

Conservation of Post-Byzantine Textiles. Improvement of their preservation conditions and accessibility to citizens – the first results of a local Romanian project

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Summary

Along with architecture and painting, Romanian medieval embroidery and textile vestments are among the great cultural achievements of Southeastern Europe and the Christian Near East. These masterpieces require special attention and care, as they are rare or unique. Thus, it has been agreed that a special project dedicated to the best preservation conditions and greatest accessibility to citizens is of the utmost importance. The project was designed at the Faculty of Textile and Leather Engineering in Iasi. It concentrates on the evaluation of historic textiles, the identification of damaging agents, especially the environmental causes of damage, conservation of historic textiles, and studying opportunities for new kinds of storage, display and protection, so as to integrate textiles into an architectural context. An important aspect is improving access for citizens through a range of media, including media-net, interactive media, CDs, albums, and movable and stationary exhibitions. A cultural tour itinerary will be organised, including the most famous post-Byzantine wall-painted monasteries in Romania, where many historical textiles are stored. The complexity of these studies and research projects requires an adequate budget, as well as interdisciplinary and pan-European scientific experience.

Introduction

Romanian museums and monasteries preserve one of the richest treasures of medieval embroidery and liturgical vestments in Southeastern Europe, a region where the Byzantine cultural and artistic legacy had an overwhelming influence.

Traditional Byzantine embroidery reached settlements in the Lower Danube region as early as the eleventh century. Centuries later, and even after the fall of the Byzantine Empire, local masters drew their inspiration from such pieces and created new forms, perpetuating an art of major significance for the Balkan area and the Romanian principalities.

Embroideries typical of the Byzantine and post-Byzantine compositional tradition, as well as ecclesiastical garments, feature a well-defined historic textile heritage.

A project for the investigation, conservation and exhibition of the valuable Romanian historic textiles preserved in monasteries has been developed as a co-operative ef-

fort of the Iasi Technical University, the Moldova Iasi Regional Restoration-Conservation Laboratory, the RESURECTIO Restoration Laboratory, the Cultural Heritage Department of the Al. I. Cuza Iasi University, the Metropolitan Church of Iasi and the Archbishopric of Suceava. Part of the scientific investigation of textile materials was done as the research work for a Ph.D. thesis. Some analyses have been performed in the Institute of Conservation Science and Restoration Technology in Vienna, benefiting from their scientific assistance and modern equipment, with the financial support of the Romanian Government. The first stage of the project was designed to be achieved within three years. Because of a restrictive financial budget, part of the research work has not been done yet.

Five monasteries in the North-East of Romania with small, precious textile collections were selected. They are situated in Golia and Cetatua in the county of Iasi, and Dragomirna, Sucevita and Putna in the county of Suceava.

Each collection has a specific micro-environment due to its geographical location. The Golia monastery is situated in the centre of Romania's second-biggest city, and Cetatua in the vicinity of the same city. Dragomirna is 20 km away from the city of Suceava, close to a lake. Sucevita and Putna are in the Carpathian Mountains at an altitude of 800 m. Some of the textiles are exhibited and some are in storage. Showcases and panels are used for display purposes.

The different types of textiles selected for investigation encompassed embroideries, dress fabrics and ecclesiastical garments.

The project has had several objectives which are elaborated in detail below.

Evaluation of the historic textiles

The main aim in evaluating the historic textiles was to establish their state of conservation, or their degree of damage. Non-destructive and para-destructive investigations have been used. More specifically, the following issues have been addressed during the evaluation:

What are the textiles made of?

1. Analytical identification of fibres:
 - Burning and/or micro-chemical tests



Figure 1. Aer – epitaphios, Putna Monastery, detail: Voevod Stephen the Great, c.1500.



Figure 2. Aer – epitaphios, Putna Monastery, detail: Princess Maria Voichita, c. 1500.

- Scanning Electron Microscopy (SEM) and optical microscopic methods
- Infra-red spectroscopy
- 2. Identification of dyes and finishing treatments:
 - Wet chemical tests
 - UV/VIS spectroscopy
 - Chromatography (e.g. TLC and high-performance liquid chromatography)
- 3. Identification of metals:
 - Optical microscopy
 - X-ray fluorescence
 - Energy dispersing X-ray spectrometry combined with SEM
- 4. Testing of colour fastness

What is the general condition of the fibres and structures?

Methods of assessing the degree of degradation are perhaps more applicable to the choice of conserva-

tion materials than to the state of the objects, as they are all destructive in nature.

