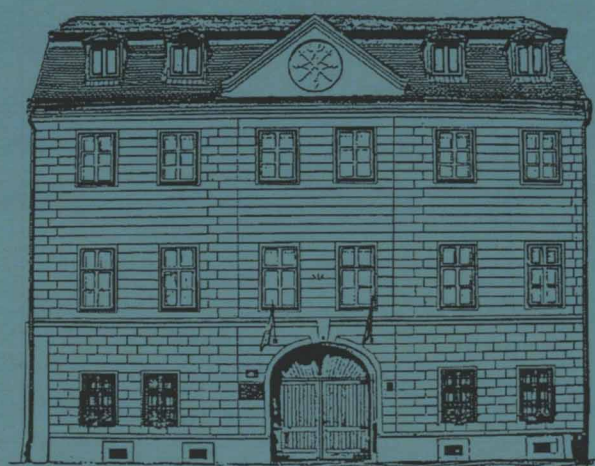


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REVIEWERS FOR
BRUKENTHAL ACTA MUSEI XIII.4

We are deeply grateful to the following specialists who gave of their time to review manuscripts submitted in 2019, for publication in *Brukenthal Acta Musei XIV.4*:

Bucur Mirel Vasile, "Lucian Blaga" University of Sibiu, Romania

Corneanu Sebastian, "Lucian Blaga" University of Sibiu, Romania

BRUKENTHAL NATIONAL MUSEUM IN 2018: A CHRONICLE OF RESTORATION EXHIBITIONS AND EVENTS

Dana Roxana HRIB *

Abstract: *The present study is a synthetic presentation of Brukenthal National Museum's cultural offer in the field of restoration during 2018.*

Keywords: *Brukenthal National Museum, restoration, 2018.*

Rezumat: *Articolul de față constituie o prezentare sintetică a ofertei culturale a Muzeului Național Brukenthal în domeniul restaurării, pe parcursul anului 2018.*

Cuvinte-cheie: *Muzeul Național Brukenthal, restaurare, 2018.*

1. Permanent exhibitions: new permanent exhibitions on the 2nd Floor in Brukenthal Palace¹

The works at the 2nd Floor in Brukenthal Palace continued the concept developed during previous years, focusing on the interior atmosphere in the late 18th c. and the early 19th c. and thematic rooms.

During 2018, were completed the works for the *Cabinet of Curiosities* sector. The exhibition is illustrating the evolution of collections from cabinets of curiosities, comprising small scale collections, to the large and specialized collections put together by those having the appropriate education and financial means to creating and maintaining them, as was the case of Baron Samuel von Brukenthal.

Encyclopedic collections of objects, the cabinet of curiosities was first documented in Renaissance Europe, categorizing the included items as belonging to natural history, geology, ethnography, archaeology, religious objects, works of art and antiquities. It was regarded as a microcosm or theater of the world. The juxtaposition of disparate objects

encouraged comparisons, finding analogies and parallels and favoured the cultural change that led in the 17th century to the germs of a scientific view of reality.

Also in 2018 were completed the works for the *Kitchen in Art* sector that includes still life works and the genre scenes presenting compositions in which the subject is related to the preparation of food.

The thematic rooms completed in 2018 regard *Mythological scene, scenes of ancient history and literature, Still life and genre scene* and the *Hunting scene*.

The project involved the participation of the restoration specialists from Brukenthal National Museum's Restoration Laboratories at all levels employed by the setting of the new exhibition, from conservation and restoration works to curatorial endeavor.

2. Temporary exhibitions

The recovery of the original painting from the Great Union Hall, Alba Iulia (Brukenthal Palace, inner courtyard, 18.05 – 31.12): destroyed during the communist period and cut into pieces used for door and window padding, the painting made by Pierre-Bellet in 1920 for the Great Union Hall in Alba Iulia was recuperated by a painting restoration team from Brukenthal National Museum. The exhibition presented the recovery project of the monumental painting, a process that assumed two

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¹ The short descriptions of permanent exhibitions are selected from the texts given by the curators (Dorin Barbu, Dana Hrib, Adrian Luca, Alexandru Sonoc and Robert Strebeli) for public information.

categories of reciprocal conditioned interventions: the restoration of the existing fragments and the repainting of the missing parts, having an unprecedented complexity in both restoration activity of the Museum and nationally. The project was the subject of a press event and several scientific communications and articles. The monumental painting was inaugurated in Alba Iulia on 1st of December 2018, on the occasion of the Great Union Centennial celebration.

3. Scientific symposiums

_Implementing the Scientific Research in Restoration, Between Desideratum and Reality (Casa Albastră / Blue House, 3-5.10): the theme of this 2018's session regarded the restoration of ceramic objects. Specialists from Zalău, Craiova, Braşov, Iaşi, Timişoara, Deva, Cluj, Bucharest and Sibiu were invited to present their work. The restored items presented were ceramics of various epochs.

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- online source on exhibitions <http://www.brukenthalmuseum.ro/index2.php/en/expo>
- online exhibitions: http://www.brukenthalmuseum.ro/index2.php/virtuale/index_en

THE CONSERVATION OF AN AUSTRO-HUNGARIAN WARTIME PATRIOTIC RELIEF PLATE MADE OF TIN ALLOY

Alexandru Gh. SONOC*

Dorin BARBU**

Abstract: An Austro-Hungarian wartime patriotic relief plate (dated 1914), made of tin alloy, was acquired by purchasing the botanist Nyárády Erazmus Gyula's herbaria, books and various personal objects from his heirs in 1980. This category of artefacts which is very rare in the museums from Romania. Its conservation status is relatively good, despite the loss of a corner and the fact that it is affected by the "tin pest". This consists in the transformation of the β -tin (white tin) with a tetragonal crystalline system at temperatures lower than 13.2°C in α -tin (gray tin), which has a different crystalline system and completely different physical and chemical properties, resulting in an increase in volume and a decrease in density. The metal becomes increasingly fragile and gray spots and pustular or nodular excrescences will appear on its surface in the affected areas. This autocatalytic process is accelerated by exposure to negative temperatures, to industrial atmospheric pollution or to corrosive agents in the soil and in the marine environment, as well as by alloying with zinc or aluminum or by the presence of germanium and slowed down by alloying with small amounts of electropositive metals, indium or lead, and by the presence of the antimony or bismuth. After the superficial deposits of dirt were removed by wet treatments and brushing and those of corrosion products by using a scalpel, the item was shortly mersed in orthophosphoric acid, brushed under a stream of water, dried, rinsed with distilled water and protected by applying a thin layer of universal oil Balistol®.

Keywords: "tin pest", corrosion products, detergent C2000, orthophosphoric acid, Balistol®.

Rezumat: O plachetă patriotică austro-ungară de război (datată 1914), realizată din aliaj de cositor, a fost dobândită prin achiziționarea ierbarelor, cărților și diferitelor obiecte personale ale botanistului Nyárády Erazmus Gyula, de la moștenitorii acestuia, în 1980. Această categorie de artefacte este foarte rară în muzeele din România. Starea sa de conservare este relativ bună, în ciuda dispariției unui colț și a faptului că este afectată de "ciuma cositorului". Aceasta constă în transformarea la temperaturi mai mici de $13,2^{\circ}\text{C}$ a staniului β (cositorul alb) în staniu α (cositor gri), cu un sistem cristalin diferit și cu proprietăți fizico-chimice complet diferite, care duc la creșterea în volum și scăderea în densitate. Metalul devine tot mai fragil, iar pe suprafața sa vor apărea pete gri și excrescențe sub formă de pustulă sau noduri în punctele afectate. Acest proces autocatalitic este accelerat de expunerea la temperaturi negative, la poluare atmosferică industrială sau la anumiți agenți corozivi din sol și mediul marin sau de alierea cu zinc sau aluminiu ori de prezența germaniului și este încetinit de alierea cu mici cantități de metale electropozitive, cu argint, indiu sau plumb și de prezența stibiului sau a bismutului. După îndepărtarea depunerilor de murdărie prin tratamente umede (cu detergent C2000 și apă) și periere și apoi a produșilor de coroziune prin folosirea bisturiului, piesa a fost imersată în acid ortofosforic, periată sub jet de apă, uscată, clătită cu apă distilată și protejată cu o peliculă de ulei universal Balistol®.

Cuvinte-cheie: "ciuma cositorului", produși de coroziune, deterent C2000, acid ortofosforic, Balistol®.

An Austro-Hungarian wartime patriotic relief plate, made of tin alloy (Fig. 1, 3), was discovered in an office cabinet of the Museum for Natural History in Sibiu, where it actually came in 1980, following the purchase of the botanist Nyárády Erazmus Gyula's herbaria, books and various personal objects from his heirs. It depicts the portraits

of the emperors Wilhelm II of Germany and Franz Joseph I of Austria-Hungary, as well as some symbolic images (weapons and military equipment, laurel branches, flags and crowns) in the upper register, and in the inferior register the eagle of Jupiter and the coats of arms of 7 enemy states: Russia, France, Great Britain, Belgium, Montene-

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gro, Japan and Serbia. The middle register shows the year number 1914 and the personal motto of the Austro-Hungarian monarch, who is rendered in a hussar uniform. Considering these characteristics and the fact that the names of the enemy countries are written in two languages (German and Hungarian) in only 2 cases (of Russia and Serbia), and only in Hungarian in all other situations, it can be assumed that the relief plate was intended for distribution in the territories which were administrated by the Hungarian Royal Government in Budapest. The clues for a more accurate dating are the dates of the Japanese war declaration to Austria-Hungary (August 25, 1914) and that of Austria-Hungary to Belgium (August 28, 1914), as well as the lacking mention of Albania as an enemy state, after this state declared war on Austria-Hungary (October 5, 1914) and of the rendering of Sultan Mehmed V as an allied sovereign after the Ottoman army attacked the Russian military targets on the Black Sea coast, causing thus the declarations of war of Russia (November 1, 1914), Serbia (November 2, 1914), Montenegro (November 3, 1914), France and Great Britain (November 5, 1914) and, in turn, the Sultan's jihad declaration on the Entente and its allies (November 11, 1914). As a result, this interesting item, belonging to a category of artefacts which is very rare in the museums from Romania, was produced most likely during September – October 1914.

The relief plate was made by casting and pressing in a monovalve mould and is quite well preserved, excepting the facts that it is affected by the "tin pest" and that its upper left corner is lacking, being violently detached in an unknown period (maybe in order to proof the true nature of the metal, mistakenly considered to be made of silver, for sure previously it showed clear signs of "tin pest"). This damage led to the disappearance of a wire eyelet (also made of tin alloy), which allowed to hang the relief plate on a wall or on another architectural structure element (like a pile or a beam) either in a public building (such as a pub, an office, even a classroom or a chapel) or in the home of an active, reserve or retired military or even of a civilian who wanted to show loyalty to the Austro-Hungarian Imperial and Royal House and to the state ruled by it. On the other three corners the wire eyelets are kept in good condition, allowing therefore the imaginary or/and graphic reconstruction of the artefact's original appearance. On a large part of the both sides of the relief plate, the effects of the so-called "tin pest" are visible and therefore it was brought to the Conservation Laboratory, for further examination and treatment.

The conservation of this interesting item followed in short time after its examination and led to a better understanding of certain details (Fig. 5-6), already after its cleaning (Fig. 2, 4). Thus, among the weapons depicted between the portraits of the two emperors, one pointing down could be determined as being either a sabre (whose blade and hilt remained unfinished, due to an error at the manufacturing of the mould) or a poorly depicted rifle (in regard both of its general shape and of certain important details as its stock, barrel, trigger and trigger guard). The shape of another bladed weapon, but whose tip is pointing up (i. e. in the opposite direction), which is apparently also less clearly depicted, but could be precisely identified only after the relief plate's conservation, recalls by its shape rather a machete than a ceremonial dagger or short sword and even less a bayonet. It seems to symbolise, most likely, the German forces still fighting in September – October 1914 in the colonial territories in Africa, in the Far East and in the Pacific Ocean, emphasizing thus the worldwide extent of the war.

Thus, this Austro-Hungarian wartime patriotic relief plate regained much of its original look and could be shown in the exhibition *Romanians in the First World War. Great Union from Alba Iulia 1st December 1918* at the Brukenthal National Museum, during November 16 – December 30, 2018. (For more information on the date and the cultural and historical importance of this artefact, see Sonoc 2019, 195-220).

The "tin plague" is, in fact, the transformation of β -tin (white tin) with a tetragonal crystalline system in α -tin (grey tin) with a cubic crystalline system, at temperatures lower than 13.2° C. This thermodynamically stable transformation is relatively slow at moderate temperatures, but becomes swifter at ca. -40 ° C. However, the ideal transformation temperature is much lower, at -48° C. The process is accompanied by a decrease in the thickness of the tin, from c. 7.29 g/cm³ for the β -form to c. 5.77 g/cm³ for the α -form, by a change in colour from white to grey, by a volume increase (of about 27%) and by the embrittlement of the metal, which tends to turn into powder. The β -tin is relatively soft and ductile, but if transformed into α -tin it gives a characteristic cracking sound when it is subjected to a plastic deformation stress. Unlike the β -tin, which is a typical electricity conductor (though much weaker than copper), the α -tin is characterized by a high resistivity and is a semiconductor. In addition to fragility and to the appearance of grey spots on the metal's surface, the "tin plague"

is signalled as well by the occurrence of pustular or nodular outgrowths in the affected areas, as a result of the reduction in density and of the increase in volume. From there the transformation extends then radially, affecting in time the entire mass of metal, the more so since it is an autocatalytic process. The presence of impurities may favour, slow or even inhibit it. Thus, alloying tin with other metals (such as aluminium or zinc) or the presence of germanium or of other crystalline structures, similar in shape and size with that of this latter substance accelerates the process, while the antimony or bismuth or the alloying with small quantities of electropositive metals, with silver, indium and lead slows it down. The contact with an alcoholic solution of "pink salt" (*Pinksalz*), respectively of ammonium hexachlorostannate ($(\text{NH}_4)_2[\text{SnCl}_6]$), a substance used as a mordant in dyeing, accelerates this degradation process of tin. However, the transformations caused by the "tin plague" can be prevented, either by alloying tin with 0.1% bismuth, which stops their triggering, or by keeping the tin objects at a constant temperature higher than that at which they start to trigger, respectively above 13.2 ° C. (For details on the physical and chemical properties of tin: Russell, Lee 2005, 402-410; Davies *et al.* 2008, 3-4; Levy 2009, 20; Smith 2012, 3-5).

Another factor contributing to the rapid degradation of tin is the acidic medium, especially under the action of the nitric acid HNO_3 , and the rate of reactions in hydrochloric acid HCl and sulfuric acid H_2SO_4 increases 2-3 times if the acid contains dissolved oxygen (Russell, Lee 2005, 404), which signals the negative impact of the industrial pollution, primarily of the atmospheric pollution on tin objects. Although the alteration compounds of tin in a marine environment have not been adequately studied yet, the stimulating effect of sodium chloride NaCl on tin corrosion in seawater was noted, as well as the presence of tin sulphite SnSO_3 where the sulphate-reducing bacteria are active in anaerobic marine environment (Angelini *et al.* 2013, 251).

As the "tin pest" has been noticed since the Antiquity, it is very likely that it could have been empirically found that this process of tin's degradation is slowed down by alloying with lead. In modern alloys, unlike in the old ones, instead of lead (which is toxic) antimony was used (not only for the production of dishes, but also for statuettes and other works of decorative art), so it can be assumed that for the relief plate purchased from Nyárády Erazmus Gyula's heirs tin was allied with

antimony (and/or even with bismuth) and not with lead.

Unlike the chemical nature of tin's corrosion products, which nowadays is well described (Turgoose 1985; North, MacLeod 1987; MacLeod, Wozniak 1997), the environment conditions of their formation are still less known (Memet 2007, 165), and their behaviour is different. The studies of the corrosion of tin were focused mainly on bronzes (Robbiola *et al.* 1998; Angelini *et al.* 2007) and less the other alloys (MacLeod, Wozniak 1997). Researches on aged samples demonstrated a relationship between the nature of the soil and the formation of the corrosion products in Cu-Sn alloys (Angelini 2007, 215), respectively in bronzes. The tin's corrosion products in modern alloys containing antimony (which were the most common pewters during 17th-18th c.) are generally composed of different layers of tin minerals, such as romarchite SnO , cassiterite SnO_2 and abhurite $\text{Sn}_3\text{O}(\text{OH})_2\text{Cl}_2$, but depending on the conditions in which the items were buried, some other tin oxyhydroxides and chlorides can grow in the corrosion layers (Memet 2007, 165). In the case of bronze objects, it is known that the tin dehydrated oxides act as a stabilising structural agent of the patina, contributing thus to their corrosion resistance, that bronze corrosion can essentially be described as a decuprification phenomenon involving complex processes of migration (Piccardo 2007, 259). The tin's corrosion products based on chloride ions seem to behave completely different, as they are chemically and thermodynamically unstable, but museum conservators usually consider them "stable" and suffering from dramatic pitting corrosion (Memet 2007, 165). According to the most recent opinions (De Ryck *et al.* 2003), the "tin pest" complicates much the cultural goods' conservation, because once affected by this transformation they can no longer be treated. A critical review (Rocca, Mirambet 2007) of the various methods of inhibiting the corrosion (but currently applied mainly to copper and lead alloys, rarely to silver and to iron) by using acrylic, vinyl or epoxy polymers, various types of natural or synthetic waxes, inhibitor compounds and, finally, sodium carboxylates showed that none of these materials can satisfy simultaneously the various requirements encountered in the field of cultural heritage preservation, and thus the development of new protective systems for the preservation of metallic artefacts remains of great interest. It was also found that pure tin did not react or had a very weak reaction to a corrosion inhibitors solution composed of a mixture of 1,2,3-benzotriazole (BTA)

with the 5-hexyl-BTA derivative (BTA + C6-BTA), to which the traditional Cu-5Sn-5Zn-5Pb alloy responds just as copper and zinc in pure state, while the new copper Cu-8Sn-3Si has a less intense reaction (Galtayries *et al.* 2007). Under these conditions, the conservators have to choose or the most convenient solution, according to the nature of the cultural good and to its conservation status, generally sacrificing either the principle of reversibility or that of the inhibitors' non-toxicity, or even that of sustained effectiveness (when it is possible to provide maintenance, respectively that the inhibitor should periodically be re-applied, as for the open air public bronze monuments).

The results of this research on the corrosion of tin were particularly important for taking a right decision in respect of the conservation of this historical item.

