European Journal of Science and Theology, September 2008, Vol.4, No.3, 71-78

ASPECTS CONCERNING THE PRESERVATION STATE OF VAMA CHURCH IN THE BUCOVINA VILLAGE MUSEUM, SUCEAVA

Loredana Axinte*

Bucovina Museum Complex, 33, Stefan cel Mare Street, 720003 Suceava, Romania

(Received 21 June 2008, revised 6 August 2008)

Abstract

The cultural patrimony is part of our national wealth, occupying a special place in the economy and social life of the country. The cultural patrimony is the expression of our national identity by its value, number of items and composition, while its state indicates not only the degree of civilization of the contemporary society but also the way in which this society treats its cultural heritage.
The wooden church in Vama, built in 1783, can now be found in the Bucovina Village Museum located in Suceava. The monument has been well preserved but it still requires important preservation and restoration works if we take into account it being part of the sight-seeing tour as well as the expressed intentions to bring it back, even if occasionally, to the original functionality for which it was created, that of the ritual messes characteristic to the Orthodox cult.
Physical, chemical, biological and human agents can negatively influence the longevity of the wood and thus, implicitly, that of the objects and buildings having a patrimonial value.
The present work has at its centre a case study regarding structure wood and its decaying caused by macrofungi as well as the preservation state of the mural painting on the interior of Vama church from the Bucovina Village Museum, Suceava.

Keywords: wooden church Vama, biodegradational agents, macrofungi, distemper painting, mural painting

1. A short history of the monument

The wooden church has as initial owner the parish in Vama de Jos situated in the locality called Vama, in the district of Suceava.

The village Vama is situated on the valley of the Moldova River in a wonderful and picturesque depression area, guarded by the Obcina Feredeului. The first documentary certification dates from 1409 when Alexander the Good gave Moldovita Monastery a present, Vama Moldovitei. In 1443 Stefan cel Mare acknowledges the properties of the Moldovita Monastery among which 'Vama,

* e-mail: axinte_loredana@yahoo.com

called the Vama of Moldovita with the entire village'. In 1717 the local villager, Mihai Racovita, had a Wayvode's pillar erected in the remembrance of his campaign in Transylvania. This is a monument which still exists and is located closely to the centre of the village. During the Austrian occupation there was a customs for '*an emperor's road'* when entering Vama village. As a consequence of the Austrian politics, many German miners moved up to Vama in 1809, after which the village was raised to the rank of 'town' until the World War I, when it was known as a village once again.

The inhabitants have always dealt with raising animals, working the forest and agriculture - within the limits of the arable terrain they had at their disposal. Mining developed after the Austrian annexation, and there was a growth in number of those working the wood.

The congregational church in Vama de Jos was built in 1783 and has as its patron feast day ,*the Ascension of Our Lord Jesus'* (Figure 1). There is another church in the village with similar characteristics with the feast on Saint Nicholas' Day and which was built later, in 1796.

The wooden church was built in the traditional style. The ante-temple together with the nave form one room separated from the altar by the rood screen. The foundation is made of stone and the walls of wood and resins. The framework is made of resins covered in clapboard. The craftsmen which built this church are known to be Mihaila and Dumitru Ho(l)te(i) [1].

The foundation is from masonry with a putty of cement. The walls are made of wreaths of beams shaped in a four faced dovetailing-joint while the beams are fixed together by double wooden nails, as a supplementary resistance element.

Figure 1. Vama church has as its patron feast day ,*the Ascension of Our Lord Jesus'*.

2. Biodegradation caused by macrofungi

The biodegradation agents are one of the most important causes which negatively influence the life of wood, including that of the objects and buildings having a patrimonial value.

The great diversity of wood essences used in masonry has as a consequence a great variety of biodegradation agents such as: bacteria, algae, fungi, lichens, moss, superior plants, insects and birds.

Fungi are the most dangerous biodegradation agents in what structure wood is concerned, not only because of their damaging effect but also their rapid extension and frequent attack [2].

The fungi have caused the decaying of wood buildings since ancient times and the first references of the fact are present in the biblical writings of the Old Testament. Chapter 14 from the Leviticus is about treating the leprosy of the houses, verses 33 to 57; there are references made about cleansing the houses from 'the leprosy of the houses', advices given concerning the verification of the houses to see if they are victims of the fungi or not, as well as the modalities to remove the damaged material.