How much repair and alteration has been done in the past?

Visual inspection will be complemented by examination under UV light. This may help to identify yarns which have been inserted, since it reveals differences in dye fluorescences.

Identification of damaging agents, especially the environmental causes of damage

The indoor environment (the temperature and relative humidity) has been monitored at three sites: in Golia, Putna and Sucevita. A survey of the collections for the presence of pests was carried out. These three particular monasteries were chosen for microclimatic monitoring because they store the most precious collections. They are located in different areas, and thus it was possible to evaluate how much the macrocli-

mate has influenced the stability of the microclimate, and the harmfulness of air pollutants to the textile materials could also be assessed. It was very important that the abbeys offered the proper framework for the collecting of data (techniques, equipment and specialised personnel).

Conservation of the historical textiles

- New plasma or laser-cleaning treatments applied on textiles with metal threads, especially on embroideries.
- Investigations into the effects of plasma or laser cleaning treatments.

Studying opportunities for new kinds of storage, display and protection, to integrate the textiles into an architectural context.

Improving access for citizens through a range of media, including media-net, interactive media, CDs, albums, movable and stationary exhibitions.

Organising a cultural tourist itinerary, which will include the most famous post-Byzantine wall-painted monasteries in Romania, where many historic textiles are stored.

The project has been divided into three stages, corresponding to its main objectives. Part of the first stage, the evaluation of the historic textiles, has been achieved during the last two years (2001, 2002) by the investigators from the Faculty of Textile and Leather Engineering of Iasi, Romania. A part of the analysis (OM, SEM, E-SEM/EDX, TLC) was done in Vienna, at ICORT, University of Applied Arts, and the IR spectroscopic identification was carried out at the Politehnica University in Bucharest.

Twenty-six textile masterpieces were selected for this first stage: four textiles from Golia, three textiles from Cetatua, nine from Putna and ten from the Sucevita Monastery. The most famous and relevant are presented in the photographs.

The criteria for selecting these materials were established in accordance with the main objective of the project: to gain scientific information about the composition of the textile materials in order to characterise them and to establish the state of conservation. Thus, the results of the art historians' research were used as one of the criteria: knowledge of the date of manufacture, atelier and the number of similar pieces. The other criteria were: the age, the state of conservation, and the priority for conservation.

It was determined that the majority of the analysed historic textiles had a similar structure, but they differed according to their function (altar cloths or litur-



Figure 3. Funerary portrait of Princess Maria de Mangop, detail, 1427.

gical vestments, or variations and combinations of them). Most of them were lampas, brocade or velvet. The other textiles were liturgical embroideries.

Protein textile fibres and cellulose fibres were both used in their construction. The metal threads are made from silver and gilded silver strips, which are wound around a textile core. A type of *cannetille* was also discovered.

Identification of the red dyestuff was achieved by thin layer chromatography. The dyestuff analyses were only possible by means of High Performance Liquid Chromatography (HPLC).

For this last year of the project (2003), analytical methods of assessing the degree of degradation have been used. Therefore, methods such as IR, UV-VIS and NMR spectroscopies, determination of the molecular weight, and determination of the average degree of polymerisation have been used to establish the general condition of the fibres and structures, as well as the state of conservation.

Publishing the results of the performed research will help art historians to gain valuable information on Romanian post-Byzantine collections.

The project team is keenly interested in establishing contacts in order to accomplish the first part and carry out the next two stages of the proposed work plan. It is beyond doubt that the project requires interdisciplinary and pan-European scientific experience.

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Graduated from the Faculty of Textiles and Leather Engineering and the Cultural Heritage Department of the Orthodox Theology Faculty in Iasi, Romania. She received her M.Sc. in textile chemistry and engineering, and restoration of icons. Her special qualification as a *scientific investigator of works of art*, was achieved during her post-graduate studies at the Centre of Training of Fellows from Cultural Institutions, Ministry of Culture – Romania. Currently, she is working on her Ph.D. thesis on the investigation and characterisation of historic textiles from Romanian Post-Byzantine collections. From 1997-2002, she worked in the Textile Chemical Technology Department of the 'Gh. Asachi' Technical University in Iasi. She also taught at the Cultural Heritage Department of the Orthodox Theological Faculty (1996 – 1998) and at the Conservation and Restoration Department, Faculty of Fine Arts, Iasi (1999 – 2002), where in 2003 she became a full-time lecturer.

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