As the "tin pest" did not affect deeply this artefact, a treatment which we experimented since several years in the Brukenthal National Museum's laboratory was chosen, respectively the immersion in a 2 % solution of detergent C2000 (an aqueous emulsion of anionic and non-ionic surfactants with pH = 12.4, according to the Reach leaflet, C.T.S.), combined with brushing with a soft hair brush, followed by repeated rinses. This treatment removed the superficial dirt deposits from the piece, but did not solve the "tin pest". Therefore, the thicker corrosion products had to be removed mechanically (Mottner 1993, 103), by using a scalpel. Afterwards, the item was immersed for 10 seconds in a 20 % solution of orthophosphoric acid H₃PO₄, followed by brushing under a stream of water, repeated rinses with distilled water and drying. Finally, a protective layer of Balistol® (Universal Oil F.W. Klever GmbH) was applied.

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3. Backside of the relief plate before conservation.
4. Backside of the relief plate after conservation.
5. Frontside of the relief plate before conservation. Detail.
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3. Spatele plachetei cu relief înainte de restaurare.
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5. Fața plachetei cu relief înainte de restaurare. Detaliu.
6. Fața plachetei cu relief după restaurare. Detaliu.



1. Frontside of the relief plate before conservation



2. Frontside of the relief plate after conservation



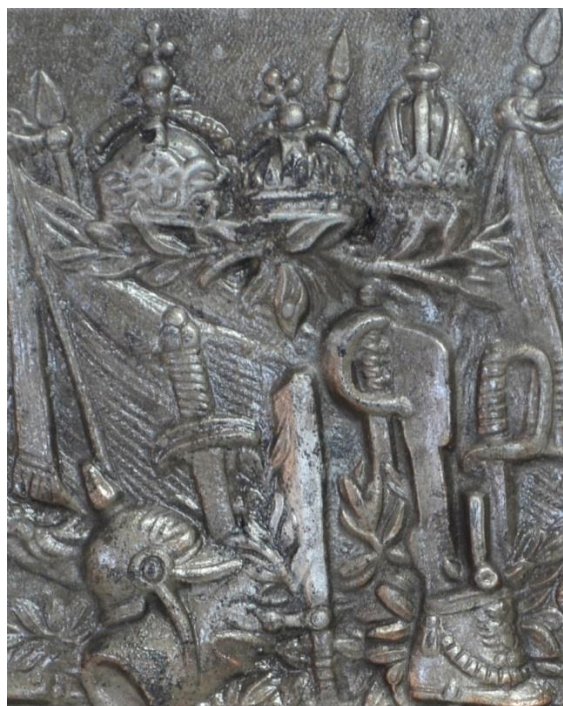
3. Backside of the relief plate before conservation.



4. Backside of the relief plate after conservation.



5. Frontside of the relief plate before conservation. Detail



6. Backside of the relief plate before conservation. Detail.

RESTORATION OF SOME PIECES OF FUNERAL INVENTORY FROM THE CRYPT OF THE ROMAN CATHOLIC PARISH CHURCH „SFÂNTA TREIME” (HOLY TRINITY) FROM THE LARGE SQUARE, SIBIU

Dorin BARBU*

Abstract: *This paper presents the conservation state as well as the restoration operations carried out on about 200 objects discovered in the crypt from the basement of the Roman Catholic Parish Church "Sfânta Treime" in Sibiu. The objects are grouped by material and technique, as well as the substances used in these restoration operations (with their characteristics).*

Keywords: *crucifix, corrosion products, orthophosphoric acid, Fertan.*

Rezumat: *În această lucrare se prezintă starea de conservare și operațiile de restaurare efectuate pe aproximativ 200 de obiecte descoperite în cripta din subsolul Bisericii parohiale romano-catolice „Sfânta Treime” din Sibiu, grupate după material și tehnică, precum și substanțele folosite în aceste operații (cu caracteristicile lor).*

Cuvinte-cheie: *crucifix, produși de coroziune, acid ortofosforic, Fertan.*

In 2007, a great number of objects were discovered while supervising the archaeological work done in the basement crypt of the Roman Catholic Parish Church "Sfânta Treime" in Sibiu, located in the Large Square at no. 3, where the "Habitus" Gallery was going to be set up. Alongside bones, clothing and footwear, a large number of metal objects (about 200) were discovered, among which were: medallions and pendant crosses, rosaries with devotional pendants (Sonoc, 2009, 203-270), earrings, wedding rings, crucifixes, caps and buttons, coffin handles, plaques, spurs, etc. The objects were dated as belonging to the second half of the eighteenth century.

Various materials and techniques were used: bronze (casting), gilded bronze (casting, gilding), iron (forging), silver plated tin (stamping, silvering), brass (wire drawing, stamping, welding), gold (wire drawing, striking, welding), wood (turning, drilling, cutting, finishing). The objects will not be individually described, due to their large number, only their conservation state, the restoration operations performed (on objects grouped by material and technique) and the substances used will be presented.

1. Objects from gilded bronze. The most used technique of gilding in the eighteenth century was that of amalgamation (Oddy, 1993, 171-181) with mercury (Hg). All the objects showed a continuous and uneven layer consisting of a heterogeneous

mixture of earth, Ca carbonate, chlorides, Cu oxides and Cu carbonates. The corrosion is due to the galvanic cells produced in the presence of moisture between metals with different electrochemical potentials, here Cu and Au (Barrio, 2004, 173-184). During this process, the Au is cathodically protected and the progressive corrosion of Cu occurs (Selwyn, 2000, 21-47). The deterioration of the gilding is due to the increase in volume of the corrosion products of Cu at the interface with Au and lead to its detachment. For the removal of these corrosion products, mechanical cleaning is recommended (Scott, 2002, 358-361), observed with high-performance optical instruments - binocular microscope, followed by stabilization with a 3% benzotriazole¹ alcoholic solution, drying at 105 °C, then a 2-layer film coating (Mourey, 1997, 225-227) with Paraloid B72, 5% in toluene.

2. The objects whose gilding was not affected, as well as the bronze and the brass objects, were chemically cleaned in 20% orthophosphoric acid, without inhibitor, brushed under a water jet and dried. The bronze objects were stabilized with a 3% Benzotriazole solution and coated with

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¹ Benzotriazole is a corrosion inhibitor for Cu, m.p. = 93°C, specific weight = 1.36 kg/dm³, water solubility 1.5%, pH = 5.5

Paraloid, while the gilded and brass ones were degreased with trichlorethylene (Meyer-Roudet, 1999, 99) and protected by polishing them with a special fleece.²

3. Objects from iron. Their preservation state was good, with a continuous and uneven layer of mechanical products and corrosion products specific to iron - iron oxyhydroxides. It is recommended to store untreated archaeological iron at less than 20% humidity (Turgoose, 1993, 35–52), but even at 15% the corrosion process still continues due to the condensed water from its pores (Keene, 1994, 249–264). That is why the iron objects took precedence. We briefly mechanically cleaned the objects in order to remove the mechanical deposits on their surface, followed by a chemical cleaning in 10% orthophosphoric acid with a thiourea 1% corrosion inhibitor, drying and passivation through tannin-based treatment with Fertan³, and after 48 hours, protective filming (Knobloch, 1994, 70-105), in 2 layers, with Paraloid B72, 5% in toluene. We opted for passivation through tannin-based treatment rather than through phosphating, because the iron oxides in the pores of the object cannot be removed completely and because phosphated objects are harder to treat during later restorations (personal opinion).

4. The Wood. For safety we performed a disinfection, by immersion in a 3% thymol alcohol solution, and cleaned the objects with a fine nylon brush while still in the alcohol solution, followed by drying. To consolidate the wood, we impregnated it with Paraloid B82⁴, 7% in ethyl alcohol. The gluing was done with Devcon⁵ bicomponent epoxy resin, because the contact surface was very small and a powerful adhesive had to be used. Furthermore, bone glue would not have stuck to the Paraloid B82 impregnated surface anyway. We filled in the missing wood pieces with the same type of wood, following the fiber of the wood.

² The German company Augusta produces fleece (with the trade name "Rekord") for polishing and protecting jewelry, gold and silver objects

³ Fertan is a registered product of FERTAN GmbH DEUTSCHLAND, having a high penetration power, with a slightly acidic pH and a specific weight of 1.18

⁴ Paraloid B82, (C.T.S.) is a methyl methacrylate, soluble in alcohol/water mixtures, ketones, esters, aromatic hydrocarbons; Tukon hardness (at 820C) = 3.7; glass transition temperature (tg) = 350C

⁵ Devcon, a registered trademark, Danvers, USA

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1. Crucifix before and after restoration.
2. Jesus cast in bronze before and after restoration.
3. Pendant before and after restoration.
4. Rosary before and after restoration.
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4. Rozariu înainte și după restaurare
5. Mărgele și rozete din cupru înainte și după restaurare



1. Crucifix before and after restoration



2. Jesus cast in bronze before and after restoration



3. Pendant before and after restoration



4. Rosary before and after restoration



5. Beads and copper rosettes before and after restoration

THE IRON SOLDIER

Dorin BARBU*

Petre BEȘLIU **

Bobic CĂLIN***

Abstract: *The Iron Soldier was designed by Josef Baron Bedeus von Scharberg with both a material purpose (raising funds for those wounded during the war) and a patriotic one (proudly recalling the difficult but glorious past). It was built in 1914 out of wood, in which square-headed nails were hammered and to which copper plaques and brass rosettes were attached. The statue has been moved several times, which has led to the deterioration of its conservation state and to it having been restored several times using different materials.*

Keywords: *iron soldier corrosion products, Fertan, Paraloid, Glimmerlack (Bindulin)*

Rezumat: *“Soldatul din fier” a fost proiectat de Josef baron Bedeus von Scharberg, cu dublu scop: unul material (atragera de fonduri pentru invalizii de război) și altul patriotic (aducerea aminte cu mândrie a vremurilor grele, dar glorioase). A fost realizat în anul 1914 din lemn în care s-au bătut cuie cu cap pătrat, plachete din cupru, rozete de alamă. A fost mutat de numeroase ori, fapt ce a dus la deteriorarea stării de conservare și restaurat de mai multe ori cu materiale diferite.*

Cuvinte-cheie: *soldat din fier, produși de coroziune, Fertan, Paraloid, Glimmerlack (Bindulin)*

1. Historical Overview.

There is little bibliography for the Iron Soldier, as history only preserves the deeds of the victors. As such, the memory of the Austro-Hungarian imperial militarism's disappearance coincides with the disappearance of the empire itself.

By some happy coincidence, the statue of the Iron Soldier was preserved at the Brukenthal Museum, and, not long ago, a serious study was written, based on direct information from the contemporary press (Ittu 2016, *passim*). The newspaper Siebenbürgisch-Deutsche Tageblatt has prompted all the charity activities in Sibiu to help on this front.

The designer of the statue was Josef Baron Bedeus von Scharberg, the architect of several buildings in Sibiu. The most famous of his architectural works is the headquarters of the Archives (Klein 2011). In 1915, the local councillors debated placing the statue near the Archives, because of the monument's connection with the architectural ensemble.

The project had both a material purpose (raising funds for those wounded during the war) and a patriotic one (proudly recalling the difficult but glorious past). The propagandistic intention was

obvious; the choice of a huge soldier, with a sword in his hands, was not accidental. But despite that, the statue eventually became a symbol for helping the victims of the war. It has been suggested that the idea of hammering (square-headed) nails into an object meant to represent a charitable gesture, shows a similar mentality to that of journeymen, who used to hammer nails in certain places, as a means of remembering the past. But the journeymen's nails used to mean so much more than this. Instead, the Iron Soldier seems to have a closer significance to that of the Roland, who represented a symbol of power and autonomy in western medieval cities. However, the statue was hidden near the Archives, beyond the General's Hole, as opposed to the proud Roland seated in the centre of the city.

The wooden statue was eventually brought to the Great Square, where it stayed in a kiosk until November 20, 1914, and then it was moved inside a store on Heltauergasse (Nicolae Bălcescu str.) and eventually to its original designated place, next to the Archives. Then, from 1918 until after 1989, the Iron Soldier's statue, together with that of Nepomuk, could be found in the second courtyard

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of the Brukenthal Palace.

The idea behind bringing the statue to the centre of the city, the Great Square, was to promote the war, by organizing a ceremony. The nail hammering ceremony included various military demonstrations, concerts, parades, speeches of the Saxon and Romanian local authorities and even messages from the Vienna Court. People who wished to hammer nails in the statue could do so by paying a crown. Institutions paid according to their income and social status. Donations continued throughout the year (Ittu 2016, 76). The donor list shows that the leaders of the community, Romanians included, rushed to donate. Some women, widowed by the war, could also be counted among the donors (SDT, 1915, no. 12869 from July 21, p. 6; no. 12871 from July 24, p. 6; no. 12879 from August 1st, p. 6). But after the statue was moved in the backyard of the Museum, the donors remained anonymous. To the donor names recovered from the German daily newspaper, we added the data from the *Adressbuch* (list of addresses) from 1901. Naturally, between 1901 and 1915 the population of Sibiu changed. New names appeared, like Grossius, Heltinger and Ranovics, who were brought over by the war (*Adressbuch 1901*).

The soldier's belt is made out of a wooden core and tin plaques. Before him is the sword donated by a well-known local patron, Josif Datki; on the shield is the heraldic sign of medieval Sibiu (Fig 9). Two brass plaques located on the soldier's chest also attract attention. In fact, the soldier was equipped, according to Bedeus von Scharberg's imagination, with what the "clothing" of a medieval knight might have looked like. The soldier's whole body is covered by chain mail made of hammered nails granted by donors. Some yellow plaques with donor names can be seen from under the nails. The plaques are probably brass and not gold, as a local legend claims.

2. Size: height 250 cm, statue pedestal 97x75 cm, sword 163 cm.

3. Conservation state: we note on the whole surface the presence of adherent deposits of dust and dirt (Fig. 6), a discontinuous and non-uniform layer of oxidation products specific to iron - iron oxy-hydroxides. The copper and brass plaques show specific copper alloy oxides. The wooden pedestal is rotten.

4 large square-headed nails from the upper part of the right forearm are missing, as well as the circu-

lar plaque in the upper area of the right elbow. On the outside of the right knee (Fig. 2.) the wood is exposed, due to the fact that approximately 30-40 large square-headed nails are missing. The outer corner of the sole is broken. The outer corner of the left sole has dislocated nails and a missing portion of wood.

A larger (probably copper) plaque, 47 big circular-headed nails (stamped, with a similar aspect to coins), 37 engraved brass plaques in the form of square cases and 34 small square-headed nails, similar to hobnails are missing from the surface of the shield. The upper part of the belt, on the back side of the soldier, is reinforced with putty. The putty is old. Some nails are detached.

4. Restauration:

The Iron Soldier is displayed outside, in the open air, under a balcony in the yard of the History Museum "Casa Altemberger". Due to the climatic conditions and successive moving, the piece has been restored several times.

In 1996, the soldier's wooden pedestal was changed to oak. The detached wood fragments were glued with a two-component epoxy resin and the missing fragments were replaced using the same type of wood (Fig.4). The detached nails were hammered back in. Operations performed: mechanical cleaning, degreasing with ethyl alcohol, 3-layer tannin-based treatment (200gr oak tannin, supplemented with distilled water up to 1 litre + 150 ml. ethyl alcohol), the first layer with heated solution, the next 2 with cold solution (Stambolov 1987, 81), drying, applying a nitrocellulose protective film. The brass parts were degreased, cleaned and polished with a polish paste. Due to its large size and the low temperatures outside, the statue was restored in the thermal heating station of the museum (Fig 1.).

Restoration 2007: mechanical cleaning, degreasing with ethyl alcohol, tannin-based treatment with Fertan (Barbu 2007, 107-112), drying, applying of a protective film with Paraloid B72.

Restoration 2013: mechanical cleaning, degreasing with ethyl alcohol, tannin-based treatment with Fertan, applying of a protective film with Paraloid B72 (Fig.8).

In 2019, a test was made on the statue's sword with a protective varnish from the company Bindulin: Glimmerlack to check its resistance over time (Fig. 10).

5. Annexes

Donor initials on the Iron Soldier's right hand, from the collection of the History Museum of the Brukenthal National Museum.

ED O A R ? L A V E R ? F I A S P F. K. A M A
A ? A V ? ? N R – N I S C H – J G
O O J C S S C M V L L B E L C R A I D
? S T W E L N D E L ? D R. R A N S L O E V. H K
H K
C O L L A - E I L V I L A D E - - - - H W
F E T E L ? A K ? A S O C T A T I U N I I E G Y
- - - - - T I F ? - F. V O - - - -
- O B I N I N I R - - - -
- F B O E P T N F S - - - -
O E N I C Z E K E B I N U S - -
- I D A T K Y I I L N I O B - - - -
- O B S ? P P L E S O H E D ? R - -
- O ? W G O D L N ? E E R - - - -

Inscription on the belt:

- Ludwig Fuchs Kaufmann
- Carl Albrecht Kaufmann
- Sächsische ...