Fungi can develop on structure wood if the moisture of the material remains constant to over 22 % for a longer period of time. The spores produced by the sporiferous bodies, characteristic to each species, are propagated in the very fine heated wires, called hiphae. These penetrate the cells where they destroy the components of the cellular walls. The hiphae have various colours and form an interlacery, called mycelium visible with the naked eye. A lot of species present propagation cordons called rhizomorfs. In optimal life conditions the fungus produces annual or multiyear sporiferous bodies which present a fertile zone, called hymenophor, wherefrom millions of spores are eliminated into the atmosphere. We should also mention that the attacked wood may suffer from various types of rottenness depending on the enzymatic trimming and the nutrition particularities of the fungus [3].

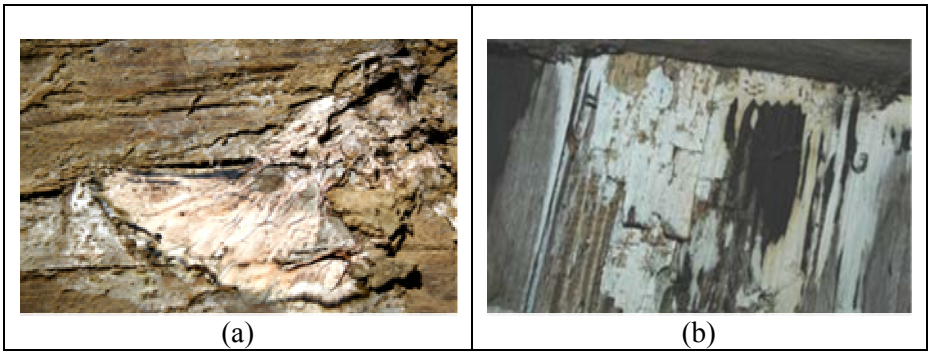
The specialists, who worked of the Vama church in the Bucovina Village Museum in 2005, have been confronted with a very difficult situation, namely the important damage caused by *Serpula lacrymans* (Figure 2a). This fungus attacked some construction elements from the inferior part (the foundation and floor). In this case the specialists resorted to the removal and the burning of the infected elements as well as of those in their vicinity. The other construction elements (old and new wood) were treated by immersion into a watery solution (10 %) of copper sulphate (55%) and potassium bichromate (45%) before the reconstruction. The treatment was repeated by spraying the areas with the same solution in May and September.

During the period in which researches were conducted there haven't been signs of a possible come-back of the fungus *Serpula lacrymans,* joyful fact which brings about the conclusion that the anti-fungal treatment has been efficient.

The researches which dealt with the study of the macrofungi on the structure wood of the Vama Church, took place from November 2006 to June 2007. During this period there have been encountered five species belonging to the *Basidiomycota* subkingdom (Table 1) [4].

Table 1. Macrofungi found on the wood structure of the Vama Church.

Subkingdom	Order	Family	Species
Basidiomycota	Agaricales	Schizophyllaceae	*Schyzophyllum commune Fr.*
	Russulales	Stereaceae	*Stereum hirsutum (Willd.) Pers.*
	Hymenochaetales	Schizoporaceae	*Hypodontia breviseta (P. KARST) J. Erikss*
	Polyporales	Gloeophyllaceae	*Gloeophyllum (Bull.) P*
			Gleophyllum sepiarium (Wulfen) P. Karst



(a) (b)

Figure 2. Macrofungi found on the wood structure structure of the Vama Church: (a) Serpula lacrymans, (b) Hypodontia breviseta.

3. The preservation state of the mural painting

There is almost no information regarding the painting of the church. We know however that a plastering had been applied in 1951 on the outside and inside walls. After the plaster has been removed, fragments of mural painting were discovered in the interior on the church.

On the vaults of the altar and nave one may still notice painted areas which represent the starry sky while on the walls of the altar's apse there are four fragments which represent saints standing up (Figure 3). The painting is accomplished in the distemper – tempera technique, a faulty execution achieved

with low quality materials and having as plaster rough cast a relatively thin layer of isinglass mixed with chalk dust.

The mural painting is in an advanced state of damage caused by the author's technique, the combined action of many degradation factors: physical, chemical, biological as well as by the interferences and changes undergone in time by the monument [5].

The painting is on an irregular, very thin and fragile layer of preparation and colour which is also deficient in binder (isinglass dissoluble in water), fact brought about by the permeations caused by the rain. The curved ribs found at the joint of the boards which make up the arches have been repainted using a consistent layer of ordinary, common dye.

