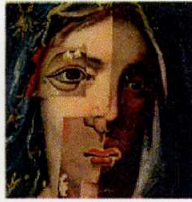


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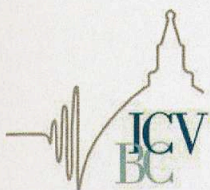
6th European Symposium on Religious Art, Restoration & Conservation

Proceedings Book

Edited by:

Oana Adriana Cuzman
Rachele Manganelli Del Fà
Piero Tiano

Publisher: Nardini Editore, Firenze,
ISBN 978-88-404-4365-2



NEW MATERIALS AND METHODS USED IN THE CONSERVATION OF THE XVIIITH CENTURY CURVILINEAR CANVAS PAINTING “ADORATION OF THE MAGI” FROM THE SAINT AUBAIN CATHEDRAL CHURCH IN NAMUR (BELGIUM)

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ABSTRACT

Paper discusses a concept and conservation methodology of the XVIIIth century curvilinear canvas painting “Adoration of the Magi” from the Saint – Aubain Cathedral church in Namur (Belgium). Atypical form of the painting bowed in the horizontal plane, adapted to the apse wall and its enormous size (3.70 x 4.50 m) required using some innovative technologies and materials. The basic premise of the conservation process was a detailed analysis of the canvas shape and its preservation on each step of the conservation works. The concept required construction of two curved platforms: concave and convex. The new system of the canvas overturning was also designed. An innovating method of strengthening of the canvas vertical direction during lining process by using Kevlar fibres was applied. In consequence required strengthening and modification of the stretching frame is the next discussed issue.

Keywords: curvilinear, large-size canvas painting, lining, stretching, Kevlar fibres

INTRODUCTION

The principle of the individual approach to the each piece of art has a particular importance when we face to conservation of an atypical object. In this case not only new conservation proposals but also technical solutions and materials must be often developed. Such an example is conservation of curvilinear canvas painting “Adoration of the Magi” from the Saint – Aubain Cathedral church in Namur. The painting belongs to the group of four large-size canvas, presenting the scenes of the Christ’s childhood, exposed in the cathedral presbytery.

The author of this opus is Mauritius Heinrich Loder, who was born in 1728 in Germany and died in 1793 in the province of Namur. The cycle of the paintings was planned as a decorative element closely connected with the architecture, thus two of them obtained an unusual form adapted to the shape of the apse walls. The canvas “Adoration of the Magi” is bowed in the horizontal plane. Dimension of the painting is 3,70 m height and 4,50 m width. The weight of the painting, including the frame is about 300 kg. Inspection revealed a special construction of the stretcher frame.

The upper and lower stretcher beams were bent by making perpendicular cuts on the outer bar side to a depth of approximately 3-5 cm. The beams were

stiffened with suitably shaped flat iron bars. The deflection of the stretcher frame is 37 cm.

The painting was in a very poor condition and required complex conservation works. The main conservation problem was a serious deformation of the canvas support resulting from the incorrect stretching. The canvas was badly distorted and fragile, while the painting layer showed numerous damages and cracks. The original composition of the painting was almost invisible.

MATERIALS AND METHODS

Conservation Project Logistics

The concept of the conservation was preservation of the curvilinear canvas form on each step of the conservation works. In the initial phase of work the painting was measured by means of laser scanning. Over 4500000 points with angular resolution of 0.0157rad and accuracy of 0.3mm in the radial direction were acquired by a laser scanner 3D Surphaser 25HSX. Results of the scanning allowed to find profiles of canvas surface and to assess dimensions and curvature of the stretcher frame. The measurements were necessary for the design and manufacturing of curvilinear work tables used for further conservation works [1].

Two separate wooden tables were built: concave and convex. The restoration process required

access to the face and back side of the painting, so during the conservation treatment the canvas had to be overturned several times. Usually for the over-size canvas painting a roller may be used [2], however the canvas support of the Loder's painting was too fragile to be rolled. For this reason another system of canvas rotation had to be developed. An innovative idea was to overturn the painting suspended on a metal bar (Fig. 1). In order to provide sufficient stiffness of the bar (length of 4 m) it was constructed from steel, telescope-like tubes. The bar was positioned above two work tables by ropes fixed to the roof structure. The ropes were introduced through the chapel vault by the existing holes in the ancient decorative elements. The canvas fixed by the shorter side to the metal bar was raised up from the one table and slowly placed on the other one each time it was necessary to change the accessible side of the painting. The rotation system was furthermore equipped with a hook weight, so the weight of the painting was controlled on each step of the conservation works.

RESULTS

Technical works: cleaning of the support, straightening and consolidation, removing of the dust and brown varnish, filing of the priming and paint losses

In July 2013, the painting situated on the high of 5,5 m above the church floor was taken down from the wall. Then the frame was taken out and the painting was transported to the lateral chapel, where it was placed on the convex platform. The support was cleaned through the chess-board method (Fig.2) (Fig.2) using water steam. Humidification of small areas only, eliminated contraction of the entire canvas surface. During this operation deformations of the linen fabric were almost entirely eliminated. The next step of the work, was laborious local repairs of the canvas support and consolidation of the painting layers. Then the painting was turned on the other platform. Layers of the dust and brown varnish were removed. After cleaning the original colors, some details and finally the signature of the artist were discovered. In the following step, losses in paint and priming were filled with elastic ground.

Lining operation – string stretching

The painting was placed face down and stretched on the convex platform by using auxiliary sleeves. During lining process an innovative method of canvas strengthening in the vertical direction was

applied. Before lining operation the experimental investigation of stretching induced deformation of such a curvilinear canvas was done with aid of a simple string model [3]. The conclusion was that stretching forces should coincide with canvas straight-line segments, which coincide with surface rulings [4].

The canvas support was straightened by using Kevlar fibers stretched in the vertical direction. The fibers were sewed parallel in the nonwoven stripes, which were later fixed between original support and lining canvas. Then the painting was relined on a new polyester canvas using diffused solution of the synthetic resin Beva 371 [5]. For lining we used not only traditional irons but also metal rollers of our own design, heated with warm water.

After lining the surface was cooled by metal plates and cold gel compress. The final stage of the work was retouching. The areas of losses of the painting layer were integrated with local color and missing elements of the composition were reconstructed. Finally the painting surface was covered with dammar varnish.

Stretching system

Research shows that the Loder's painting requires a new stretcher construction. Our current studies aim at preserving the original stretcher frame and modifying them to obtain proper vertical tension.

CONCLUSIONS

Conservation project of the non-planar canvas painting "Adoration of the Magi" from the Saint - Aubain Cathedral church in Namur allowed to develop conservation methodology for the whole group of curvilinear canvas paintings.

The most important advantages of the presented procedure are:

- preservation of the original canvas curvature on each step of the conservation works,
- elimination of the painting rolling (another system of the canvas overturning was proposed),
- reinforcement and stretching first of all the vertical canvas direction,
- preservation of the original stretcher frame as an example of historical construction,
- modification of the stretcher system out of the original stretcher frame.

ACKNOWLEDGEMENTS

Authors wish to express their thanks to M.Sc.Eng. Grzegorz Osowicki (Rekons) for development of the overturning system and his technical assistance.

Presented work was partly supported by National Science Centre under Grant “Innovative measurement of deformations in large-size canvas paintings by remote optical methods and its application in documenting, designing and evaluation of technical conservation solutions” No.165419.

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Fig. 1 – System of canvas overturning.



Fig. 2 – Painting placed face down on the convex platform during cleaning operation through the chess-board method.