Donor List

21 July:

Spar-und Kredit Anstalt Lumina, 20 crowns
Dumitru Vâlcu, 10 crowns
Patronul Goellner, 100 crowns
Ecs Johann Metianu, bishop, 80 crowns
Dr.Hilarion Pușcariu, 50 crowns, Muehlgasse
Heinrich Rieger, owner, 50 crowns, spiritusverschliess
Frau Lina Radulovics, 30 crowns, wife of Major Albert Radulovics
k.und k. Notreferbesspital, 280 crowns
August Fergleiter, 10 crowns

k.und k.Schwere Haubitze Division 12, 800 crowns
Rekonvaleszenten Abteilung des 31 InsRgts
Bruenn, over 357 crowns
Herr Ranovics, 1 crown
Frau Hettinger, 29 crowns
Albert von Hochmeister, local councillor, 20 crowns, vice-notary, Fleiscgergasse
k.und k.Essatzbatallion 1/31, Bruenn, over 1187 crowns
Frau Tepfer, wife of a captain, 20 crowns
(*S.D.T.*, nr. 1286 from July 21st, 1915, p. 6)

24 July:

Martin Schuster 50 crowns, shoemaker, Kaelbergasse
Divizia I, over 1137 crowns
Spitalul garnizoanei, 38 crowns
Fr. Elias, 5 crowns
Herta Grossius, 5 crowns
Frau Berta Grossius, 5 crowns
Wilhelm Grossius, 10 crowns
Johann Keil, 100 crowns
Roemanischer Literatur und Kultur, 100 crowns
Egon Coulin, 10 crowns, official at Sparkasse, Querrgasse
Sparkasse, 300 crowns
(*S.D.T.*, nr. 12871 from July 24, 1915)

1 August:

Heltauer Volwebergenossenschaft, 1000 crowns
(*S.D.T.*, nr. 12878 from August 1st, 1915)

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2. Wooden material and missing rivets
3. Wooden material and missing rivets
4. Filling with wood
5. Missing brass plaque
6. Mechanical deposits and corrosion
7. Tannin-based treatment of the upper part
8. After restauration, 2013
9. Detail after restauration
10. Protected sword, 2019

LISTA ILUSTRĂȚIILOR

1. Înainte de restaurare
2. Material lemnos și nituri lipsă
3. Material lemnos și nituri lipsă
4. Completare cu lemn
5. Lipsă placută din alamă
6. Depozite mecanice și coroziuni
7. Tratatament pe bază de tannin în zona superioară
8. După restaurare 2013
9. Detaliu după restaurare
10. Sabia protejată, 2019



1. Before Restauration, 1996



2. Wooden material and missing nails



3. Wooden material and missing nails



4. Filling with wood



5. Missing brass plaque



6. Mechanical deposits and corrosion



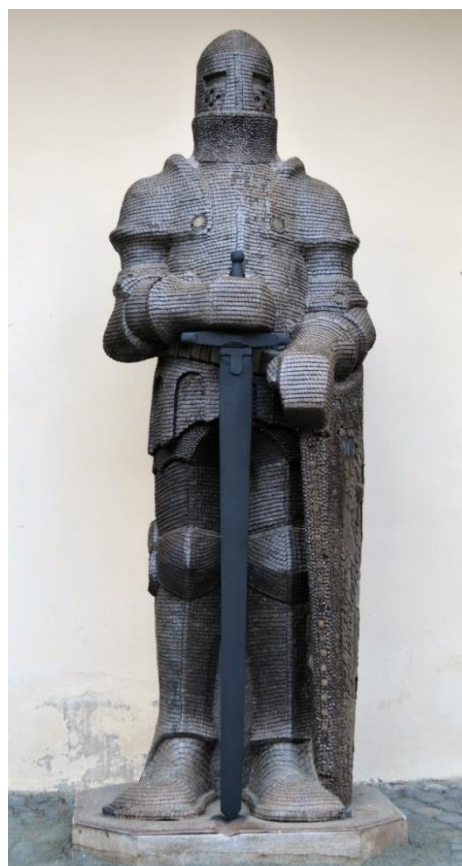
7. Tannin-based treatment of the upper part



8. After restauration, 2013



9. Detail after restauration



10. Protected sword, 2019

COLLAGE ARTWORKS FROM THE 18TH CENTURY: COMPARATIVE STUDY AND RESTORATION TREATMENT

Polixenia Georgeta POPESCU *

Iulia-Maria PASCU**

Ruxandra-Ioana STROIA***

Abstract: *The collage artworks that were the subject of the interventions presented in the article are part of the History Museum "Altemberger House" collection. The assessment of the conservation state for the three cultural assets, the characteristics of the constituent materials, the details of realization, and the visualization by optical microscopy of the paper support are presented comparatively. The identification of the constituting materials of the presented composite cultural assets and the conservation-restoration treatments applied are highlighted.*

Keywords: *composite cultural assets, collage, leather, textile, paper, microphotographs, conservation-restoration.*

Rezumat: *Tablourile colaj care au făcut obiectul intervențiilor prezentate în articol fac parte din colecția Muzeului de Istorie "Casa Altemberger". Este prezentată comparativ starea de conservare a celor trei obiecte, caracteristici ale materialelor constitutive, detaliile de realizare și vizualizarea prin microscopie optică a suportului papetar. Sunt evidențiate modul de identificare a materialelor constitutive, intervențiile de conservare-restaurare pentru fiecare dintre materialele bunurilor culturale compozite prezentate.*

Cuvinte-cheie: *bunuri culturale compozite, colaj, piele, textile, hârtie, microfotografii, conservare-restaurare.*

A. Introduction and description of the collage artworks

From a historical point of view, the "Altemberger House" History Museum collection of collage artworks is relevant because it's possible to reconstruct, in detail, the Saxon folk costume from the 18th century, which varies according to urban or rural culture, sex, age, and social status. The three objects dated 1737 are part of this collection, and depict two male figures represented by a preacher and a young Saxon townsman, and a female figure that portray a Saxon peasant woman. The technique used is collage¹.

¹ Collage – a term applied to a type of picture (and also to the technique used in creating such pictures) in which photographs, news cuttings, and other suitable objects are pasted on to a flat surface, often in combination with painted passages (Chilvers 2003, 133). The term derives from the French *papiers collés*. The aesthetic act of assembling by gluing different materials on a flat surface has been practiced in various popular arts over the centuries of amateurs, being recognized as an artistic technique only in the early 20th century when Georges Braque and Pablo Picasso used *papiers collés* in an

The collage artwork *Young Saxon Townsman* (Fig. 1) with inventory number M 6370 arrived into the conservation-restoration laboratory from the permanent exhibition. The collage artworks *Saxon Peasant Woman* (Fig. 2), inventory number M 6369 and *Preacher* (Fig. 3), inventory number M 6372 came into the laboratory from the storage facilities of the History Museum. The collage artworks present differences in conservation status due to the dissimilarity in preservation.

The total dimension is the same for all objects: 355x265 mm (with a variation of 2 mm). The secondary support made of paper measures 280 x190 mm, 0.2 mm thick, at the bottom of the sheet is written with brown-red ink (Iron gall ink) the social status of the subject. The paper used is hand-made, the chain lines interval is at 25mm, and laid

unprecedented way signaling the beginning of a new approach in art (Waldman, 2008).

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line frequency is 6-7 per cm. Over the secondary support, an additional image-bearing sheet (primary support) painted in blue was adhered. The primary support measures 237x161 mm (Fig. 9). The thickness (0.2 mm) varies depending on the degree of support degradation. The paper is handmade, with the chain lines interval at 25mm, and laid line frequency is 6-7 per cm. On a human silhouette of laid paper, textile fragments, leather, metal to mimic the shape and materiality of the costume, and painted paper fragments that follow the line of the face and hands were glued (Fig. 10).

The assembly fixed in a rectangular fir wood frame with handmade profile with half-lap joints painted in white and burn sienna is immobilized by folded paper strips (Fig. 7). On the reverse, the fitting in the frame was made with the help of a back-plate of the same essence of wood and wooden nails for the *Saxon Peasant Woman* and *Preacher* respectively metal nails for the *Young Saxon Townsman*. The glass used for protection of the collage artwork is hand-made glass (Fig. 8).

For the collage artwork collection, the arrangement of visual elements is alike. The center of interest is focused on a single central, partly turned, full-figure, character placed on a grassy area, superimposed on a monochrome background of blue color.

The three collage artworks are composite cultural assets, which is why the conservation-restoration interventions required careful documentation and the collaboration of specialists with different fields of competence.

B. Characterization and conservation status of the paper supports

B. 1. The characteristics and the solubility of the ink used for writing at the base of the secondary support made of paper

On the scripted areas of the paper support, through optical microscopy under direct light study, the surface details (topography) were highlighted, and solubility tests of the brown inks were performed.

Table 1 communicates the results.

For the collage artworks, *Young Saxon Townsman* and *Saxon Peasant Woman* the brown ink of the script from the base of the secondary support is insoluble in water. In the case of the collage artwork *Preacher*, the script brown ink is water-soluble. Regarding the ink layer, the details of the surface of the area of the paper support with scripts, for the collage artworks *Young Saxon Townsman* and *Saxon Peasant Woman* the micro-

photographs highlight the characteristics and the stability of the ink layer.

In the case of the collage artworks, *Preacher* the microphotographs show aspects that emphasize the diffusion of brown ink in certain portions of the paper support. Under ultraviolet light, this particularity is more visible. The details obtained in ultraviolet light make the structure of the support visible and allow the evaluation of its conservation status, on the area with scripts.

B. 2. Conservation status assessment. Emphasizing the details of the paper support surface and the details of the realization of the collage artworks

The surface of the artworks underwent an optical microscopy study at different magnifications of the microscope, under direct light, to emphasize the details, to visualize the structure of the paper support and to evaluate the conservation status.

The results of the optical microscopy study are visible in the microphotographs in Table 2.

B. 3. Visualization of the primary support (collage paper) structure and evaluating its conservation status. Comparative study.

Two collage artworks *Saxon Peasant Woman* and *Preacher* were analyzed together, for a comparative optical microscopy study under direct light and ultraviolet light, at different magnifications of the microscope to visualize the paper support and to evaluate their conservation status.

The microphotographs in Table 3 indicate the results.

The optical microscopy study allowed the examination of the surface and internal structures. Defects, deformations, fragilizations and adherent and semi-adherent deposits were observed by examining the surface structures. The internal structures examinations revealed very clearly, through observation under the ultraviolet spectrum of the light, the way the paper supports were composed and their particularities.

Saxon Peasant Woman: on the right edge of the work were observed some spots of unknown nature. In the details, under the ultraviolet light at a magnification of one hundred and sixty times, it is visible and a slight fragility of the paper support. Stains penetrated deeper into the paper ground and partially diffused. The structure of the support paper was not affected. In the ultraviolet light, the structure of the paper support is very visible. On the top edge of the paper, on the stained area, the paper support is affected by the penetration of the

stains in the depth of the support, very well highlighted in the ultraviolet light. In the microphotographs in ultraviolet light, the structure of the support paper is visible. Also, the structure of the support paper and the appearance of the stained area are well highlighted by the visible details in the microphotographs at the upper edge of the paper.

Preacher: the optical microscopy study of the area from the top edge of the secondary support, which showed degradation revealed by the visible details in the microphotographs, the presence of a spot, which in the ultraviolet light has the appearance of an inclusion (impurities) that has penetrated the paper support. The fragility of the paper support (paper thinning) is visible on the degradation area of the top edge, evident in the ultra-violet light microphotographs details. In the analyzed area a prominent spot of unknown nature was observed

The stain penetrated the depth of the primary support but did not diffuse (visible aspect in the microphotography obtained at a magnification of forty times). In the microphotographs obtained in ultraviolet light are visible the structure of the paper, respectively the chain lines, and the appearance of the fiber network.

C. Characterization and identification of the constituent materials of the collage artworks. Assessment of conservation status.

C. 1. Characterization and evaluation of the conservation status of the constituent materials.

The collage artworks have the following constituent materials: textiles, leather, metal, paper, wood, glass.

In the collage artworks, the textile material present in the form of fabric with silk thread, in a ratio of 1:1, in different colors, can be found on the collage artwork *Young Saxon Townsman* in the hat, belt, in the lining of the coat and the lining and the cuffs of the tunic. The collage artwork *Saxon Peasant Woman* has silk fabric in the *boartăn* (head dressing) and the belt. The silk fabric is present in the collage artwork *Preacher* in the coat.

In the collage artworks, the textile material present with wool threads, cloth type (thick wool fabric, often hairy, from which clothes, blankets, etc. are made [DEX 2009]) in a 1: 1 ratio, in the red color is found at the collage artwork *Young Saxon Townsman* in the coat, tunic and pants.

In the collage artworks, the textile material present in the form of fabric with bast fibers (flax or hemp threads) in a ratio of 1: 1, in different colors, can be found on the collage artwork *Young Saxon*

Townsman in the cuffs' ornamentation and the coats' collar. The collage artwork *Saxon Peasant Woman* has fabric with bast fibers in the dress, apron and ornamental shawl. The bast fibers fabric is present in the collage artwork *Preacher* at the cuffs, collar, and edges of the coat.

To determine the degradation type and the correspondence between the physical and chemical factors and degradation, each constituent material was studied. First was observed the appearance of degradations caused by the natural aging of the materials. In this respect, significant guiding marks in the practice of restoring the collage artworks were the observations regarding the interaction in time between the support materials of the collage and the way they influenced each other. The conservation status of the collage artworks was evaluated by examining the objects, at the macroscopic level, with the naked eye and magnifying glass, and by the optical microscopy study. Some constituent textile materials of the collages were kept in a good state of preservation, while others suffered maximum degradation. Thus, on a scale of evaluation of specific degradations, degradation of textile material from bast fibers and wool is minimal; instead for silk fabric the degradation is maximum.

Characterization of the textile conservation status: dust deposits, sometimes dirt deposits, creased material, on certain portions discolored differentiated, less or more. The textiles display tears detached from the support, in certain parts, thinning of the fabric (the modification of the thread dimensions due to the physical-chemical, photochemical degradations, the weak resistance of the threads). The collage artwork *Young Saxon Townsman* shows traces of inactive insect attack.

Textile degradation: the silk is powdery and disintegrates at touch. Where the silk fabric was not attached by gluing to the primary support (paper), for example at the sleeves of the collage artwork *Preacher*, the silk fabric suffered material loss, of which only fragments remained.

Regarding the leather of the characters' footwear (boots), it was dehydrated and rigid. In the area of metallic applications, the degradation is more pronounced, the leather showing slight cracks and color changes (color closure). Table 4.

The main paper degradations presented are photochemical degradations represented by the yellowing of the support and by the accentuated discoloration in the marginal areas, brittle; physical-mechanical degradation – adherent and fouled dirt, loss of flatness, detachment of the collage from the

base support; chemical degradation – different origin stains (Fig. 9, 10).

The glass appearance of collage artworks *Saxon Peasant Woman* and *Preacher* is uneven and foggy; the presence of small white crystals on the surface confirms the installation of the first stage of the glass disease. The glass surface of the collage artwork *Young Saxon Townsman* is dirty all over (Fig. 8).

C. 2. Optical microscopy identification of textile threads in correlation with their particularities.

With the microscopic method possible with the laboratory equipment, the fibers of the textile fabric thread of the constituent materials of the characters' clothes were identified, namely the differentiation of the fiber types in correlation with their particularities visible in the longitudinal aspect. On microscope slides using an aqueous medium were separated and stretched the individual fibers of each particular thread, taken from the textile materials of the collages artworks. Microscopic preparations covered with another slide, were studied in ultraviolet light at a magnification of one hundred sixty times. Based on the specific characteristics observed and by comparison with the images highlighted in the control fibers microphotographs (Table 5) and with the photographs available in the specialized literature (Rusanovschi, Dragnea 1980, 160, 162), the fibers of the constituent materials of the collage-boards were identified (Table 6).

D. Restoration approaches

Restoration interventions were carried out by disassembling the parts (Fig. 7).

The execution technique and the state of preservation of the collage artworks allowed the dismantling of the different materials components without disturbing their original integrity and construction (Fig 1-6)).

The *photographic documentation* recorded the restoration work (Fig.1-10). The photographs displayed the objects before and after the interventions, as well as details during their restoration. Cleaning tests were carried out before treatments. The materials with different physical and chemical characteristics required specific restoration treatments for each material type. As not all restoration treatments are agreeable with all components of the ensemble, in this instance, the collage artworks, the interventions performed and the substances used were chosen with competence to

guarantee the integrity of the parts after restoration.

D. 1. Paper supports

All paper supports had undergone a dry cleaning of the surfaces. A very soft brush was used to reduce loose and superficial dirt, and the block erasers of different hardness were used to remove embedded dirt, soil, and grime (Duhl, Nitzberg 1992, 8). The wet treatment was applied to the secondary support at *Young Saxon Townsman* and *Saxon Peasant Woman* to reduce the soluble deterioration products. A local wet treatment followed by moisturizing, and pressing, was applied on the secondary support of the collage artwork *Preacher*. The reason was that the solubility tests revealed the sensibility of the ink, and therefore, the total immersion in water is not recommended.

D. 2. Leather and textiles

The materials and substances used for the collage artworks restoration were: distinctive abrasive materials of different fineness used for dry cleaning of the supports present in the collage artworks that were the subject of the treatments: specialized erasers for cleaning the leather support (CCI Notes 13/16) surface, brushes and soft brushes suitable for detaching the dirt deposits present on the surface of the material, distilled water, ethyl alcohol, carboxymethyl cellulose, polyvinyl acetate, anionic detergent, blotters, Japanese paper tissue, cotton swabs, nonwoven textile material.

D. 3. Glass and frame

Washing with distilled water was sufficient to remove the deposits from the glass surface. Regarding the collage artwork frame, were applied multiple interventions as following: mechanical cleaning to remove the paint layer with an unaesthetic appearance, wet cleaning, priming, levelling, and chromatic integration.

E. Conclusions:

Through the study and restoration of these three collage artworks, a working protocol has been designed that can be applied, when would be needed specialized intervention, for all the collage artworks from the collection. After the finalization of the restoration work, at the National Salon of Restoration Craiova in 2018 (*Young Saxon Townsman*) and 2019 (*Saxon Peasant Woman* and *Preacher*), the three collage artworks were exhibited.

