

UNIVERSITY OF ART AND DESIGN CLUJ-NAPOCA

**THE MURAL PAINTING OF PRINCIPALITY CHURCHES
FROM HUNEDOARA COUNTY**

TECHNIQUE, CONSTITUTIVE MATERIALS AND STATE OF
CONSERVATION

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2014

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Key words: stone churches, mural painting, *affresco*, *arricio*, *intonaco*, architecture, iconography program, lime based plasters, pigments, supporting drawing, *giornata*, *pontata*, mashing off, conservation-restoration, preventive conservation.

SUMMARY OF THE DOCTORAL DISSERTATION

The paper entitled “*The mural painting of Principality Churches from Hunedoara County. Techniques, constitutive materials and state of conservation*” is structured into four chapters that comprise information about the monuments and paintings under analysis from a historical, iconographical technical and methodology point of view, and at the same time, presents the degradation factors and their effects on them.

- Chapter I “*The monographic presentation of old stone churches from Hunedoara County*”.
- Chapter II “*Technique, materials and methodology of execution of mural paintings in the 14th and 15th centuries*”.
- Chapter III “*Causes of degradation and their effects on affresco paintings.*”
- Chapter IV “*The responsibility of mural painting conservation*”
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Active participation at the conservation and restoration interventions developing for the stabilization and improvement of mural paintings within the *Saint Nicholas’s Church* from Densus, *Saint Nicholas’s Church* from Ribita and the *Ascension Church* from Rachitova has generated interest for the thorough study of the mural painting phenomenon within principality churches. Conservation and restoration works taking place at Densus in 2003, at Ribita in 2009-2011, on fragments of mural paintings from Rachitova (discovered in 1987 on occasion of archeological digging) between 2005 and 2008, as well as the research campaign developing at the Pentecost Church from Ostrov in 2009 have created the opportunity of a close examination of surfaces decorated with mural paintings and, at the same time, became a multiple information source related to some particular aspects

regarding the technique and execution stages of paintings, constitutive materials, state of conservation, and degradation phenomena acting on such constitutive materials.

The presentation of some problems characteristic to the 14th and 15th centuries is based mostly on case studies that were performed *in situ* at the twelve stone churches with mural paintings, representative monuments for medieval painting in Romania, along with the fragments of mural painting discovered at the archeological digging sites from Rachitova which are undergoing operations of investigation and conservation-restoration within the specialized Conservation and Restoration Laboratories of the Cluj-Napoca University of Arts and Design.

The title of this paper is generous and this is why a few remarks explaining its magnitude, but also the limits imposed for the research of principality churches from the present Hunedoara County are required. The paper's first chapter aims at presenting *the old stone churches from Hunedoara County*, monuments decorated with *affresco* mural paintings executed during the 14th and 15th centuries and analyzed from a historical, architectural, and iconographical point of view. The monuments chosen for analysis are: *Saint Nicholas's Church* from Densus, *Saint Elijah's Church* from Pesteana, *Holy Virgin's Church* from Sântămărie Orlea, *Pentecost Church* from Ostrov, *All Saints' Sunday Church* from Suseni, *Saint Georges's Church* from Sânpetru (no longer existing today – only an archeological dig site remains), *Saint George's Church* from Streisângeorgiu, *Assumption of Mary Church* from Strei, *Saint Nicholas's Church* from din Ribița, *Assumption of Mary Church* from din Crișcior, *Saint Nicholas's Church* from Leșnic, and *Archangel Michael's Church* from din Gurasada.

