ (wood protector) were made in the insects' galleries as well as in the plaster at regular intervals. However, this is a general problem in the building, and regular checks should be made to prevent any further attacks.

f. Fillings

After the cleaning, the painting was found absolutely covered in scratches, holes and losses. Though the very big lacunas were left as such, the small and deep holes had to be filled to give a better vision of the wall. Due to time shortage we could not use traditional plaster, which need to sit seven days before use and dries slowly. Plaster of Paris was used mixed with pigments to match the colour of the original plaster.

g. Retouching

The retouching was made using watercolours. When possible, the matching colour was used in a very transparent manner ; when the area was not understandable prior to retouching, patina-like colour was used, always extremely transparent, to calm down all the light spots that were disturbing the vision. Doing this in a very progressive way, we were able to understand better some shapes or lines, and used the retouching to enhance them. The trumpets and the palanquin on the elephant's back, which were visible only in red on red, were slightly underlined with transparent brown to make them understandable.

No reconstitution of missing shapes has been attempted, to avoid any wrong interpretation. The decorations on dresses were neither reconstituted, because of the lack of indications. The retouching is limited to small losses, with the aim to highlight the original painting. Though very damaged, the painting can be closely related in composition and style to the mural paintings in 55 windows Palace in Bhaktapur, and can be studied in this historical context, which is a great addition to our knowledge of secular mural paintings of this century in Nepal.

E. Conclusion

The conservation treatment of Sundari Chowk paintings was extremely delicate work, due to the amount and nature of the layers to be removed and to the fragility of the original painting. This type of treatment requires time and reflexion, even for an experienced conservator. It is not easy to understand what is to be removed, because of the bad condition of the painting: the image is so fragmented that it is not very clear, and any mistake will cause the loss of XVIIth century artwork.

The retouching work is also very difficult, for the same reason. Retouching in such conditions requires sometimes more rigour than on a painting in good state of conservation. One needs to refrain oneself from premature interpretation which could lead to the loss of some significance. The two trainees showed good skills and completed successfully their part of the painting. However, they need to gain more experience in future works with experienced conservators before undertaking conservation treatments on their own.