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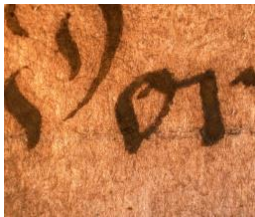
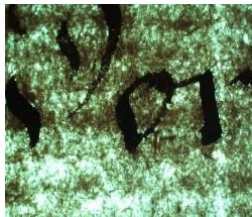
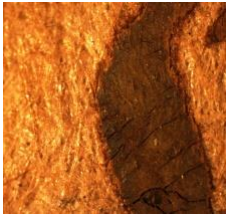
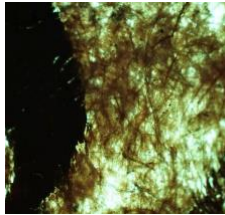

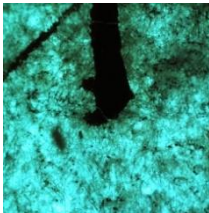
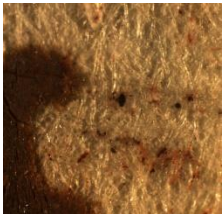
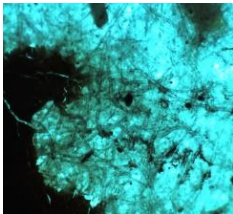
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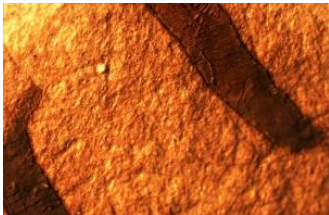
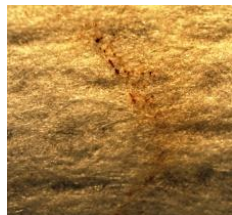

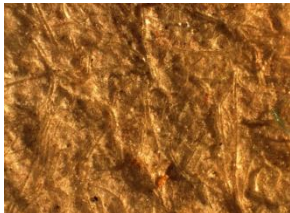

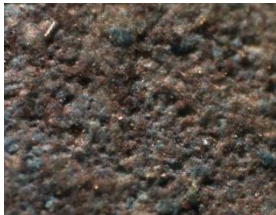


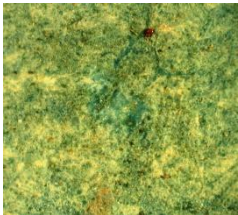
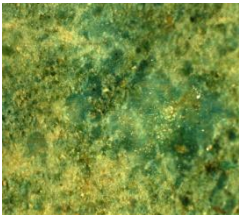

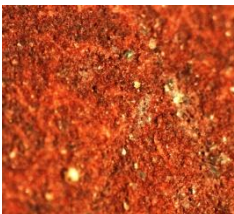

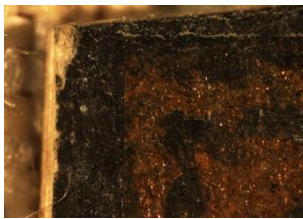
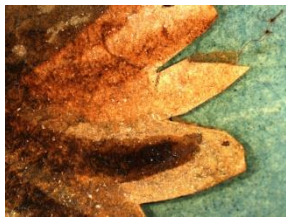





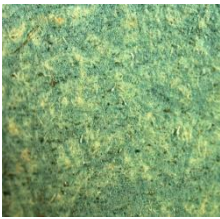

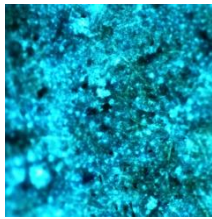
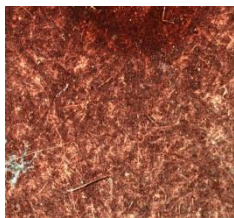
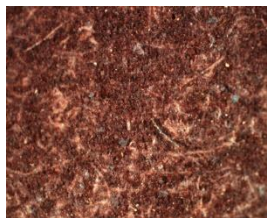
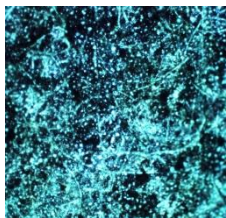

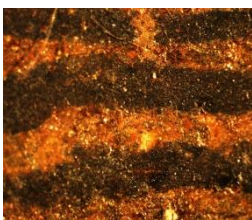
<p>- Solubility tests for the ink:</p> <p>The ink is soluble in water</p>	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Detail 40x</p> </div> <div style="text-align: center;">  <p>Detail 40x-the solubility test result</p> </div> </div>
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Table 1. Microphotographs

The characteristics and conservation state of the primary support	
<i>Young Saxon Townsman</i> , inv. no. M 6370	
<p>- Topography of the primary support surface:</p> <p>details of the character's forehead area</p>	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Detail 20x</p> </div> <div style="text-align: center;">  <p>Detail 160x</p> </div> </div>
<p>- Topography of the primary support surface:</p> <p>details of the background</p>	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Detail 60x</p> </div> <div style="text-align: center;">  <p>Detail 160x</p> </div> </div>
<i>Saxon Peasant Woman</i> , inv. no. M 6369	
<p>- Topography of the primary support surface:</p> <p>details of the character's forehead area</p>	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Detail 20x</p> </div> <div style="text-align: center;">  <p>Detail 160x</p> </div> </div>
<p>- Topography of the primary support surface:</p> <p>- details of the background with blue-green colour</p> <p>- details of the background with blue-violet colour</p>	<div style="display: flex; flex-direction: column; justify-content: space-around;"> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Detail 60x</p> </div> <div style="text-align: center;">  <p>Detail 160x</p> </div> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Detail 60x</p> </div> <div style="text-align: center;">  <p>Detail 160x</p> </div> </div> </div>

<p>- Topography of the primary support surface:</p> <p>details of the book from the character's hand</p>	 <p style="text-align: right;">Detail 20x</p>  <p style="text-align: right;">Detail 60x</p>
<p>- Topography of the primary support surface:</p> <p>details of the grass area</p>	 <p style="text-align: right;">Detail 20x</p>  <p style="text-align: right;">Detail 60x</p>
<p><i>Preacher, inv. no. M 6372</i></p>	
<p>- Topography of the primary support surface:</p> <p>details of the character's forehead area</p>	 <p style="text-align: right;">Detail 20x</p>  <p style="text-align: right;">Detail 160x</p>
<p>- Topography of the primary support surface:</p> <p>details of the character's hand</p>	 <p style="text-align: right;">Detail 20x</p>  <p style="text-align: right;">Detail 160x</p>
<p>- Topography of the primary support surface:</p> <p>- details of the background with blue-green colour (the left edge area)</p> <p>- details of the background with blue-violet colour (the left edge area)</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Detail 40x</p> </div> <div style="text-align: center;">  <p>Detail 160x</p> </div> <div style="text-align: center;">  <p>Detail 160x UV</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;">  <p>Detail 40x</p> </div> <div style="text-align: center;">  <p>Detail 100x</p> </div> <div style="text-align: center;">  <p>Detail 100x UV</p> </div> </div>
<p>- Topography of the primary support surface:</p> <p>details of the book from the character's hand</p>	 <p style="text-align: right;">Detail 20x</p>  <p style="text-align: right;">Detail 60x</p>

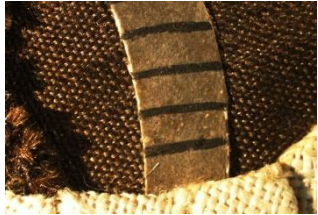
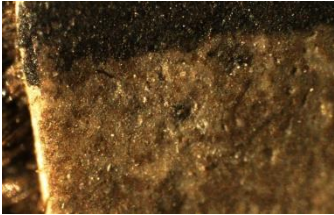

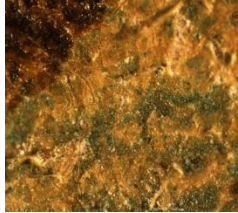

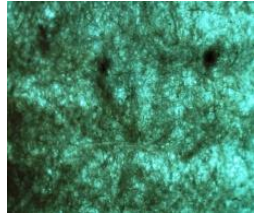
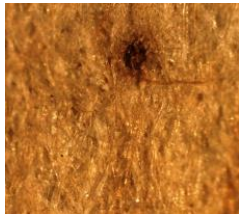
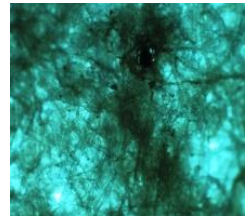
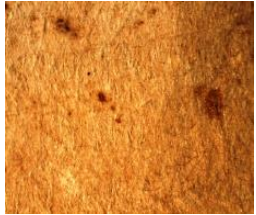
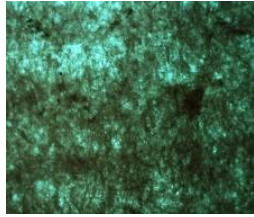
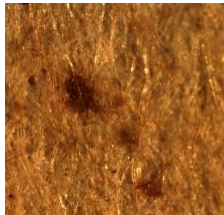
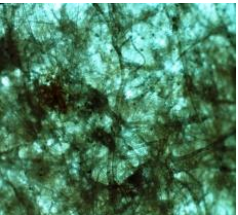
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<p>- Topography of the primary support surface:</p> <p>details of the grass area</p>	 <p>Detail 40x</p>  <p>Detail 100x</p>

Table 2. Microphotographs

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<i>Saxon Peasant Woman</i> , inv. no. M 6369	
<p>- Evaluation of the conservation status and visualization of the support structure:</p> <p>- details of the paper support in the right edge area.</p>	 <p>Detail 40x</p>  <p>Detail 40x UV</p>  <p>Detail 160x</p>  <p>Detail 160x UV</p>
<p>- Evaluation of the conservation status and visualization of the support structure:</p> <p>- details of the paper support in the top edge area.</p>	 <p>Detail 40x</p>  <p>Detail 40x UV</p>  <p>Detail 160x</p>  <p>Detail 160x UV</p>


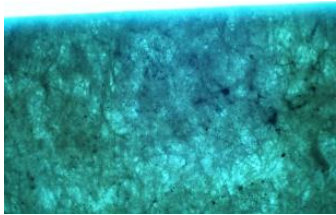

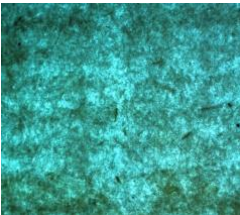

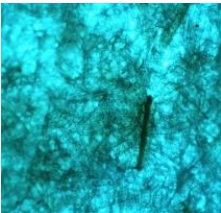

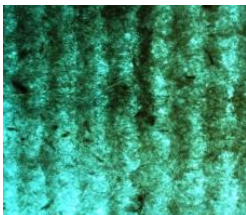

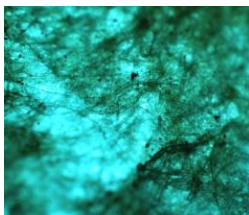

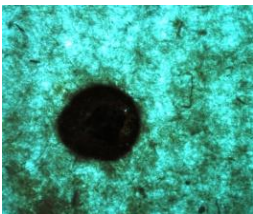



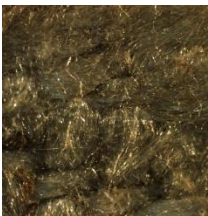
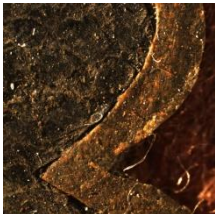
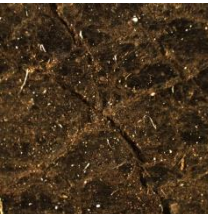
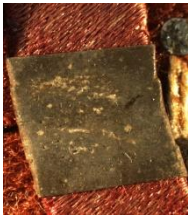
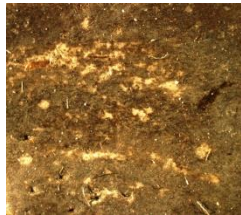






<p>- Evaluation of the conservation status and visualization of the support structure:</p> <p>- details of the paper support in the top area.</p>	<div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <p>Detail 40x</p> <p>Detail 40x UV</p> </div>
<p><i>Preacher, inv. no. M 6372</i></p>	
<p>- Evaluation of the conservation status and visualization of the support structure:</p> <p>- details of the paper support in the top edge area.</p>	<div style="display: grid; grid-template-columns: 1fr 1fr; gap: 10px;"> <div style="text-align: center;">  <p>Detail 20x</p> </div> <div style="text-align: center;">  <p>Detail 20x UV</p> </div> <div style="text-align: center;">  <p>Detail 100x</p> </div> <div style="text-align: center;">  <p>Detail 100x UV</p> </div> </div>
<p>- Evaluation of the conservation status and visualization of the support structure:</p> <p>- details of the paper support in the top edge area. (degradation area) (zona cu degradări).</p>	<div style="display: grid; grid-template-columns: 1fr 1fr; gap: 10px;"> <div style="text-align: center;">  <p>Detail 20</p> </div> <div style="text-align: center;">  <p>Detail 20x UV</p> </div> <div style="text-align: center;">  <p>Detail 160x</p> </div> <div style="text-align: center;">  <p>Detail 160x UV</p> </div> </div>
<p>- Evaluation of the conservation status and visualization of the support structure:</p> <p>- details of the paper support from the right area.</p>	<div style="display: grid; grid-template-columns: 1fr 1fr; gap: 10px;"> <div style="text-align: center;">  <p>Detail 20x</p> </div> <div style="text-align: center;">  <p>Detaliu 40x UV</p> </div> <div style="text-align: center;">  <p>Detail 100x</p> </div> <div style="text-align: center;">  <p>Detail 160x</p> </div> </div>

Table 3. Microphotographs

Characterization and evaluation of the conservation status of the constituent materials.			
<i>Young Saxon Townsman</i> , inv. no. M 6370			
-Hat			Detail 20x Detail 100x
- Boot: Leather			Detail 40x Detaliu 40x
- The belt buckle: metal.			Detail 20x Detail 40x
- The coat button: metal			Detail 20x Detail 40x
<i>Saxon Peasant Woman</i> , inv. no. M 6369			
- Boot: leather(left).			Detaliu 20x Detaliu 40x
- Boot Leather (right)			Detaliu 20x Detaliu 40x


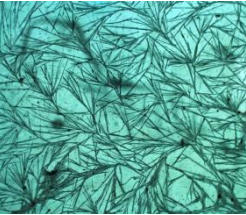
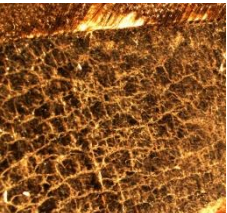
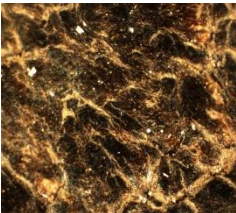
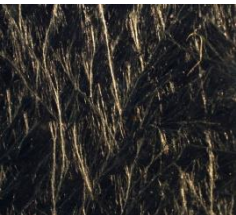
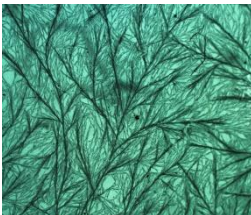
<p>-The protection glass:</p> <p>- the aspect of the surface that is in contact with the collage</p>	 <p>Detail40x</p>	 <p>Detail 40x UV</p>
<p><i>Preacher, inv. no. M 6372</i></p>		
<p>- Footwear:</p> <p>leather</p>	 <p>Detail 20x</p>	 <p>Detail 160x</p>
<p>-The protection glass:</p> <p>- the aspect of the surface that is in contact with the collage</p>	 <p>Detail 40x</p>	 <p>Detaliu 40x UV</p>

Table 4. Microphotographs




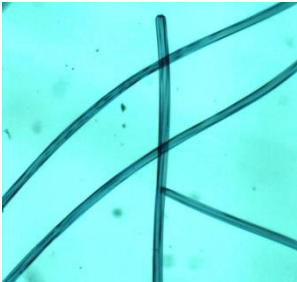
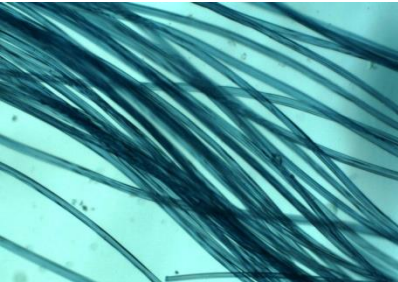


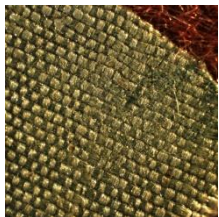
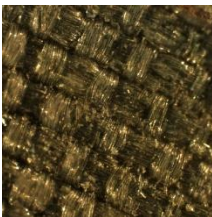

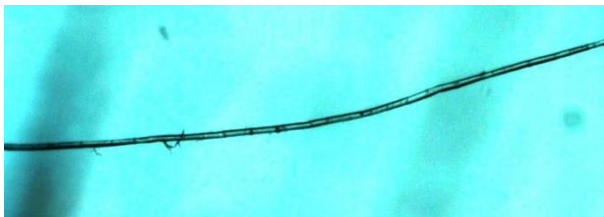
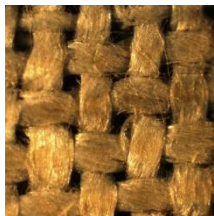
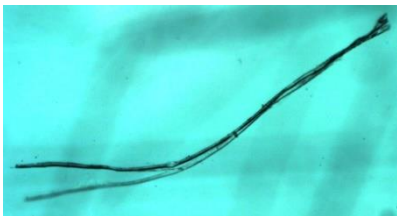

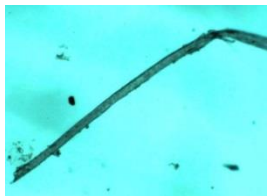


<p>Textile of bast fibers - microscopic preparations - details 160x UV</p>	  	
<p>Textile fibres - microscopic preparations - details 160x UV</p>	 	

Table 5. Microphotographs

State of conservation of the constituent materials: characterization, identification and evaluation	
<i>Young Saxon Townsman</i> , inv. no. M 6370	
- Pants fabric: wool	  Detail 60x Detail 160x UV- Textile fibre- microscopic preparation
- Cuff fabric: silk	  Detail 40x Detail 160x
<i>Saxon Peasant Woman</i> , inv. no. M 6369	
- Blouse fabric: bast fibres	  Detail 60x Detail 160x UV- Textile fibre - microscopic preparation
- The apron cuff: bast fibres	  Detail 60x Detail 160x UV- Textile fibre - microscopic preparation
Scarf fabric: bast fibres	  Detail 40x Detail 160x UV Cream-colored textile fibre - microscopic preparation   Detail 160x UV - Green-colored textile fibre - microscopic preparation Detail 160x UV- Textile fibre of a fringe - microscopic preparation


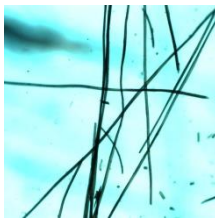
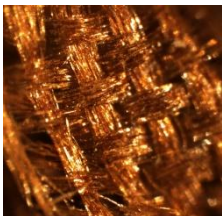
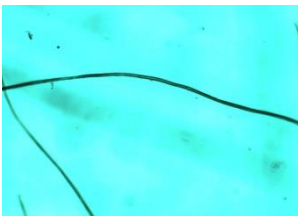
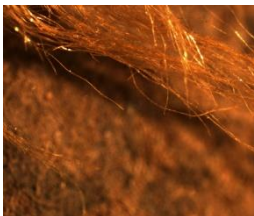


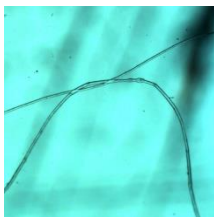
<i>Preacher, inv. no. M 6372</i>		
-Collar fabric (left side): silk		 Detail 160x UV- Textile fibre - microscopic preparation
- Sleeve fabric (left side): -silk		 Detail 160x UV- Textile fibre - microscopic preparation
- Sleeve fabric (right side): fire textile de tip mătase		 Detail 160x UV- Textile fibre - microscopic preparation
-Coat fabric : Bast fibres		 Detail 160x UV Textile fibre - microscopic preparation

Table 6. Microphotographs



1. *Young Saxon Townsman* before restoration 2. *Young Saxon Townsman* after restoration



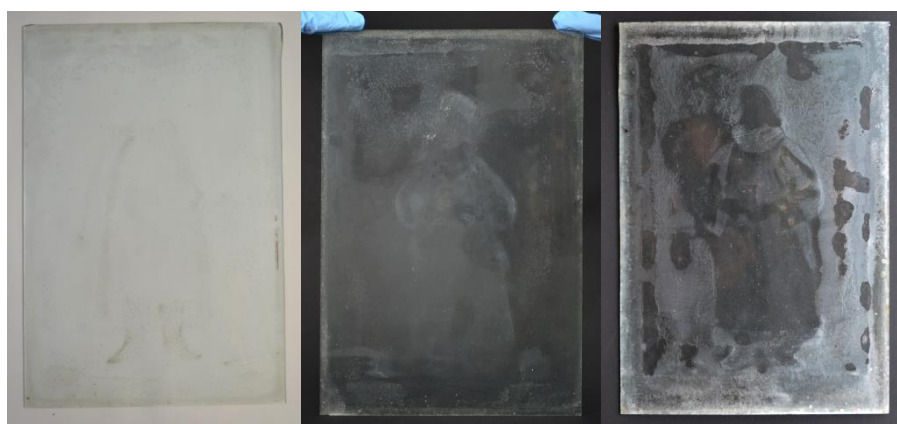
3. *Saxon Peasant Woman* before restoration 4. *Saxon Peasant Woman* after restoration