From the research of specialists and based on documentary texts, one may reconstitute, although unfortunately in a very blurry manner, the general development frame of old Romanian religious architecture from this part of Transylvania. We must notice that medieval art has evolved within time limits that are not the same or all European countries. Constructions from Romanian settlements have maintained their rustic appearance as they were built mostly from wood. A perishable material, wood has not allowed the oldest monuments to endure over the centuries. Wooden architecture, considered as popular art is followed, or joined by the monumental stone and bulwark architecture. The oldest stone church preserved until present days, still maintain their original structure and obvious signs of reconstructions, repairs and additions. Principality stone churches from this area of Transylvania, the Hunedoara County region, are

characterized by a plain planimetry, with longitudinal axis, built with a rectangular altar and nave and a bell tower on the western side. Only *Saint Nicholas's Church* from Densus and *Archangel Michael's Church* from din Gurasada deviate from this formula and bring a distinctive note to Transylvanian art through the use of the central type plane.

Due to the advanced state of degradation that most from these mural painting developments are in, some still covered by lime-wash, others blackened by various deposits and accretions on their surface, exact reading of the entire iconographic program is quite difficult, sometimes impossible. The iconographic program of some of them was reconstituted based on existing documents or present repainting as is the case of *All Saints' Sunday Church* from Colt Monastery. On the inside, the iconography program within the apse and nave show some differences from one monument to the other when choosing the represented scenes. Hence, in the apse of the altar one generally encounters the following scenes: *The Virgin Mary and the Holy Baby, Christ Pantocrator, Jesus with the Mandorla, the Apostles' Communion, Jesus of pain, Baby Jesus flanked by the Archangels Michael and Gabriel, Baby Jesus in the Paten, Saint Nicholas, the Procession of Holy Hierarchs and Deacons*. The nave's iconography program varies depending on the spread of the edifice and the period when it was painted. The upper part of the nave's walls is usually reserved for the *Actions and Passions of Jesus Christ*, and the lower part of the walls comprises scenes of the *Last Judgment, Military saints and Votive Paintings*. A short inventory of the nave scenes would include: *the Annunciation, Image of Edessa, the Akathist Hymn, The birth of Jesus, the entry in Jerusalem, the Epiphany, the Prayer in the Gethsemane Garden, The Crucifixion, The Resurrection, Heaven, the Assumption of Mary, the tortures of hell, the Last Judgment, Military Saints and the Votive painting*. The painting from the *Assumption of Mary Church* from din Crișcior, along with several fragments preserved within Principality churches from Santamarie Orlea, Ostrov, and Strei, either missing or known only from old descriptions dating back from the same age, come to confirm the apparition of exterior painting in the medieval artistic environment of Transylvania. With the help of remaining fragments or based on documents, we can recompose a few scenes: *The throne of the Holy Trinity, Heaven, the Last Judgment, Saint Christopher carrying the Christ Child, Christ's tomb*.

The central part on which the paper is concentrated is that analyzing the technique, method of execution and constitutive materials of painting assemblies within Principality churches. The definition and presentation of the *affresco* painting technique is presented,

the work method used by painters in that age but also the materials used by them in the artistic creation process, from support, to preparation layers and the color layer are also presented. A detailed analysis of preparations characteristic to the “*a fresco*” technique in all areas of a church may bring important data regarding the possible staged development of the painting process or of some subsequent restorations.

These monuments are decorated with valuable assemblies of mural paintings executed *affresco*, witnesses of the extraordinarily ingenious and creative thinking that painters in the Romanian Middle age had when painting and staging artworks that still amaze. The role they played in the accomplishment of these true mural decorations is much more important than they let understand; they were not just mere workers of some predetermined iconography programs elaborated by the scholars of those time, but true bearers of technical and artistic knowledge. They proved to have experience, imagination and artistic talent. By analyzing their work, one may notice that they did not believe painting was just plain routine work, repeated with every foundation that they decorated with paintings. There are no artistic or compositional representations identically re-staged from one monument to another.