The surface of the painting preserved on the walls of the altar's apse is still covered by an irregular layer of plaster dating since 1951 even if has been partly removed. The plaster had been initially applied on a structure of wooden laths 2 to 3 cm in breadth, disposed obliquely and in parallel at a distance of 7 to 8 cm, being glued and nailed right on the painted wall. As a consequence the image of the painted saints looks more evident in the oblique stripes on which the laths had been applied in contrast with the stripes veiled by the white plaster.

After the plaster and the laths have been removed the painting showed different types of damage as a consequence of the traumas caused by an aggregate of agents (physical, chemical, biological, human, etc.): detachment of the pictorial coat, gaps, fissures, brought about by the diminishing of the binder's concentration, chromatic changes of some pigments (blue, green), adherent and non-adherent deposits (dust, smoke, plaster, wooden chips), holes and other damages engendered by nails and other metallic elements (Figure 4).

The researches as well as the specific documentation have been conducted for painting restoration purposes. We mention that the cleaning tests have given us the hope that the most part of the painting found under the layer of plaster has a chance to be retrieved (Figures 5 and 6).

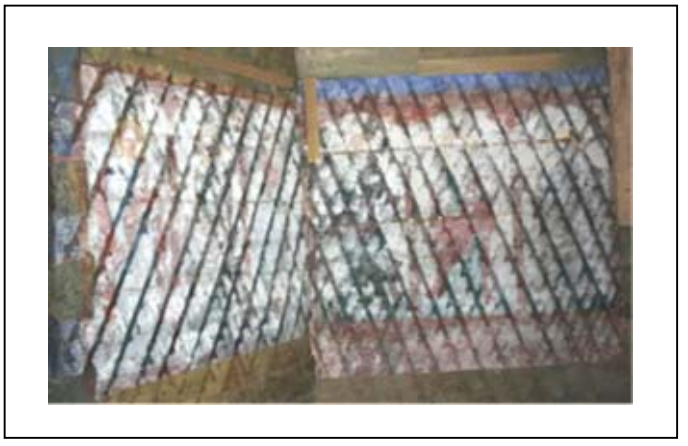


Figure 3. Mural painting on the walls of the altar's apse.