5. *Preacher* before restoration 6. *Preacher* after restoration



7. The parts disassembled, from left to right - *Young Saxon Townsman*, *Saxon Peasant Woman*, *Preacher*



8. The glass, before restoration - *Young Saxon Townsman*, *Saxon Peasant Woman*, *Preacher*



9. The primary support, before restoration - *Young Saxon Townsman*, *Saxon Peasant Woman*, *Preacher*



10. The primary support, details, before restoration - *Young Saxon Townsman*, *Saxon Peasant Woman*, *Preacher*

RESTORATION OF THE DEDICATION ICON FROM THE OLD, DISAPPEARED CHURCH OF POIANA SIBIULUI

Ioan Ovidiu ABRUDAN *
Cristina Maria DĂNEASĂ **

Abstract: *This study presents information regarding the steps taken in the process of restoring a Transylvanian icon, painted in the second half of the 18th century and preserved in the patrimony of the wooden church from Poiana Sibiului (Sibiu County). The fact itself, of the recovery of the painted image, was accompanied by historical investigations that led to the identification of the author of this work of church art, as rucopiseș Dumitru Zugravul (Rucopiseș – means written with the hand of ... – from ecclesiastical slavonic language), an almost anonymous master, at least in terms of his activity as an iconographer. Years ago, the signature of this artist was identified on a fragment belonging to the mural decoration of the old wooden church from Poiana Sibiului, which disappeared in 1766. The inscription of the same artist's name on a portable icon can be considered a significant and an extremely useful thing in the prospect of assigning to him a few other icons, either placed in the church mentioned above or preserved in other places.*

Keywords: *The wooden church from Poiana Sibiului, rucopiseș Dumitru Zugravul, wooden icon, conservation, restoration, missing parts, deterioration of paint layer*

Rezumat: *Studiul de față comunică informații despre etapele parcurse în procesul restaurării unei icoane transilvănene din cea de-a doua jumătate a secolului al XVIII-lea, păstrată în patrimoniul bisericii din lemn de la Poiana Sibiului. Faptul în sine, al recuperării imaginii pictate, a fost însoțit de investigații istorice care au condus la identificarea autorului acestei lucrări de artă bisericească, rucopiseș Dumitru Zugravul (Rucopiseș – se traduce ca „scris de mâna lui ...” – din slava bisericească), meșter aproape necunoscut, cel puțin sub aspectul activității sale de iconar. După iscălitura identificată și publicată cu ani în urmă, de pe un fragment rămas din decorul mural al vechii biserici din lemn, dipărute în 1766, de la Poiana Sibiului, însemnarea numelui său pe o icoană portativă poate fi considerat un lucru semnificativ și extrem de util în perspectiva de a-i fi atribuite alte câteva icoane, aflate în această biserică ori provenind din alte locuri.*

Cuvinte-cheie: *biserica din lemn de la Poiana Sibiului, rucopiseș Dumitru Zugravul, icoană pe lemn, conservare, restaurare, fragmente lipsă, deteriorarea stratului pictural*

Introduction

From the valuable artistic heritage of the wooden church in Poiana Sibiului (Sibiu County), with the dedication *The Dormition of the Blessed Virgin Mary*, an old icon (Fig. 1) was chosen for restoration; due to its modest dimensions (82 × 63 cm) and the state of advanced deterioration, it has not so far attracted the attention of researchers. However, the illumination of the image gradually revealed the craftsmanship of the artist who painted it two and a half centuries ago, and brought out a new testimony regarding the history of the church life in that prominent village of Marginimea Si-

biului.

The name of the evangelical scene that the artist rendered artistically into the icon is written with Cyrillic letters on the upper edge of the wooden panel: *(The Assumption of the Holy Mother of God)*. The action is represented on two registers. The one at the basis, covering two thirds of the surface of the panel, was intended for the representation of the funeral rite of Virgin Mary, a scene attended by no less than 26 characters: angels, apostles, bishops and holy women. In the closer plan, to this multitude of characters, two more figures had been added: the angel cutting with the

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sword the hands of the pagan who intended to defile with his touching the sleeping body of the Virgin Mary. The manner in which the painter managed to distribute so many human figures in such a confined space is remarkable since, besides the funeral bed, there are also buildings and the canopy in the center of the image, whose purpose was to mark the sacramental character of the service celebrated by participation of the angelic powers. Thanks to the painter's artistic mastery, the agglomeration of elements from which the composition is made appears to be, nevertheless, organized. The characters are divided into groups that focus their attention, either from the right side, or from the left side of the composition, towards the *Theotokos Virgin*, painted in the center. In this way, the painter managed to induce to the one contemplating the icon the feeling that he or she must follow with the eyes a zigzag path, which, as if ascending on the ramps of a ziggurat, gives one the impression of moving from the base, towards the upper register of the image. In that area placed above the clouds, in the eternal glory of the unseen sky and before the divine throne of the Holy Trinity, the coronation of Virgin Mary, the Most Holy Mother of God, is celebrated.

*

Placed within a frame on the back of the icon (Fig. 2), an inscription with large, carefully carved letters was meant to communicate the names of the donors, of the artist, as well as the date when the painting was completed: „ЯЧЯСТЬ ІКО[ЯНЪ Я Я]ДУРМ[ИРИ ПРЪ]ЧИСТИ К[... ..]БУИ[... ..]ЛУ[... ..]ТЪ КЯ СЪ Л[Е ФІЕ ПОМЕНИРЕ] ↑ ВЕЧ ЯЗ РУКОПИС ДУ[МИ]ТРУ ЗУГРЯФ МЕС ФЕВРЯ[РИЕ] І ЗИЛ[Е] СЪВЪРШИ[ТЪ] ЯУЗ[Е] * ЯЗСОГ” („ACEASTĂ ICOANĂ A ADURMIRII PREACESTII C... ..BUL... ..LU...TĂ CA SĂ LE FIE POMENIRE ÎN VECI. EU¹ RUCOPISEȚ DU[MI]TRU ZUGRAF, MES[IȚA] FEVRARIE 10 ZILE SĂVÂRȘITĂ (văleat) 7273 * 1765”) / „this icon of the Dormition of the Blessed Virgin Mary ... for eternal remembrances. I (az/az) rucopiseț Du[mi]tru. Completed on the 10th of February 7273 * 1765”.

If the identity of those who paid for the icon remains unknown, since the composition of the text was damaged in the area in which their names were marked and only part of some letters could be recovered, the signature of the painter, who finished the icon in 1765, could be recovered. He was

Dumitru Zugravul, the master who, 22 years earlier, had painted the walls and the vaults of the church. That wooden construction lasted until 1766, when it was replaced by another, larger place of worship, also built of wood at the initiative and through the care of the archpriest Ioan Dobrotă and with the blessing of Archbishop Dionisie Novacovici. It was during the time of Dionisie's successor, the Orthodox bishop Sofronie Chirilovici (Abrudan 2010, 91-93), on May 12, 1770, that the church was dedicated to the "Assumption of the Virgin Mary". The previous church had had the same dedication.

From the wall paintings completed by Dumitru Zugravul several components were found and recovered, a few years ago, from the attic of the present church (Abrudan 2015, 122-145). The iconographic composition *The Great Deisis* with apostles was attributed to the same painter. The plank on which it was painted was selected from the pieces preserved and placed inside the church, above the access door leading from the porch to the nave. The inscription that completes the painted image attracted the attention of those who recovered the icon. Deciphered and published by Ioana Cristache - Panait, the words marked with white letters form the following ex-voto: ПОМН ГД ДУМИТРУ ДОБРОТЪ ЯУМГ*1743 ЯЗ РУКОПИСЕЦ ДУМ[ИТРУ] („For the remembrance of master Dumitru Dobrotă, 1743 (in Cyrillic letters and figures), I (az/az) rucopiseț Dum[itr]u”) (Cristache-Panait 1984, 72). The fact that Nicolae Iorga did not notice it, when he had recorded all the other inscriptions existing in the wooden church from Poiana Sibiului, denotes that the piece on which the name is mentioned was introduced in the narthex of the church more recently and certainly after 1906, when the historian published the volume of inscriptions and notes he had found in the places of worship of the Romanians from Transylvania (Iorga 1906, 146-149).

Returning to the representation of the scene *The Dormition of the Blessed Virgin Mary*, signed by Dumitru the painter, we can admit that it belonged to the old church, which disappeared from Poiana Sibiului, being an icon of dedication, destined to occupy the habitual place, on the right of iconostasis. The twenty-two years that passed from the accomplishment of the mural decoration to the execution of the icon, in 1765, represented a very troubled period in the religious life of the Orthodox inhabitants of Poiana, when priests and believers, men and women, opposed a strong resistance to the authorities' fierce attempts to make them

¹ The painter used the Slavonic form of the personal pronoun (first person, singular) ЯЗb

adopt the Greek-Catholic belief. The acts of intimidation and terror directed at them culminated in the arrest, in 1748, of both the priest Ioan Dobrotă and of his wife. In 1750, priest Maniu and many other worshippers from the parish, such as Dumitru Vonica, were imprisoned and investigated in 1752 (Abrudan 2010, 85-88). For such reasons, villagers were no longer able to continue the process of endowing the church in Poiana with icons. It could only be resumed after the Orthodox bishopric was set up again in Sibiu and Bishop Dionisie Novacovici arrived there, in 1761 (Abrudan 2010, 89). The latter would have been able to personally urge and encourage the villagers of Poiana to continue the endowment of their church on the occasion of the canonical visit he did in the diocese, in 1762 (Abrudan 2010, 90), when he was a guest of the village.

The presence, in the *proskomedia* of the church, of an icon representing the *Virgin Mary with the Child and the Holy Prophets* (61.5 × 44 cm) (Fig. 3), unsigned, but dated with figures incised on the back of the panel in wood, in the year 1762, would come to support such an assumption. Stylistically it evokes a relation with the artistic manner of Dumitru Zugravul, being therefore admissible as one of his works and likely to have been part, together with the icon *The Dormition of the Blessed Virgin Mary*, of the set of royal icons that stood on the foundation of the older church.

*

According to Ioana Cristache - Panait, it is possible that Dumitru was formed, in the spirit of the post-Brancovenian painting, by painter Stefan from Ocnele Mari. The supposition regarding such an association can be supported by the presence of the names of the two, signing as teacher and apprentice, on an icon *Deisis framed by the apostles*², from 1740, preserved in the church in Pianu de Sus (Alba county) (Cristache-Panait 1987, 106). Besides what could be proved already, thanks to the works he had signed and dated for the church that once existed in Poiana Sibiului, nothing has been highlighted so far in connection with Dumitru's artistic activity.

If we know nothing about the fate of the other icons he had completed for the iconostasis of the church in Poiana³, we identified instead three pic-

es, from other places, which might be attributed to him, based on stylistic similarity. The first of these is an icon of the „Mother of the Lord with Child” (Fig. 4), almost identical in terms of image (except the representations of the prophets that are missing in this case) and dimensions (59 × 38 cm) with the one representing the same subject, from the church in Poiana. It belongs to the old collection of „As-tra” (classified under the inventory no. 297, objects of worship)⁴, without being accompanied by any indication regarding its origin or the circumstances in which it entered the respective collection.

A second icon, of the Virgin Mary with the Child – *Hodighitria* (Fig. 5), unsigned and undated, which, however, can be attributed to the painter Dumitru, on the same basis of formal analogy, comes from the wooden church of Apoldu de Jos, for which it was previously painted, before 1761. The only major difference, compared to the other representations of this theme, which we have considered so far, is the modified position of the right hand of the Holy Virgin, which no longer holds the Infant protectively, but seems to point at Him, in a gesture, we could say, more in line with the iconographic pattern.

The third icon we are pointing to, a representation of the scene *The Dormition of the Blessed Virgin Mary* (Fig. 6) is currently preserved in the collection of the Archbishopric of Sibiu (inventory no. 1902, dimensions 36 × 30 cm) and it comes from the wooden church in Sadu (Sibiu County). Again, in this case, both the composition and the pictorial style suggest connections with the dedication icon from Poiana, being admissible to attribute it to Dumitru Zugravul. The inscription in Slavonic, placed at the base of the wooden panel, fragmented because of the color losses that make it impossible to be deciphered, is accompanied by the inscription, with Cyrillic letters and figures, of the year ЯУОД – 1774, when the icon was painted.

when Dumitru the painter had completed the mural decoration of the church. It is possible that he was the painter of this icon, but due to the interventions that had been done, in time, on that icon, we cannot argue convincingly in favor of this authorship. On the back of the wooden panel, the following dedication can be read: ЯЧЯ СФНТЪ ИКОНЪ ГЪ ЯУ ДЪРУИТНИКОЛЯЕ БЯН ДЕ ПОМЯНЪ СФНТЕИ БЕСЪРЕЧИ ЯУМГ („This holy icon was given as a gift by Nicolae Ban, for the holy church, in 1743”). The image of the icon was reproduced by Ana Dumitran (Dumitran Cucui 2009, 9, 10, fig. 4)

⁴ It was published in the volume signed by Alina Geanina Ionescu (Ionescu 2009, 51, catalogue no. 76.)

² The icon is now preserved in the collection of the Archbishopric Orthodox Seat of Alba Iulia, inventory no.1 (Dumitran 2012, 76, n.252)

³ In the church from Poiana Sibiului, there is an icon, representing Saint Nicholas, dated back to the period

State of conservation

The wooden panel is formed from one plank, cut from the softwood trunk. It didn't present a transversal wooden cross on the back. The iconographic representation is framed with four profiled painted wands, joined and fixed with wooden nails on the icon support. The wood, which is *working* all the time, is degrading continuously if the humidity and temperature are fluctuating. The sunlight can amplify the deterioration process. These factors can provide cracks along and across the grain, scratching, splitting and wood cells erosion, loss of wood fragments, stains, weakening (Shupe 2008, 4). The wooden support of icon was relative in a good state of conservation. The soft wood panel was curved. This is one of the caused for the partially detachment of the upper wand of the frame and the lower one was missing. Some cracks and minor missing fragments are visible in the upper and lower part of the support. Carbonizations of wood are produced in areas where candles burned too close. Important organic and an-organic deposits were visible on edges of the icon, especially dust and wax.

The technique used for this painting was tempera. The representation is not common, so we can observe that in the same panel we have painted two important moments from Virgin Mary's life: *The Dormition of the Blessed Virgin Mary* and *Theotokos Virgin*. The painting layers are staked one over the other like this stratigraphy: wood, isolation glue layer, ground, colour layers or bolus, silver leaf, colour and varnish. All painted surface was covered with many unequable layers of wax (slops and drops). The iconographic message was very difficult to be distinguished (Fig. 1 a). After removing the wax, new degradation forms were discovered. The painting layers are fragile and inflexible with carbonized little areas. On surface are cracks, scratches, detachments of small painting fragments. On frame and lower part of icon is missing more than 50% from paint. In the middle part are lacunas of colour, of a part of primer or entire painting layers. The upper area is the best conserved with few lacunas and erosions. The silver leaf is partially or integrally oxidized, unequally beaten. All painted surface is covered with adherent and foul deposits. The old varnish is opaque, lightless, with caking and cracked.

Material and methods

To establish the state of degradation, the methodology of treatment for the restoration of the icon was chosen after many macro and micro-pictures directly taken. The icon wasn't restored and repainted before. The primer made by mixing calci-

um carbonate with gypsum was analysed with hydrochloric acid.

The goal of this restoration process was to rediscover the paint with minimal interventions. The steps were carefully selected to obtain an old restored icon. Above all it was necessary to conserve and to consolidate the fragile painted layers. The wood support was stabilized by carving the missing wand and gluing the upper and the new lower one on the icon panel. After that, we gradually cleaned the paint. The retouch interventions were minimal. Traditional and reversible materials (fish and rabbit glue, old dried wood from same time with the icon, watercolour, Dammar varnish) and methods (traditional carving technique, consolidation with animal glue, keeping the old patina and a thin layer of old varnish, no new primer on paint) were used. Every object can be subjected to different treatments. It is difficult to select suitable materials and treatments to stabilize the object and ensure its longevity. The restoration committee should understand the hidden values, the importance and significance of the artwork. The restoration process should not in any way diminish the value of objects to be restored (Bisht 2009, 51).

Results and discussion

The restoration process was started with discussions with specialists about iconographic representation, age, possible author, provenance, wood structure, biological attack, stratigraphy, conservation state, restoration proposals (specialists: Ioan Ovidiu Abrudan, Livia Bucșa, Nicolae Teoc, Maria Modi, Cristina Dăneasă). The first restoration operations were made with the student Alexandra Maria Unguraș.

The photographic documentation was made before, during and after the restoration process. The first step was to remove the massive deposits of wax mechanically and with solvents – White spirit (Fig. 7). After this, the restoration proposals were established, because new degradation occurred. As the biological attack wasn't active, expert biologist Livia Bucșa advised us not to apply any insecticide treatment. The painting layers from the face and the back of the icon needed to be consolidated with fish glue, Japanese paper and heat spatula (Fig. 8). The upper wand was dismantled, cleaned, jagged to be more elastic and re-glued on curved icon panel (Fig. 9). The lower missing wand was carved from old soft wood – recycled from an old erased icon panel. This one was jagged too and glued on the icon panel in the same way (Fig. 10, 11). Removing of Japanese paper (Fig. 12) was made after reconsolidation of little areas from upper part of

the icon where was relocated by gluing the wand. The longest and most difficult process for these pieces was the cleaning of paint. Many mixtures of inorganic and organic solvents, surface agents and enzymes were tested. The best results were obtained by alternation between synthetic saliva, water and ammonia (3%) with water, isopropanol, ethanol and ammonia (1:1:1:5%). Some areas were cleaned only with toluene and isopropanol (1:1) or with water, isopropanol and ammonia (10:90:10). The paint from the back of icon was cleaned with synthetic saliva very gently (Istudor 2011, 260-287, Guttman, 2013, 92-95). All surfaces presented many lacunas of colour and partly of the original primer, but were stable after the consolidation process. In this case, the lacuna wasn't covered

with calcium carbonate and glue. For these white areas, a pointillist and graphical retouch with watercolour was proposed (Fig. 13, 14, 15). In the end the icon was varnished with Dammar resin solubilised in turpentine, applied in thin and uniform layer for a better protection.