Various materials used by the painters of that time are encountered constantly throughout the 14th and 15th centuries; what is different is the quantity some pigments was used in, and the thickness and structure of the color layer results from the artistic style approached. The nature of the supports for mural paintings differs depending on their location, on the edifice's building materials or on the existing materials specific to the location. Executed from blocks of carved stone taken in many cases from Roman ruins situated nearby, large river boulders, pieces of quarry rocks and burnt bricks, these churches maintain, next to their original, solid structure, obvious signs of reconstructions, repairs, additions and restorations. The plaster binding masonry elements is made from paste lime and sand, has a rough and compact structure and there are no empty spaces between the composing materials, thus demonstrating a perfect dosing of the proportion and granulation of filling materials in relation with the binder. The plastering whereon these paintings were executed is accomplished from a layer of *intonaco* applied for a double purpose: to level the surface of the wall and to receive the painting. This preparatory layer was accomplished from lime based plasters with additions of sand, straws, chaff, and hemp. The surface of the paintings is not perfect as it assumes the deformities in the wall's structure, a feature easily observed upon an examination with

grazing light. The same is used to highlight the marks of plastering trowels used for the mashing-off operation for the *intonacco*, the moment when the calcium hydroxide in the form of a solution from the interior reaches the surface at the same time as water, an essential part in the carbon dating process. Through its width, the plastering allowed for the provision of humidity conditions required for the formation of the color layer.

The pigments of mural paintings from the churches under examination are classified as: *mineral pigments* and *organic pigments*. The chemical analyses performed by the chemist engineer Ioan Istudor have demonstrated that the pigments used during the 14th and 15th centuries in this area are essentially mineral and clay-bearing. In order to obtain more nuances, these pigments were mixed with white, the calcium carbonate obtained from lime. The chromatic range used by house painters does not differ much from one monument to the other, but only the proportion occupied by a certain pigment within an assembly is different, so we may encounter: lime white, wood charcoal black and oxide black, ochre, vermilion, malachite green, earth green, azurite blue, lapis lazuli, and combinations of such.

With regard to drawings, such were freely executed, directly using color on the surface of the *intonacco* layer with the paint brush and yellow-ochre and red-ochre pigments. When it was required that the details remain visible at the time pigments were applied, incisions were accomplished in the fresh preparation layer. The painters were perfectly acquainted with the *affresco* technique as proved by the technical precautions they adopted when the pigments they used, due their nature and properties, commanded special rules for the use of the *affresco* technique which obviously determined the state of conservation throughout the centuries. At an artistic level, on mural surfaces, similarities were noticed, but they make us presume that painters from the Middle Ages circulated in certain areas to work. Painting assemblies are also characterized by artistic and compositional particularities confirming the attempt of painters to bring an original input. It is obvious that they did not apply only rules that they knew well and assimilated like a pattern in every church they painted.

The execution methodology of these painting assemblies uses the entire process of execution characteristic to the *affresco* painting technique and is analyzed based on the following stages: *pontate*, *giornate*, drawing translation and mashing-off techniques, and color layer accomplishment techniques and stages.

For a mural painting restaurateur, understanding the term *affresco* term that defines the painting executed on the wet and at the same time fresh plaster is essential as this is what explains in the artwork the *affresco* term. Starting from the idea of technique and constitutive material analysis, this chapter is structured and developed both based on the examination of documentary sources as well as based on *in situ* research performed. The stratigraphic study of paintings revealed the nature of construction materials for the support and of bonding plasters, the stages of plaster application, the phases of the painting process as well as the repair and restoration interventions endured in time.

Chapter III proposes an analysis of the action of degradation causes and factors that have affected and continue to affect both the mural painting as well as the architectural assembly, leaving various marks due to physical degradation factors, materials used, technical execution aspects and last but not least, due to the human factor. The *in situ* observations have commanded the extension of the research on the complex connections existing between the technical execution and materials used by the painter, degradation factors and mural painting degradations.