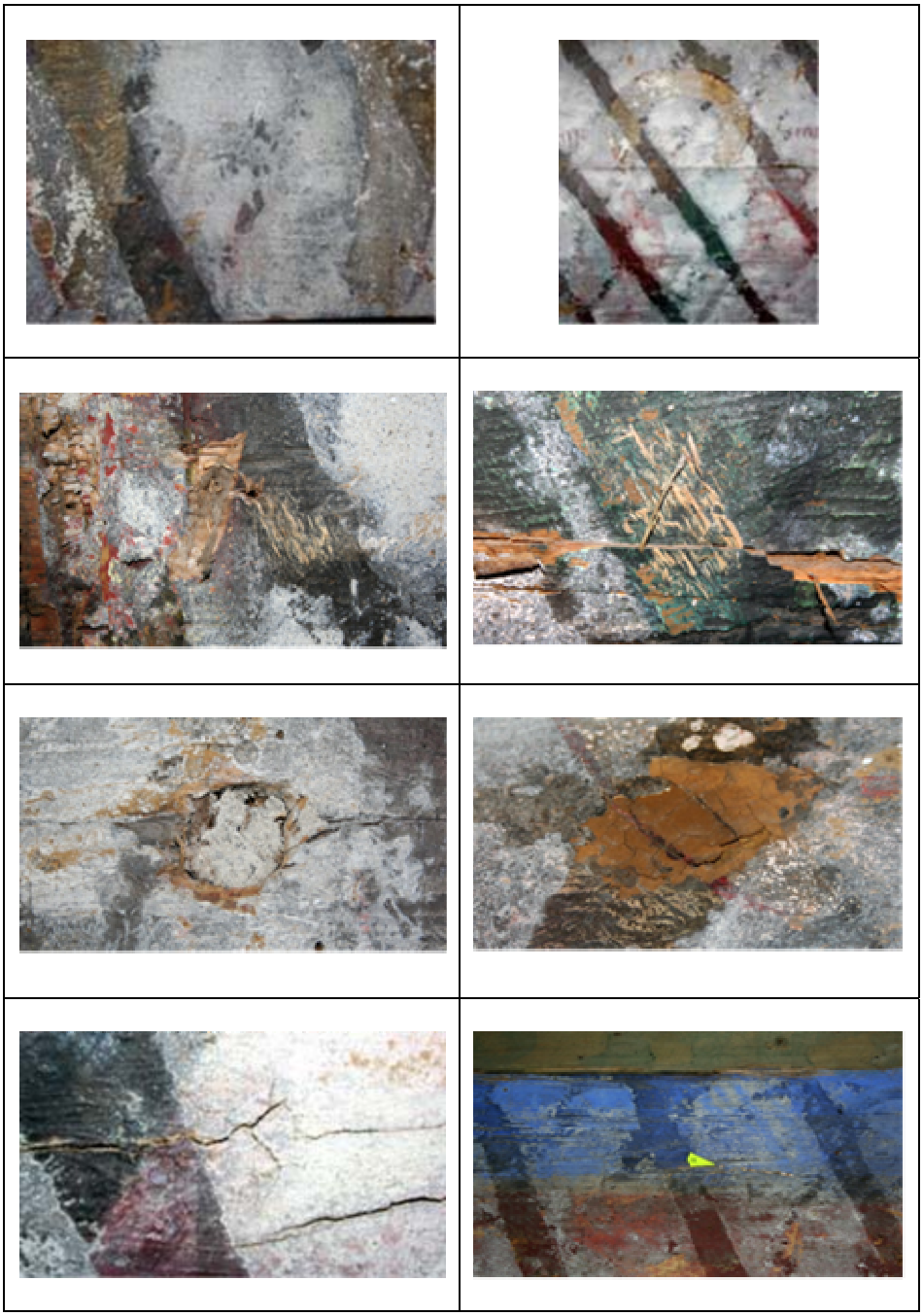


Figure 4. various types of damages found on the mural painting of the altar's apse: adherent and non-adherent deposits - dust, smoke, plaster, wooden chips, gaps, ulterior inadequate quits, exfoliations, chromatic changes.

Figure 5. (a) Dry clean tests, (b) wet clean tests.

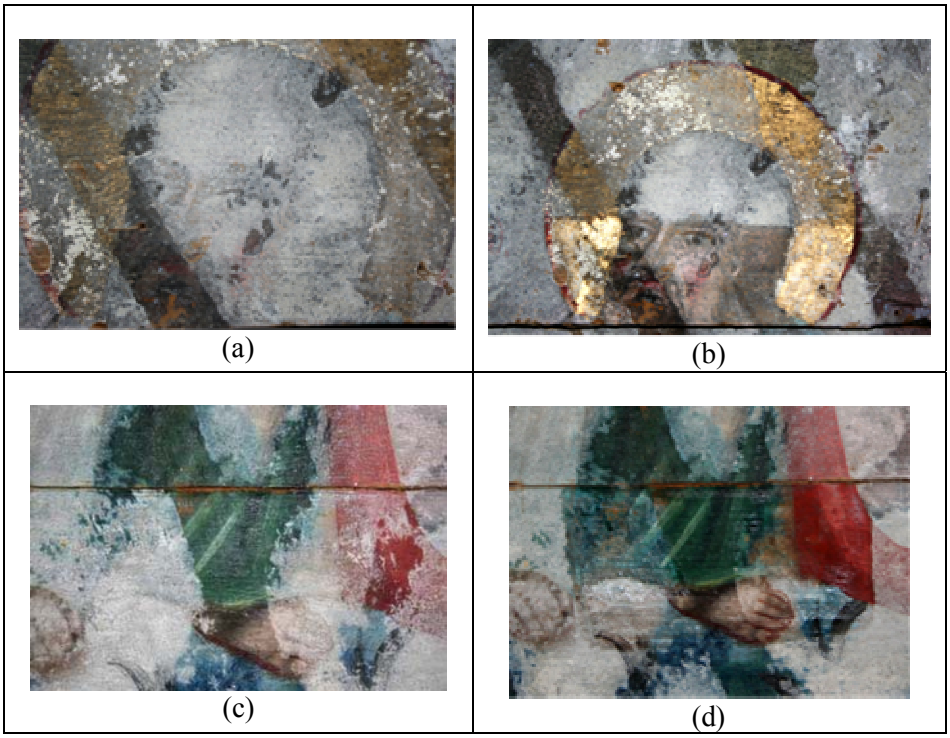


Figure 6. Detail of mural painting: (a, c) before being cleaned;
(b, d) after being cleaned.

4. Conclusions

A good acknowledgement of the biodegradation agents which cause timber decay in this construction material of which the objects exposed in open-air museums are made, has its own importance as it is necessary for the preservation process of the cultural patrimony of this kind, while the damage caused by macrofungi is very often encountered in such cases.

As for the mural painting found on the interior of the church, the rejoicing results obtained by researches conducted according to the restoration methodology, give us with the right to believe that this could soon come back to its previous role, that of adornment of the monument, even if it is quantitatively reduced.

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