Conclusion

In this case our intention was to have the iconographic representation visible. We kept all scratches, carbonizations and lacunas. Because every object has its proper history, through these minimal interventions we tried to stabilize the piece and to keep the old message as much as possible. Viewers can thus understand the real value of this old icon.

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5. *Rucopiseț Dumitru the Painter* (attributed to), *The Virgin and Child*, imperial icon, the Collection of Archbishopric of Sibiu initially in the Orthodox Church, of Apoldu de Jos



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7. Cleaning of the wax



8.a

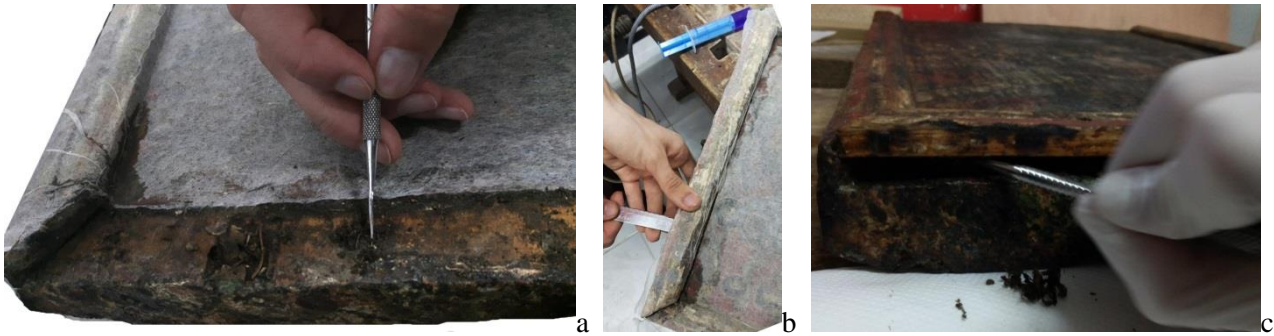


8.b



8.c

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TWO PAINTINGS BY CHRISTIAN BERENTZ AND SOME REMARKS ON THE SIGNATURE OF THEIR AUTHOR, OCCASIONED BY THEIR MOST RECENT CONSERVATION

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Abstract: *The stylistic comparison of the two paintings with luxury items from the Brukenthal National Museum's collection with other works by Christian Berentz and by other painters of still lifes from Rome who influenced him or were influenced by him confirms the authorship of Christian Berentz and suggests that they could be dated during c. 1707-1717, even towards the last part of this period, during c. 1715-1717 perhaps. However, the painter's signature with Arabic letters turned upside down (still unknown until now on other works by him), hidden in the pattern of a Persian carpet recalling the so-called Isfahan type is forged, being added already in mid-18th c., when despite a still quite good condition of preservation of the paint layer the canvases of the paintings were lined and major repaints altered the original aspect of the two still lifes. Only afterwards they were exported to Vienna, wherefrom they were bought by Baron Samuel von Brukenthal. In 1897 and sometime during 1965-1968 they were restored again, but only for smaller damages. The decision to keep the artist's forged signature was taken considering both a practice established already in 1897 for similar situations in paintings from the museum's collection and the cultural, historical and documentary importance of the 18th c. fraudulent intervention of good artistic quality, which is perfectly concealed in the composition and is consonant with its theme.*

Keywords: *radioscopy, overpainting, forged signature, old conservation works, Christian Berentz.*

Rezumat: *Comparația stilistică a celor două naturi moarte fastuoase din colecția Muzeului Național Brukenthal cu alte lucrări de Christian Berentz, dar și ale altor pictori de naturi moarte de la Roma care l-au influențat sau au fost influențați de acesta confirmă că autorul este Christian Berentz, chiar dacă semnătura cu litere arabe răsturnate a pictorului (până acum încă necunoscută pe alte lucrări ale sale), disimulată în modelul unui covor persan amintind de așa-numitul tip Isfahan este falsă, fiind adăugată la mijlocul sec. XVIII, când în ciuda stării de conservare încă destul de bune a stratului pictural, pânzele celor două tablouri au fost dublate și repictări masive au alterat aspectul original al celor două naturi moarte. Abia apoi ele au fost exportate la Viena, de unde au fost achiziționate de către baronul Samuel von Brukenthal. În 1897 și cândva în perioada 1965-1968 ele au fost restaurate din nou, însă pentru deteriorări mai mici. Decizia de păstrare a falsei semnături a artistului a fost luată avându-se în vedere atât o practică stabilită deja în 1897 pentru situații similare din colecția muzeului, cât și importanța cultural-istorică și documentară a intervenției frauduloase din sec. XVIII, de o bună calitate artistică însă, fiind perfect disimulată în compoziție și consonantă cu tematica acesteia.*

Cuvinte-cheie: *radioscopie, repictare, semnătură falsă, lucrări vechi de restaurare, Christian Berentz.*

In the Brukenthal National Museum's collection there are two still lifes with luxury items attributed long time to Gabriel Salci and then to Christian Berentz (Die Gemälde- Galerie 1844, 15, cat. 77 and 78; Führer 1893, 4, cat. 41 and 42; Csaki 1901,

278, cat. 992 and 993; Csaki 1909, 304, cat. 1011 and 1012; Csaki 1926, 25, cat. 1011 and 1012; Vollmer 1935, 338; Spek 1941, 28, cat. 1011 and 1012; Garas 1991, 47; Mureșan 2003; Hrib 2007, 148-150; Mureșan 2007, 44-47, cat. 19 and 20, fig.

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19 and 20; Mureșan 2009a, 61-67; Mureșan 2009b, 335-337, fig. 5, 6 and 9; Hrib 2011, 44-47). These two paintings are:

1.

CHRISTIAN BERENTZ (Hamburg, 1658 – Rome, 1722)

Still Life with Tankard, c. 1704-1717 (Fig. 1)

Oil on canvas, 61 x 48 cm. Fake signature, hidden in the carpet's decor: B̂ts C(H)R.

MNB, inv. 1011

2.

CHRISTIAN BERENTZ (Hamburg, 1658 – Rome, 1722)

Still Life with Vase, c. 1704-1717 (Fig. 2)

Oil on canvas, 61 x 48 cm. On the backside a partially broken red wax seal, with the House of Habsburg's coat of arms and the legend: HAUPTZOLLAMT WIEN (i. e. "Main Customs Office Vienna").

MNB, inv. 1012

Although the debate on their attribution (which will be analysed below) began only in the last decade of the 20th c., the two paintings, which were never exhibited abroad (mainly due to their conservation status, but also to the doubts on their true author) remained until nowadays quite less known to the foreign research. As they were selected to be shown in 2017 in the new permanent exhibition of the museum, they were brought to its Laboratory of Painting Conservation. The radiographic investigations on these paintings and the following conservation works led to the discovery of some important elements for the debate on their attribution and date. *Still Life with Tankard* (Fig. 1) was restored by Cristina Fău, expert conservator of paintings and *Still Life with Vase* (Fig. 2) by Celestina Albișor, conservator of paintings. Their work was rewarded in 2017 with the Great Prize for Conservation of oil paintings at the National Exhibition of Restoration, handed by the Laboratory for Conservation and Restoration in Craiova.

Till their most recent conservation in 2016, the only record about a previous one comes from the museum's gallery guides printed in 1901 and 1909 by Michael Csaki, where is stated that they were restored in 1897 and that both were lined on this

occasion (Csaki 1901, 278; Csaki 1909, 304). The conservation works of 1897 are just a phase of a larger process of conservation of the museum's collection of paintings, which lasted from 1896 to 1899 and was a consequence of the results of Theodor von Frimmel's visit in Sibiu and his revision of the previous attributions of several paintings (Frimmel 1894), which led to the decision of the museum's leadership to conclude a conservation agreement with Eduard Gerisch, the curator of the collection of the Akademie der bildenden Künste in Vienna, who had to do all the needed conservation works for the paintings in the Brukenthal Museums collection in the shortest possible time, right in the gallery in Sibiu, in exchange of the general amount of 10,000 Austro-Hungarian crowns (Csaki 1921, 29). However, to Vienna were sent during this long period 299 badly damaged paintings, of which 245 had to be lined, while 580 less damaged paintings were restored right in the gallery, in Sibiu, during only 3 months, from July to September 1897 (Csaki 1901, IV; Csaki 1921, 29). After the conservation of all paintings, Theodor von Frimmel visited again the Brukenthal Museum's gallery in 1899 and the attributions resulted from the new examination of the collection performed on this occasion were included in 1901 in the new gallery guide (Csaki 1901, V). It should be mentioned, however, that Eduard Gerisch himself attributed some paintings which he restored and that due to his work some signatures of painters could be seen again, but also that some extant signatures could be declared as forged (Csaki 1901, IV-V). Michael Csaki noted, in 1901, that because the museums archive was not put yet in order, it could support a deeper research on the history of the paintings and the future research could get extremely interesting information from this source (Csaki 1901, V). Indeed, already in 1909, although the efforts to prepare the museum's archive for such a purpose was still in progress, they brought already some new information, which was included in a new edition of the museum's gallery guide which was printed by Michael Csaki the same year (Csaki 1909, VIII-IX). The further efforts made during the 20th c., the study of the Baron Samuel von Brukenthal's private archive (now kept at the Sibiu County's Filial of the State Archives) as well as of the museum's archive and especially of the manuscripts collection in the Brukenthal Library, brought also important results (as evidenced by the whole research literature published till now), but could still help to clarify some less known aspects on the provenance of certain paintings and on the history of the research of the museum's collection

and of its valorisation by loans for expositions organized abroad since late 19th c. till late 20th c. During the last decades, in the 21st c., an increasing source of knowledge for the questions of the paintings' attribution, date and provenance became as well, once again, the direct study of the paintings, especially on the occasion of their conservation, within the efforts made to increase the number of the permanently exhibited paintings or more and more frequently loaned to various exhibitions organised in Romania or abroad.

Concerning these two still lifes by Christian Berentz, their most recent conservation and a deeper research of their particularities evidenced that the information on their lining in 1897 is wrong and offered also the possibility to know the results of an even older conservation, with important consequences for the debate about the attribution and the date of the two paintings, clarifying their meaning in the work of Christian Berentz and generally for the question of the German still lifes painters' contribution to the development of this kind of painting in 17th-18th c. in Italy and particularly in Rome. This research brought also some new clues that these painters were well-known (unfortunately, but naturally more than nowadays) and their works were appreciated among the 18th c. art lovers and collectors, not only in Italy, but also abroad. Its results, as well as the remarks occasioned by the various phases of the conservation of the paintings (including the physical and chemical investigations), which are described in detail, are presented below. The nowadays generally acknowledged importance of the results offered by the conservation of the paintings from the museum's collection was emphasized, for first time, also by Michael Csaki (Csaki 1901, IV-V; Csaki 1921, 31).

1. Some biographic information about Christian Berentz.

Christian Berentz began his studies in Hamburg (where he was born) with Hermann Kamphausen, a painter nowadays practically unknown, from whom he assimilated (during 1667-1673) the manner of Hendrik Govaerts, and then with Johann Georg Hinz (during 1673-1677). Afterwards (during 1677-1679) Christian Berentz travelled through the Southern Netherlands, wherefrom he headed to Venice and finally to Rome, where he settled around 1680 and stayed until the end of his life. For the history of the Italian art, he is particularly important for having introduced North European themes. Known also under his Dutch guild name *Goudsbloem* (i. e. "Golden Flower"), he was a

dedicated painter of still lifes. However, he managed quite late to reach a good structure of the composition, a great fineness and expressivity. In Rome he collaborated with Carlo Maratta (who even painted for him the figures in some still lifes), but also with Luigi Garzi (who also painted figures in still lifes by Christian Berentz) and Giovanni Battista Gaulli called *Baciccio*. When he worked in the workshop of Carlo Maratta, he had to paint the small figures in the background and the props and it is said that sometimes Carlo Maratta got commissions with the specific condition that the props should be painted by Christian Berentz (called sometimes *Bernetz* or *Bernesio*). In 1696 Christian Berentz painted the masterpiece *Flowers and Fruits, with a Grapes Picking Woman*, now in the Italian Gallery of the Museo Nazionale di Capodimonte in Naples (oil on canvas, 245 x 170 cm; signed and dated; inv. Q 176). This painting (whose figures were made actually by Carlo Maratta), coming from the former royal collection, was actually commissioned by Monsignor Rezzonico, but purchased by Marquis Nicolò Maria Pallavicini, for whom the painter worked for three years. After 1696 Christian Berentz got commissions also from the Papal Curia and from various Roman aristocratic families. Despite the appreciation he enjoyed, the German artist died in St. Michael's asylum, ruined by debts or (according to other opinions) may have returned to Germany, where he would have worked as an engraver who reproduced portraits. Nowadays, besides the still less known two works in the Brukenthal National Museum and the already mentioned one from Naples, paintings by Christian Berentz exists in museums from Rome, St. Petersburg and Hamburg (one of the two paintings from Hamburg coming actually from the former Princely Gallery in Kassel), as well as in several private collections. Like Franz Werner von Tamm called *Dapper* (1658-1724), he was the teacher of Pietro Navarra, during the latter's stay in Rome (until 1714). Christian Berentz influenced as well the less known German artist Maximilian Pfeiler (1656-1746) from Bohemia, who was his student and by whom the Brukenthal National Museum also has several paintings, in which this influence is obvious. For more information on the biography and work of Christian Berentz: Heineken 1788, 564; Ticozzi 1818, 40; Ticozzi 1830, 149; Campe 1833, 30; Thieme, Becker 1909, 381; Bénédit 1924a, 536; Gerson 1983, 221-222; Salerno 1984, 260; Garas 1991; Mureșan 2003; Bocchi, Bocchi 2004, 285-308; Sperindei 2012.

Due to his works full of fruit, flowers and game, influenced by the manner of the painters from the Heem family, by Jan Weenix, Jan Fyt, Melchior d'Hondecoeter or Willem van Aelst, Christian Berentz was compared by Götz Adriani with another typical representative of the "Baroque court painting", namely with Franz Werner von Tamm (Adriani 1982, 50). Valentin Mureșan, who emphasized the important role played by Christian Berentz in the spread of the new motives in the Roman environment where he influenced Italian painters such as Pietro Navarra and Gabriele Salci, but also the German painter Maximilian Pfeiler, finds him receptive to the influence of other Dutch painters such as Cornelis Norbertus Gysbrechts, Johannes Leemans and Hendrik Govaerts (Mureșan 2003; Mureșan 2007, 44; Mureșan 2009a, 65), which he assimilated (at least for some of them) already during his youth. However, in the works of the German painter one can note as well influences of Pieter Claesz and Pieter Gerritsz van Roestraten (in terms of structure of composition, preference for some objects such as metal and crystal vessels and certain chromatic and light effects) and Francesco Noletti formerly known as Fieravino (in terms of structure of composition and how to treat textiles). V. Mureșan noted also the importance of the mutual influences between Christian Berentz and Cristoforo Munari, with profound implications for the style of the German painter, who thus renounced the overloaded compositions, although it is difficult to ascertain if one or the other of these two artists was the first who used in a composition a certain item (Mureșan 2009a, 65). Although the exegetes of the two paintings from Sibiu did not noted this previously, the extremely bright and powerful influence is, as we believe, the influence of the so-called "still lifes with luxury items" (*pronkstilleven*) by Willem Kalf, that of the most appreciated Dutch still life painter, who in his compositions (usually, allegories of vanity) used to depict metal vessels, associated with damask and brocade draperies, with carpets of Oriental aspect and other expensive textiles. From the artist's point of view, the elegant grouping of such precious objects (so attractive to the lovers of luxury items) displayed together with flowers and fruits (not rarely exotic ones), was a real challenge of virtuosity in solving highly complex visual problems (Hrib 2007, 149; Hrib 2011, 46).

2. Description of the works.

The two still lifes painted by Christian Berentz (but without the abundance of flowers and fruits, which is specific for the paintings which made him

famous in Rome), are considered to be among the most beautiful works in this category in the Brukenthal National Museum's collection. Although they were described and commented several times during the last two decades (Hrib 2007, 149-150; Mureșan 2007, 44 and 47; Hrib 2011, 47), it is important to remember the most important remarks of the previous exegetes, in order to understand better some less discussed elements in their composition (the species of the butterfly and its relation with the flowers, the pattern of the Oriental-looking carpet), but also the comparison of some of the depicted luxury items (crystal glassware, metallic vessels) with corresponding elements in works by other painters, which are important for the attribution of the two paintings from Sibiu and in ascertaining their date. At the centre of both compositions there is a footed tray on which there is an impressive Venetian glass chalice of a highly elaborate and intricate structure, along with full or empty vessels of transparent glass, whose grouping involves a variety of visual solutions in depicting of shiny and translucent surfaces and of the light effects associated with them. The various crystal vessels, the metal vessels placed in both of the paintings on the right side of the composition, the "Oriental" carpet, the brocade and the damask suggest the richness of a Baroque aristocratic interior, displayed in a seemingly non-shameful disorder that creates an indisputable poetic melancholy due to reflection on vanity, induced by the fragility of the crystal and ephemeral embodied by flowers and insects (a butterfly and a fly, not randomly chosen, because their joining draws attention to the passing beauty and the decomposition respectively). What particularizes each of the two compositions is the object whose texture differs from that of the glassware: an earthenware vase in *Still Life with Vase* and, respectively, the tankard with metallic insertion in *Still Life with Tankard*. The chromatics of the objects is adapted to the background, successfully exploiting the artistic effect of coloured greys and of various light or dark shades. From a technical point of view, it can be noted that the artist first painted the entire tablecloth in full, then the tray as the only object on the table, then the glass objects, in a layered attempt of perfect copy of reality.

The butterfly rendered by Christian Berentz belongs to one of the most widespread species, namely the cosmopolitan or, less commonly now, the painted lady (*Vanessa cardui* syn. *Cynthia cardui*). It lives on every continent excepting Antarctica and South America (hence its most known name), but being resident only in warmer areas and mi-

grating to Europe in May and June. In the northern temperate zone it reaches till the Arctic Circle, but in the tropics it lives only in the mountains. Thus, for a certain period, this species can be found indeed when roses are in blossom and when peaches are ripe. However, at that time the Mediterranean species of daffodil (*Narcissus tazetta*) which is depicted in the same painting (*Still Life with Vase*) is never in blossom, as it is a winter and early spring flower, occurring from December to March. The tulips (*Tulipa sp.*), which arrived from the Ottoman Empire to Vienna during c. 1555-1560, were still considered in late 17th and early 18th c. to be expensive flowers, whose possession was an undoubted sign of wealth, and thus their purchase to be offered could be seen as a conspicuous consumption. During the 30's of the 17th c., in the Netherlands, both the conspicuous consumption and the opportunity of great earnings resulting from satisfying it led to speculations on the exorbitant prices paid for bulbs of certain kinds of tulips (which lasted until 1637), but neither the height of the speculative bubble nor its bursting were anywhere near as dramatic as suggested by the term "tulip mania", see: Krelage 1942a; Krelage 1942b; Blunt 1950; Blunt 1977; Dash 2000; Goldgar 2007). Thus, besides being symbols of transience and perishability (like other flowers too), expensive flowers like tulips became also symbols of vanity and particularly of a fickle and ephemeral wealth, based on financial speculations (on tulips in the 16th-17th c. art: Van der Goes 2004). This might be the meaning of the tulip in the two still lifes by Christian Berentz from Sibiu as well. The fact that the season when the depicted species of daffodil is in blossom does not overlap with that when tulips and roses are in blossom and when peaches are ripe suggests (due to the high fidelity in rendering botanical and zoological details) that the painting would have been finished rather only after several months of work than that certain elements of its composition were added using sketches of flowers, fruits, insects or even of luxury items (excepting, in a certain measure, only some details in the pattern of the Oriental-looking carpet).