Degradations endured by a historical monument or a work of art are multiple as they are correlated with the alteration of their constitutive materials. The degradation of these materials is, in its turn connected to a series of natural processes, the chemical and physical features of the object in discussion, and to those of the environment where the object is located. The continuous evolution of the balance between monuments, the surrounding environment, and the alteration processes may lead to the complete transformation of materials and, as such, to their destruction and loss. The causes for the alteration of mural paintings from Romanian principality churches from Hunedoara County are varied and frequently combined, one creating the conditions adequate for the intervention of the other. Among all these alteration causes, excluding of course the human factor, the most important, both due to its incidence as well as due to the multitude of secondary causes it develops, is the action of water. Many times, alterations only manifest after a certain period of time after the action of the main factor and their effects may extend after the elimination of their cause. In this sense, one must take into consideration the material history of monuments, the modifications suffered along the centuries, including conservation and restoration interventions with the purpose of recomposing the coherence of causes and effects generating present degradations. Only and specialized

historical and technical research will allow an intervention both as to the causes, eliminating and reducing them, and to ensure the long-term conservation of monuments.

Knowing the various causes and phenomena determining the deterioration, destruction and transformation for these monuments' appearance has an important role in establishing their accurate state of conservation, but also in determining prophylactic measures or direct interventions in view of slowing down or stopping these degradation processes. To determine a correct diagnosis of the conservation status for these churches as well as for the mural painting decorating them, one must correlate the causes with the degradation they provoke, and specialized investigations performed by a multidisciplinary team are mandatory. At the same time, knowing the various forms of degradation inherent to mural paintings executed *affresco* may lead to a reevaluation of the artistic image under esthetic aspect, especially from the point of view of a specialist. In order to separate the original quality of mural paintings from their apparent image, besides the personal criteria of esthetic evaluation, a good restaurateur must be acquainted with some particularities of degradation forms. The esthetic analysis of mural paintings will be performed by taking into account the appreciation of various degradation forms that intervene over time.

By studying *in situ* the monuments from the Hunedoara region, monuments decorated with mural paintings executed during the 14th and 15th centuries, a great variety of aspects related to degradation phenomena have been identified both on the outside and on the inside. Obvious esthetic modifications on these mural paintings are partially owed to some natural, physical and chemical causes, to the execution methodology and materials used and, in the end, to the ever-persistent human action consisting from an ever-increased production of atmosphere pollutants, to direct interventions on the artwork, or simply due to neglect and indifference for one's heritage. The causes that influence the state of conservation of mural paintings come from the interior, through the assumption of degradation at the level of the masonry structure or under the influence of degrading architectural elements, and from the exterior through the actions of the human factor, vegetation development, and influence of the microclimate.

The casuistry presented is based on the inherent experience acquired over time in the field of conservation and restoration of mural paintings and decorations with strict reference in this paper to *affresco* mural paintings from Hunedoara County.

The last chapter approaches the conservation process in the historical-esthetic recovery of mural paintings in churches, with an emphasis on preventive conservation.

A fundamental terminology problem that we are dealing with is the lack of consensus on the generic definition of conservation, each bringing his/her own definitions accompanied of course by a succession of contradictions. Restoration serves the purpose of making mural paintings readable and valuable. The object undergoing restoration is not in danger and might be exempt from this intervention without the risk of it disappearing. On the other hand, the purpose of conservation is to extend the life of cultural goods. Actions may be initiated on an object, on an assembly of objects (direct action), or on the environment surrounding an object or collection (indirect action). Contrary to restoration, the conservation intervention is determined by the existence of a probable or real damage. Conservation is a mandatory action because the damage is in progress or about to intervene.

Because approaches about the examination of constitutive materials associated with the technical execution in itself, the status of conservation as well as the responsibility of conserving these monuments have rarely constituted the theme of a more ample study, I believed it necessary to conduct this research which includes most of the aspects which configure the existence and conveyance of *old stone churches* from Transylvania from the Hunedoara region as artistic value. Usually, technical conservation and restoration documentations compiled before and during the development of interventions have a restricted circuit as they are intended to specialists and only parts of the restoration process are accessible to the public. This aspect has determined and motivated me to launch such a thesis, with the purpose of presenting in detail what constitutes the structure of mural paintings, from materials and execution methodology up until their present state of conservation.