

## APPENDIX 2

### CONSERVATION WORKS IN 2007

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The main objective of the conservation season this year (in January and February) was the transfer of two wall paintings from the Lower Church in preparation for their transfer to Poland. Current conservation work included protection of the so-called "Blind Ali" graffito on a pillar in the West Portico of the Church, over which a shelter roofing was built to preserve it *in situ*, and conservation of the wall plastering on the western and eastern facades of the Upper Church where the plaster showed a tendency to become detached from the wall. The conservators also stepped in to preserve the newly found painting in test trench 4b and to take emergency action on the wall paintings in Chapels 3 and 4 of the Upper Church after monitoring revealed problems.

#### MURAL TRANSFER

The lime plaster of the murals at issue, namely, the *Anastasis* and *St. Sisinnios trampling a female demon* from the western part of the south wall of the nave of the Lower Church, two years after the discovery was in poor condition, having lost both cohesion and adhesion to wall. One of the reasons for this was the migration of salts to the painting surface and their crystallization between the plaster and the coats of limewash, resulting in detachment of the latter. In this situation, transfer was deemed the only effective solution to save these murals.

The first step was consolidation of the technological coats with injections of KLUCEL G in an alcohol solution (three spoons glue dissolved in minimal water and mixed with 1 liter alcohol). The paint coat was then impregnated with PARALOID B-72 in toluene (one part resin to 12 parts solvent), protecting it while existing gaps were filled with putties. For the bigger cavities the putty used was made of one part lime, two parts local clay, three parts sand with minimal PRIMAL E330. Smaller spots of crushed plaster and small cavities (especially those made by termites) were filled with easily removable putty made of skin glue (one part glue and six parts talcum powder with pigments). After filling the cavities, another coat of PARALOID B72 in toluene (same proportion as before) was applied.

Even while these steps were being taken, tests of glues for fixing the facing coats were underway. Previous on-site experience indicated the usefulness of KLUCEL G in water solution for small-size paintings, but for murals the size of the ones in question, it was necessary to use stronger glue. Tests with removing facings pointed to skin glue 1:6 with water as the better solution.

To make the facing, two to three coats of Japanese tissue were applied to the entire painting surface. Next came a synthetic textile resembling silk which was glued with suitably wide margins for fixing the textile

to a frame. A linen textile was then glued on top. After drying, the edges of the textiles were fixed to a wooden frame and held in place by wedges. Steel lines attached to the roof structure safeguarded the murals during the entire process of taking down from the wall, which was executed in the opposite direction, that is, the bricks were dismantled from the back and the plaster cut away from the painting.

This done, the mural was transported to the field lab where it was placed face down on a flat surface. The wooden frame was removed. The back was cut down to a more or less even thickness and impregnated to consolidate it in preparation for the coming treatment. The impregnation was done with injections of glue (one part PRIMAL AC33, one part local polyvinyl acetate, approximately eight parts water). The glue was also brushed on repeatedly. Once the water had evaporated, the back of the painting was leveled with lime putties containing more PRIMAL E330 and polyvinyl acetate. Repeated impregnation of the plaster followed.

A glass fiber net was then fixed to the back of the painting using polyvinyl acetate with sand. Next came white polyurethane foam (1 cm thick) for thermal insulation and another coat of glass fiber net. A wooden skeletal frame in the form of a box was prepared and fixed with polyvinyl alcohol glue and a two-component, low-volume epoxy installation foam. This type of construction is easy to remove in case of emergency and creates the proper conditions for transporting a transferred mural.

#### CURRENT CONSERVATION

The outside wall plastering of the Upper Church, which is made of lime and very coarse sand, has good cohesion, but failing adhesion to the wall. The first step was

mechanical cleaning of the surface with brushes to remove sand and coats of clay. Water was subsequently applied for cleaning, following tests. With regard to the scratched graffito of "Blind Ali", a coat of dirt was left in place as it makes the drawing easier to recognize. Surfaces were fixed with KLUCEL G dissolved in alcohol (1 spoon glue to 1 liter alcohol). In the next step, injections were made to fix the crushed plaster to walls. For smaller areas, a mixture of PRIMAL AC 33 and locally produced polyvinyl acetate (1:1) and one part glue to six–seven parts water was used, having first weakened surface tension with water mixed with alcohol (1:1). Lime casein made from lime and powdered milk was tested and found to be a very satisfactory solution for the gaps and bigger areas of crushed plaster to fill the voids. For the very big gaps on the pillars, lime casein was additionally mixed with sand. Finally, the borders of the original plaster were protected with bands made of lime putty (one part lime, three parts sand, two parts local clay with addition of PRIMAL E330.)

The coat of paint in the murals in Chapels 3 and 4 of the Upper Church was found to be powdering intensively. The surface was cleaned of dust and the paint consolidated using as an impregnate KLUCEL G dissolved in alcohol (one spoon powder glue to one liter alcohol). Injections of PRIMAL AC33 in water solution (one part glue with approximately eight parts water) were made to fix the coats of limewash to the plaster.

In the case of the newly discovered murals in test trench 4a, both cohesion and adhesion were very poor. They were first allowed to dry very slowly to stop new salts crystallization between layers of painting. The surface of the paintings was then cleaned gently with soft brushes. The coat of paint was fixed with KLUCEL G (same as

in the case of the paintings in the chapels of the Upper Church) and injections were made with a water dispersion of PRIMAL AC33 (1:8). Gaps and cavities were filled with lime putty, after which the mural was

impregnated with PARALOID B72 in toluene with acetone (1:4:8) for better protection of the surface. The murals will have to be monitored for future deterioration caused by potential salt migration to the surface.