The floral decoration and the stylized leaves of the border of the carpet which is depicted in *Still Life with Tankard*, as well as the floral motif on its border recall the so-called Isfahan Persian rugs (Dilley 1909, 22-23; Neugebauer, Orendi 1909, 26, fig. 15; Hawley 1913, 111-113, pl. 18; Griffin Lewis 1920, 194-195; Delabère May 1952, 63-65, pl. XII) and therefore it can be assumed that the painter was inspired by such a textile, although he

actually depicted (but not always very accurately) only some motives occurring indeed in the border part of such a carpet. These luxury carpets, whose period of glory is during the 15th c.-17th c., seem to have been produced (or at least many of them) actually in Herat (now in western Afghanistan, but at that time in northern Persia) until c. 1760, when the capital moved from Isfahan to Shiraz (Hawley 1913, 69, 89 and 111-112; Delabère May 1952, 64; cf. Griffin Lewis 1920, 195) or (despite several conquests by the Uzbeks and re-conquests during the 16th c. and 17th c.) rather only until 1722, when Herat was conquered by the Afghans (Ellis 1988, 220). This opinion, that this kind of carpets was produced in Herat, is nowadays largely accepted in the research, although with some divergences in certain details (Bode, Kühnel 1922, 27-28; Bode, Kühnel 1958, 114-124; Erdmann 1960, 41-42, Dimand, Mailey 1973, 260-265; Ellis 1988, 220). According only to some older and rather speculative opinions, such carpets were made in Isfahan, Tehran and Saruk (Dilley 1909, 22; Griffin Lewis 1920, 194) or maybe in other centres too (Hawley 1913, 112), due to the mobility of the artisans working for the Persian royalty and nobility (Hawley 1913, 89). Actually, although the modern production of cotton or linen Saruk carpets follows the older tradition, there is no reliable information about older carpets produced there (Dilley 1909, 34; cf. Griffin Lewis 1920, 200-201) and the modern Saruk carpets from southern Persia are only cheaper and lower quality variants of the silk Kashan carpets from central Persia (Delabère May 1952, 68; cf. Dilley 1909, 34; Hawley 1913, 128). The latter are a class of carpets considered to have the finest grain and closest texture among those produced in Persia (Delabère May 1952, 67), but only when taking into account the modern times production (Hawley 1913, 128; Griffin Lewis 1920, 317), as 16th-17th c. carpets made in Kashan seem to be unknown (Hawley 1913, 127-128). John Kimberly Mumford believed that not only the modern Isfahan carpets, but also the modern Tehran carpets (as old Tehran carpet are unknown yet) may have been actually produced as well in Saruk (Kimberly Mumford 1902, 201-202). This fact, together with the unreliably dated and confusingly defined modern carpets types, whose name are given rather for commercial reasons than as consequence of a distinct typological reality (Ellwanger 1909, 56-57), generated actually the aforementioned opinion about old Isfahan carpets produced in Isfahan, Tehran and Saruk. Due to the 16th-17th political realities in the eastern territories of Persia

(including nowadays western Afghanistan) and the gradual Mughal conquest of India by attacks steadily directed southward from Afghanistan, which lead as well to a wider trade with Persian carpets and to the apparition of hybrid types in several regions of India, after Persian craftsmen were brought there, the most formerly called Isfahan carpets dated during the 17th c. are described now as *Indo-Persian carpets* or even *Indo-Isfahan carpets* (Ellis 1988, XXII, 211 and 220-221) and are considered to have been produced in Agra (Ellis 1988, 211 and 221). However, some carpets included in this newly defined category (generally preserved as fragments and most of them with animal forms in their designs, as well as some with medallion scheme, but differing in colours, especially in greens and yellows, but also often in the reds) would have really been produced in Herat, while to the Indian workshops from Agra (which kept more faithfully the Persian tradition and apparently continued to produce carpets during the 19th and early 20th c.) are assigned rather carpets made during the 17th c. (among which there are also many with floral motifs and vines, recalling those depicted by European painters like Peter Paul Rubens and Anthony van Dyck) than those dated in the 16th c. (Ellis 1988, 220-221). Following this view, only Mughal carpets in which there are motifs or combination of motifs unlikely to be found in any Persian carpet would have been made in the capitals of the native princes in the Deccan or elsewhere in the Indian subcontinent (Ellis 1988, 221).

Most likely, Christian Berentz copied certain motives of a so-called Isfahan carpet (but rather as large sections of it and not as a full and coherent pattern) and drew them in the border part of his carpet, because the tendrils in the shape of a so-called Chinese cloud (*qi*) on the border's emerald green main strip would not normally occur there, but in the field of a real rug of this kind. A true Isfahan carpet border shows two narrow decorated stripes on either side of a wider one (Dilley 1909, 22), while the carpet depicted by Christian Berentz seems to have a border consisting of two narrow red frame stripes on either side of a green wider one, as well as a green field, looking rather like a piece of a larger carpet's corner section, used as tablecloth for a table which is too small to be covered by a whole carpet. However, the main colours of this carpet (deep rose-pink, emerald green and even yellow and some white and blue) are right, with a particular remark for the emerald green of the border's main strip (Hawley 1913, 89; Griffin Lewis 1920, 195; Delabère May 1952, 65), which

is common especially in the 16th c. Isfahan carpets (Griffin Lewis 1920, 195). Very rarely, such rugs show the type of the border with long cartouches and small rosaces (Bode, Kühnel 1922, 27), as in the painting by Christian Berentz. This means that for setting his composition the painter used most likely coloured pattern sketches of an original and rare so-called Isfahan carpet fragment he once saw somewhere than a real fragment of such an almost two centuries old carpet, especially if considering that this kind of carpets are, almost without exception, of large size (Hawley 1913, 89; cf. Griffin Lewis 1920, 195; Bode, Kühnel 1922, 27), if they are knotted and made of wool, but smaller, if they are made of silk interwoven with gold and silver (Bode, Kühnel 1922, 27). A real carpet of this kind would be therefore too large to be used as a tablecloth, on a table of a quite small size, as in this painting. Thus, although the carpet depicted here does not reproduce accurately a real one, it is however undoubtedly inspired by a fragment of a real carpet. That is why it does not reflect the historically known process of alteration of the late 16th or early 17th c. Isfahan carpet pattern till to that seen on the 18th c. Caucasian imitations (Neugebauer, Orendi 1909, 38-46, fig 15 and 25-28) or the aforementioned changes which occurred in India under the Moghuls, due to the workshops from Agra. During the 19th and early 20th c. this alteration process continued (Hawley 1913, 112), even more profoundly and swiftly (due both to the use of chemical colours and to the corrupting demands of a larger international market), leading thus not only to the production of curious hybrids (Kimberly Mumford 1902, 174), but also of more or less accurate forgeries. This remark on the authenticity and the date of the depicted carpet is very important, considering that the painting was restored several times already in the 18th c., before being purchased by Baron Samuel von Brukenthal and suffered several changes (which will be discussed below) in its original aspect (and even in some areas of the carpet's pattern), but especially because it was even copied right after these changes occurred, during the 18th c. or even during the 19th c.

Another clue that these assumptions on the carpet depicted by Christian Berentz and on his presumed Persian model are right will result from the analysis of some Arabic letters hidden in the decorative pattern of the carpet. Inscriptions with Arabic letters (usually of religious, votive or even poetic nature, in Arabic or Persian), made during the very production process, can be found both in Persian carpets as well. They occur in some famous 16th c.

Persian carpets (Griffin Lewis 1920, 336-338), especially made in the northern part of the country, not only in prayer rugs (as the Altman rug, c. 1580), but also in carpets whose field is decorated with animals (like the Metropolitan animal rug coming from the mosque in Ardebil, c. 1530) or hunting scenes (as the Baker hunting rug, also coming from the mosque in Ardebil, mid-16th c.). It should be mentioned here as well a carpet from the South Kensington Museum (now Victoria and Albert Museum), coming also from the mosque in Ardebil in north-western Persia, which according to its inscription was made in 1539 by Maksoud of Kashan, a slave of right that mosque (Hawley 1913, 83-84), who obviously did not work in Kashan, in central Persia. Inscriptions seem to be very rare or maybe even lacking in the most famous typical so-called Isfahan carpets dated in 16th-17th c. However, in the decor of the Oriental-looking carpet depicted in this painting from Sibiu can be distinguished (if looking from the carpet's field to the border) three groups of bluish black Arabic letters (Fig. 4). Given that the reading sense of the Arabic writing is from right to left, the first group is represented by the isolated form of the letter *hā'* (i. e. ح). The following group, consisting of two letters, represents the isolated form and the final form of the letter *nūn* (i. e. ن). The third group shows the aforementioned isolated form of the letter *hā'*, followed by the initial form of the letter *alif*, ligated to the medial form of the letter *khā'* and respectively to the final form of the letter *alif* (i. e. خا). Apart from the improperly used variants for writing its first two Arabic letters, the last group (*hakha*) would lead, apparently, to the conclusion that the inscription could be in Persian (Farsi, respectively Dari) and not in Arabic or in Ottoman Turkish, because within certain Persian words there is, indeed, a close group of letters, *hkhaa*, but it is differently written (حخا). However, on the whole, the inscription does not seem to have any meaning (especially if the second group is concerned), but shows that the painter knew various Arabic letters (and maybe even their use to write Persian words), which he combined in such a way that, looking from the opposite direction (i. e. from the carpet's border to the centre of the carpet, i. e. turning upside down the inscription in Arabic letters), should be possible to read the cursive B (partially covered by a rose), followed by an abbreviation sign and by the group *ts* (in cursive minuscules), in order to make the name *B(eren)ts*, followed by the group consisting of letters *C* and *R*, that is the abbreviation *C(H)R* of the name

Christian (Fig. 3). However, a recent radiography (Fig. 13), followed by an investigation in UV light (Fig. 6) and by the cleaning work (Fig. 8) showed that this signature (which was not noted at all during the 19th-20th c.) is not unfortunately original and may have been added later, most likely during the conservation, rather in mid-18th c. (before the painting was put on sale and exported to Vienna) than in 1897 (when a new conservation was requested, now by the Brukenthal Museum), due to the fact that a copy of this painting occurred on the international art market on October 30, 1991 (Fig. 5). The catalogue of the former collection of the Electoral Prince of Hessen-Kassel in Kassel (1830), wherefrom actually comes one of the two signed paintings by Christian Berentz which are kept nowadays in Hamburg, does not mention the existence of a signature or of any other inscription on it (Thieme, Becker 1909, 381; cf. Robert 1830, 114-115, cat. 688; Pauli 1918, 9, cat. 351). E. Bénézit also did not reproduce any signature of Christian Berentz (Bénézit 1924a, 536), because most likely none was known to him and to his collaborators, although in 1909 the two paintings in Hamburg were believed to be the only surviving ones of his whole production (which was not low at all): one is undoubtedly signed by the artist himself (*C. Berentz Aō 1680*) and the other was attributed to him already during his very lifetime, by an inscription on the backside of the work formerly in Kassel (*Christia^s Bernesis fc. anno 1691*), which seems to have been considered rather reluctantly as made by the painter's hand (Thieme, Becker 1909, 381; cf. Pauli 1918, 9, cat. 351 and 10, cat. 352), although it is known that many painters used to sign their works on the backside as well and sometimes even only on the backside. Obviously, none of these both signatures is similar to that in the still life from Sibiu, made using Arabic letters turned upside down and hidden in the carpet's pattern. Although the investigations made prior to the painting's conservation evidenced clearly and undoubtedly that this impressive signature is actually forged, the museum's Commission for Conservation, formed by members of the museum's administration, curators and conservators, decided to keep it, for reasons which will be explained below.

The brocade tablecloth, decorated with the image of a parrot embroidered with silver and gold thread and silk, depicted in the pendant work, *Still Life with Vase*, seems however to be rather an European product than one of Persian origin. It is partially overlaid by another tablecloth, made of damask. A Murano glass goblet with a tall, richly decorated

foot, which is similar to that depicted in this still life from the Brukenthal National Museum's collection can be seen also in the painter's aforementioned work from Museo Nazionale di Capodimonte in Naples, dated 1696. Murano glass goblets similar to those depicted in the two paintings from Sibiu and Naples were frequent in the household inventory of the Italian elites in late 17th c. and early 18th c. and can be seen as well in some still lifes painted by two artists influenced by Chr. Berentz: Maximilian Pfeiler (in *Still Life with Fruits and Murano Glassware*, signed with the monogram MP, which is kept in the collection of the Italian Parliament's Chamber of Deputies at the Palazzo di Montecitorio in Rome) and Gabriele Salci (in two works at the Vaduz Castle (Liechtenstein), namely *Still Life with Parrot*, dated 1716, and *Fruits and Crystals*). Hence, until the discovery of the signature on the *Still Life with Tankard*, there were doubts about the attribution of the two works from the Brukenthal National Museum collection, expressed by Valentin Mureșan (Mureșan 2009a, 63-64 and 66-67). It seems that here these tall, richly decorated Murano glass goblets replaced both older types of glass beakers (namely Berkemeyer and Römer) and the metallic "welcome goblets", made of silver and often gilded. The latter were quite frequently depicted during c. 1624-c. 1678 in still lifes by Dutch and Flemish painters like Willem Claesz. Heda; Pieter Claesz, Adriaen van Utrecht, Jan Davidsz. de Heem, Andries Benedetti, Willem Kalf, Carstian Luyckx, Joris van Son, Peter Willebeeck, Alexander Coosemans, Nicolaes van Verendael etc., but also right in Rome (towards the end of the mentioned period) by the Italian artist Francesco Noletti (formerly erroneously known as Fieravino) called *Il Maltese*. In Germany these metallic goblets are known as *Akeleipokale* and were actually derived from the related late Gothic *Buckelpokale* (16th-18th c.), which had another related variant, called *Anaspokale*. In Nuremberg, where such items were produced already in the first decade of the 16th c., the regulations of the local goldsmiths' guild requested in 1531 and 1535 to the companions to show their professional skill by making such items if they intended to become masters, but allowed only in 1571 to the goldsmiths to produce them according to their commissioner's wish. Under the traditional regulations of the goldsmiths' guilds, these types of metallic goblets were still produced in whole German speaking area during the 18th c. and, with the Historism, they even saw a revival in late 19th c. and occasionally even during the second decade of the 20th c. Thus, these metallic goblets

were actually produced and used during a much longer period as that during which they were depicted in still lifes with luxury items. However, the study of the still lifes with luxury items shows that in late 17th and early 18th c. the spectacular Murano crystal glassware became increasingly preferred in the daily use of the western and central European elites, which began to use new types of metallic vessels, according to new table setting rules or requested for serving new fashionable drinks (like chocolate, coffee, tea and salep), as well as a larger diversity of sweets and fruits.

3. The provenance of the two works and opinions about their attribution. Remarks on their date, considering their relation with other still lifes by Christian Berentz.

In early 20th c. only 2 original paintings by Christian Berentz were believed to exist, despite his large production (Thieme, Becker 1909, 381). Therefore, his work remained for a long time less known and his artistic interferences rather conjectured on the basis of the extant biographic information. The authentication of the paintings attributed to Christian Berentz is sometimes hampered by the stylistic interferences with other painters of still lifes working in Rome in late 17th and early 18th c. (for more information on this category of painters, see Bocchi, Bocchi 2004). Such an endeavour is sometimes hampered, but sometimes facilitated right by the identification of certain props used or even preferred by him or by other artists who interfered stylistically with him. During the last decades, on the international art market came many works (obviously quite easy to distinguish from Christian Berentz's original works) in this artist's manner or attributed to his descendants or to his circle. One of the most interesting works is a lower quality copy of the original work *Still Life with Tankard* from the Brukenthal National Museum's collection and showing the same fake signature of the painter, hidden in a fake Arabic inscription. This copy, painted also on canvas and having almost identical dimensions (61 x 49.5 cm), but certainly dating back to the 18th c. (and copied most likely in Italy or in Vienna and not during the 19th c., in Sibiu), was auctioned on October 30, 1991 under the title *Still Life of a Parcel Gilt Tankard with Glass Vessels, Flowers and an Apple on a Table Draped with a Rug* and was considered to be made by a follower of the German painter. Although in this copy (and also in the original work from Sibiu, of course) the depicted fruit is not at all an apple, but a peach, it should be noted that at that time (in 1991) the original painting

from the Brukenthal National Museum's collection (which was still unknown to the foreign research) was not yet attributed to Christian Berentz. The few foreign researchers who however may have known at that time the original work (as Klára Garas), had most likely a direct information, as visitors of the museum and not an indirect knowledge, by seeing pictures sent maybe by a museum's curator, like Tinca Tarangul or rather by Theodor Ionescu (who as far as we know, never wrote about the two works now assigned to Christian Berentz). This means that the unknown expert who attributed the painting by a follower of Christian Berentz sold in 1991 was right, knowing very well the style of Christian Berentz, although not the original painting from Sibiu.

According to the handwritten catalogue of Baron Samuel von Brukenthal's gallery (c. 1800) kept in the Brukenthal Library in Sibiu (Ms. 628), the two still lifes by Christian Berentz were purchased as works of Maria Scalzo, who nowadays is an almost unknown artist. This attribution can be found as well in the first guide of the Brukenthal Museum, printed in 1844 (*Die Gemälde- Galerie 1844*, 15, cat. 77 and 78). In the printed guide in 1893, the two works are attributed to an Italian anonymous (Führer 1893, 4, cat. 41 and 42), but in 1901 Theodor von Frimmel considered that their author would be Gabriele Salci. The latter attribution was kept by Michael Csaki in the gallery guides printed in 1901, 1909 and 1926 (Csaki 1901, 278, cat. 992 and 993; Csaki 1909, 304, cat. 1011 and 1012; Csaki 1926, 25, cat. 1011 and 1012) and later by Rudolf Spek, in the gallery guide printed in 1941 (Spek 1941, 28, cat. 1011 and 1012), as well as by foreign researchers (Vollmer 1935, 338; Garas 1991, 47). In 1997, in his correspondence with Maria Olimpia Tudoran Ciungan (at that time, the Head of the museum's Art Department), Federico Zeri expressed the opinion (based on the pictures of the two paintings) that Christian Berentz would be their author. Knowing this view, Valentin Mureşan, who visiting the exhibition *Stille Welt – italienische Stillleben* at the Kunsthalle in Munich had the opportunity to see there the painting by Christian Berentz loaned from the Museo Nazionale di Capodimonte in Naples, noted the similarities with the two paintings in Sibiu and began an in-depth research of them, which started with the critical examination of the conclusions of Klára Garas (Garas 1991, 47) on the similarities and differences between the works by Maximilian Pfeiler, Franz Werner von Tamm and Gabriele Salci. Unlike Klára Garas, who believed that Ga-

briele Salci could be the author of the two still lifes from Baron Samuel von Brukenthal's collection, Valentin Mureşan considered (Mureşan 2003; Mureşan 2007, 44-47, cat. 19 and 20; Mureşan 2009a, 61-67) that their true author could be Christian Berentz, not Gabriele Salci. Valentin Mureşan, who mentioned the recent discovery of Christian Berentz's supposed signature by Alexandru Gh. Sonoc (although recording erroneously the discoverer's sayings, who at that time did not know that the signature is forged) and considered it to be a confirmation of his assumption on the author of these two paintings (Mureşan 2009b, 335-337).

Following the approach of V. Mureşan (which is the most recent one in the debate on the attribution and the date of these two still lifes) and comparing these paintings both with works by Christian Berentz from other museums and with paintings by Franz Werner von Tamm and Maximilian Pfeiler from the Brukenthal National Museums collection, it is obvious that in the two paintings by Christian Berentz from Sibiu cannot be noted clear stylistic interferences with any of the two latter painters. Unlike these two still lifes from Sibiu, two other works by Christian Berentz, namely *Flowers and Fruit* from the Gosudarstvennyi Ermitaž in St. Petersburg (oil on canvas, 179 x 218.5 cm), which is dated 1689 and the already mentioned painting from Naples, which is dated 1696, show a trend previously represented by Michelangelo Pace del Campidoglio (1625-1669), who also used to collaborate for the figures with painters like Guillaume Courtois called *Il Borgognone* (1628-1679) and Bernhard Keil called *Monsù Bernardo* (1624-1687). But neither the painting in St. Petersburg nor that in Naples belongs to the category of still lifes with luxury items (which made actually the painter famous), like the two paintings in Sibiu, in which the influence of this kind of works by 17th c. painters from the Netherlands is very strong. Thus, a gilded footed tray like that which is depicted in the painting *Still Life with Tankard* from Sibiu occurs as well in another work by Christian Berentz, namely *Still-Life with Crystal Glasses and Sponge-Cakes* from the Galleria Nazionale d'arte Antica in Rome, dated unsatisfactory (during the second half of the 17th c.) and a similar one, but made of silver or pewter in *Still Life with a Musk Melon* by Franz Werner von Tamm from the National Museum in Warsaw (oil on canvas, 63x50 cm, inv. M.Ob.1787(186248)), which is dated at the turn of the 17th/18th c. A carpet of Oriental aspect is used by Christian Berentz in another composition with luxury items, also in the latter men-

tioned gallery and unfortunately dated identically. Another work in the same gallery, by the same painter and from the same category, namely *Elegant Snack* (oil on canvas, 52 x 67.5 cm), is dated 1717 and shows as well Murano crystal glass goblets, but less elaborated and with a less taller foot than the corresponding item in the painting *Still Life with Vase* from Sibiu. For the abundance of fruits the two paintings from Sibiu can be compared, in a certain way, with the painting *Still Life with Grapes* by Christian Berentz from the National Museum in Warsaw (oil on canvas, 134 x 97 cm, inv. 131519), which is dated at the turn of the 17th/18th c.

An additional argument in the debate on the author of the two paintings from Sibiu provides their stylistic comparison with a painting by Christian Berentz from the German Gallery in the Schaezler Palace in Augsburg, namely *Still Life with a Tray with Drinks and a Large Golden Carafe* (oil on canvas, 95.5 x 73.5 cm, inv. 803), which is dated in 1704 (Trepesch 2006, 149, cf. Garas 1991, 42, fig.19). In this painting, which is also a landmark for the dating of the work in Sibiu, there is a metallic vessel with the coat of arms of the Counts von Lamberg-Sprinzenstein, identical to a vessel represented in the painting *Still Life with Fruit* by Maximilian Pfeiler (Garas 1991, 42, fig. 20) from the former collection of the Lamberg family, currently at the Gemäldegalerie der Akademie in Vienna, which shows that both paintings from Augsburg and Vienna were painted for Leopold Joseph von Lamberg-Sprinzenstein (1654-1706), Count of the Empire and Imperial Ambassador to Rome (January 1700 – July 1705), who brought them from Italy (Garas 1991, 42). There is no doubt that both works from the Brukenenthal National Museum were also painted in Rome (although not for the aforementioned commissioner) and most likely during 1704-1717 or maybe even rather to the end of this period (during c. 1715-1717 perhaps), if we take into consideration the date of two almost contemporary works showing Murano crystal glassware: *Still Life with Parrot* by Gabriele Salci, dated 1716 and *Elegant Snack* by Christof Berentz, dated 1717. In 1941, Rudolf Spek seems to have favoured such a date too, as referring to the two paintings by Christian Berentz from Sibiu, at that time still attributed to Gabriele Salci, he mentioned about this artist (whose lifespan was unknown to him) that he painted around 1716 (Spek 1941, 28).

The biography and work of Maximilian Pfeiler is also less known (Mureșan 2007, 126-127; cf. Campe 1833, 255; Bénézit 1924b, 474; Vollmer

1932, 530; Garas 1991, 33-34 and 42). About this painter Friedrich Campe noted that he was an artist who painted flowers and fruits strongly and courageously, but who did not know to treat well the shadow and the light (Campe 1833, 255). Valentin Mureșan remarked that in the still lifes by Maximilian Pfeiler are lacking both the sophisticated circles and spheres occurring in the compositions by Christian Berentz and also that fluid, elusive and mobile curved line which the latter used to define almost voluptuous shapes, as well as the colourless transparencies and the brilliance of the glassware (Mureșan 2007, 47).

Cristoforo Munari (1667-1720), who began his studies in his home city Reggio Emilia under the protection of Rinaldo III d'Este, Duke of Modena, used similar props like Christian Berentz (tall footed Murano crystal glass goblets, a metallic footed tray, Oriental-looking carpets). Although he can be considered as a follower of Christian Berentz for some of his works, in his most paintings he shows however a very distinct style, less influenced by Christian Berentz in respect of the choice of the props, of the structure of the composition, the chromatics and the use of lighting. He seems to have a particular preference for adding music instruments and scores, books and painter's tools even in still lifes with foodstuff, which never happened in the still lifes by Christian Berentz which we know. In Rome, where he was influenced by Christian Berentz, he stayed only during 1703-1706. Apparently, a stronger influence on the still lifes by Cristoforo Munari had Evaristo Baschenis (1617-1717), whose models he followed, adding a disarray of porcelain, glass and foodstuff. Due to his relation with the court of de Medici after he moved from Rome to Florence (where he worked for Grand Duke Cosimo III of Tuscany and for Cardinal Francisco Maria de Medici), Cristoforo Munari seems even to have preferred such kind of compositions more than simple still lifes with foodstuff or with luxury items. Thus, even in his work *Still Life with Music Instruments* from the Museum of Fine Art in Houston (oil on canvas, 97.2 x 133.4 cm, inv. 61.60), dated during 1710-1715 and which obviously is the closest to the models of Christian Berentz, he added books, a mirror and music instruments. In 1715 he moved to Pisa, where he worked almost exclusively in art restoration. For more information on the life and work of Cristoforo Munari (sometimes mentioned as *Monari*), see Campe 1833, 231; Bénézit 1924b, 292; Baldassari 1998; Bortolotti 2003, 142.

Unlike the works of Christian Berentz, whose background is often a dark drapery, wall or screen, the still lifes by Gabriele Salci (c. 1681-1720) have usually a landscape as background and rather exceptionally a dark drapery, screen or wall, as the painter preferred to use a strong lighting in his compositions (when he may have tried to imitate the still lifes with luxury items by Christian Berentz). Gabriele Salci's still lifes show sometimes a stringed music instrument or even music scores (which both are completely unknown in the paintings by Christian Berentz). However, some luxury items as tall footed Murano crystal glass goblets and carpets of Oriental aspect are common props in the works of both painters (although there are fewer works by Gabriele Salci showing them). Unlike Christian Berentz, he prefers a strong light in his compositions. As he was also a skilled animal painter, known by works depicting various kinds of birds, Gabriele Salci is known also for still lifes with game (fowls and hares), which are extremely rare in the works by Christian Berentz (or at least attributed to him). However, Gabriele Salci was less skilled in rendering certain mammals like the fox, the hedgehog or the deer. Some works attributed to him on the international art market seem to be rather by the German painter Franz Werner von Tamm, recalling very well the latter's still lifes from the collection of the Brukenthal National Museum: *Fowls and Dead Hare* (inv. 1153) and *Fowls and Western Capercaillie* (inv. 1154). In comparison to Christian Berentz, the Italian painter seems to be more irresolute, not only in composition, but also in drawing and colour (Mureşan 2009b, 337). As Klára Garas noted (Garas 1991, 46; cf. Vollmer 1935, 350), on the biography of Gabriele Salci there is less and confusing information, as he is mentioned sometimes in the encyclopaedias and dictionaries as *Salli* or *Salvi*. For more information on the biography and work of Gabriele Salci: Vollmer 1935, 338.

The broken red wax seal with the House of Habsburg's coat of arms and the inscription [K. U. K. H]AUPTZOLLAMT WIEN (i. e. "Imperial and Royal Main Customs Office Vienna") applied on the back of the painting *Still Life with Vase* from the Brukenthal National Museum's collection (Fig. 12) attests that this painting (and of course its pendant too) arrived in Vienna from abroad. For sure, the seal was put *on a painting imported to Vienna* (most likely, from Italy, maybe right from Rome) *and in no case on a painting which had to be sent from Vienna to Sibiu*, the capital of the Empire's border province Transylvania or from Transylvania

to Vienna in 1897, in order to be restored (although the two paintings by Christian Berentz seem to have been restored rather in Sibiu than in Vienna, as they were less damaged). Because this seal was applied over the doubling canvas, it means that the conservation of the painting dates back to the 18th c., i. e. previous to its purchase by Baron Samuel von Brukenthal and was therefore done abroad, most likely in Italy. The fake signature of Christian Berentz was painted, most likely, on the occasion of this conservation, as asked by a seller who had some true information about the real author of the painting (and obviously of its pendant too) and even some knowledge on this painter's work, as he did not ask for the signature of other artists with similar works, as Cristoforo Munari, Maximilian Pfeiler or Gabriele Salci. Of course, he did not know how the painter used to sign, but he needed such a stronger argument of the paintings' authenticity, in order to sell them more profitably to an art collector (very likely from Vienna, where they were finally exported), who had a great interest in still lifes with luxury items and maybe also in works by German painters, but with less information about their signatures. Necessarily, this art collector was not at all Baron Samuel von Brukenthal, as he bought the two works, as known, as being painted by Maria Scalzo, which means that at that time any previous information about their true author was already lost.

(Alexandru Gh. Sonoc)

4. Remarks on the works' state of preservation.

The natural aging process, but also the previous restorations led to more or less reversible degradations of the two paintings. As known, old paintings especially do not look as they did when they left the artist's studio. This is the result of drying and natural ageing processes which begin right in the moment when the paint is applied and slowly progress over time, apart from changes caused by human interventions. These processes are inherent to the composition of the paint and thus are dependent on the materials which the artists have chosen. Differences in quality as a result of variation in the raw materials, manufacture, washing, and purification processes, as well as adulteration and particle size can affect the stability of the paint materials (Hill Stoner, Rushfield 2012, 214). After investigations in UV light, areas with chromatic retouches and aged varnish were identified, and the radiography (Fig. 13, 14) revealed the aspect of the

original composition, but also several gaps in the work's stratigraphy (Fig. 6, 7). Old oil and varnish residues can also disfigure the surface of paintings, causing a blanched or brownish patchy appearance. Next to the organic fraction, these residues may also contain oxalates and other mineral phases due to their further reactivity with components from the environment (Hill Stoner, Rushfield 2012, 236). The physical and chemical investigations evidenced that in the repainted areas there are several successive paint layers (Fig. 5, 9). However, as already mentioned, until now the only documented and precisely dated conservation was that of 1897, when 580 works from the museum's collection were restored in Sibiu, right in the gallery, during 3 months (Csaki 1901, IV; Csaki 1921, 29). Once again, the Laboratory of Painting Conservation, which unfortunately and not rarely during the last decades faced the challenge of working on paintings restored during such a large but short period, pointed that incompetent conservation works, ranging from simple cleaning, removal of varnish and applying a new varnish to partial or complete repaint are another possible source of degradation, and not one of least importance (Lăzărescu 1996, 364). On the work *Still Life with Tankard* (inv. 1011), even more recent retouches can be noted as well, made over gaps puttied with bee wax and located mainly in the painting's border areas, whose date can be estimated certainly enough, namely during 1965-1968, as can be dated an inscription painted by the conservators on the backside of this work. On its pendant, *Still Life with a Vase* (inv. 1012) this phase of conservation (with retouches over a similar bee wax putty) is also documented, but because it was not of the same magnitude as on *Still Life with Tankard*, the conservator did not consider necessary to mark by an inscription on the painting's backside that it passed as well through the Conservation Laboratory.

The fir stretchers, with tongue and groove joints, did not have tensioning keys (or wedges) and were not chamfered on the inside and the outer edges were not rounded off, as in 1757 wedges were still mentioned as a novelty and the wedged stretcher systems were further developed during the 19th c. (Nicolaus 1999, 145; cf. Pernety 1757, XC-XCI), which is a clue that in 1897 the support was not affected too much and therefore the changing of the stretchers was not considered yet to be necessary. However, the internal edges of the stretcher impressed the support and the successive layers. On the surface of the stretchers there are scratches and nail holes, as well as deposits of dust. On the

slats of both stretchers were glued several labels. The work *Still Life with Tankard* (inv. 1011) has two labels (one of them being partially damaged) on which is printed with red ink the inventory number 1011 (dating therefore not earlier than 1909), a collection label which can be dated in 1893 (because it mentions an inventory number according to the Brukenthal Museum's gallery guide printed the same year), showing the text *Italienische Schule 42* (i. e. "Italian School 42"), written in italics with black iron gall ink and a store label with the place record *P. a/I*, written in italics with blue ink (dating, most likely, after the arrangement of the current store of the European paintings collection, i. e. after 1958). The labels on the work *Still Life with Vase* (inv. 1012) show similar records: a label on which is printed with red ink the inventory number 1012 (dating therefore not earlier than 1909), a collection label dated as well in 1893, with the text *Italienische Schule 41* (i. e. „Italian School 41”), written in italics with black iron gall ink, and a store label, with the place record *P. a/I*, written in italics with blue ink and dating (as mentioned above) most likely after 1958 (Fig. 10, 11). On the label glued on the upper slat of this painting (which is the better preserved one) there is also a stamp in black ink, with the following letters written inside a scarf: S. B. v. B. M. This abbreviation means actually *Sammlung Baron von Brukenthalisches Museums* (i. e. "the collection of the Baron von Brukenthal Museum").

The original support is a linen canvas which has been oxidized over time and was lined with a fabric of similar nature and grain, which still has a good tensile strength. Natural fabrics possess striking hygroscopic properties. The fibres absorb moisture from the atmosphere and swell up, becoming thicker and shorter. As relative humidity rises, fibre thickness increases. The piece of fabric, being made up of more or less closely woven warp and weft threads, then shrinks. Conversely, as it gives up moisture, it stretches and becomes slack (Nicolaus 1999, 83). The support is still smooth and the two cloths are still adhering to one another. On the backside of both paintings there were deposits of dust, both under the stretcher and on the rest of the surface of the cloths. Dust particles settling on the back of the painting or in the gaps between the stretcher and the textile support exacerbate the decay of the fabric, by acting as a compress (Nicolaus 1999, 82). On the mid-width of the fabric used for lining the work *Still Life with a Vase* (inv. 1012), near to the upper slat, was glued an old gallery label (only partially preserved), dating back to the 18th c., which bears an inscription

in italics, made with black iron gall ink: *Nro. 39*. Most likely, it was already glued there even before the painting was purchased by Samuel von Brukenthal, as the number does not correspond to the painting's inventory number in his gallery handwritten catalogue, but neither to any inventory numbers ascribed to it later. In the lower left corner, over the cloth used for lining, there is the red wax seal of the Imperial and Royal Customs' Main Office in Vienna, already mentioned above and only partially preserved (Fig. 12). A part of the old handmade metallic nails were reused to fix the support on the stretcher and the others were replaced by modern metallic nails, because rusty nails accelerate the degradation of the canvas. Coming into direct contact with the canvas, as on the edges of the stretchers of old paintings, they cause its discoloration (brown to black) and its corrosion, as they have the effect of catalysing oxidation (Nicolaus 1999, 82). In order to prevent the formation of dust pockets, the canvas was glued right on the wood of the stretcher's right slat. On the cloth used for lining the work *Still Life with Tankard* (inv. 1011) there are still visible glue traces from a lost label (maybe an old gallery label, similar to the previously mentioned one), as well as the initials G. M. B. S. (i. e. "The Gallery of the Brukenthal Museum, Sibiu") and the inventory number 1011, both written with red paint, sometime during 1965-1968 (according to the opinion of Mrs. Maria Olimpia Tudoran Ciungan, PhD, a former Head of the Brukenthal Museum's Art Department). Implicitly, this inscription is contemporary with the conservation works made, according to the stratigraphic investigations, after those of 1897. On the backside of the canvases (on both paintings) is written with white chalk the Roman number *II* (corresponding to the store room) and their inventory number. This is the most recent inscription, made in early 21st c., after the two paintings were moved into in the aforementioned room, following their reattribution to a painter of the German School, namely to Christian Berentz.

The paintings' surface is covered by a protective varnish layer, which lost its transparency and became yellow. It is one of the most sensitive layers in paintings: because of its composition, large surface area and minimal thickness, it responds to mechanical stress, environmental influences (such as dirt, climate, and light), and restoration activity with changes of varying magnitude, including yellow or grey discoloration, a pattern of fine cracks, craquelure formation, and crazing (Nicolaus 1999, 310). The appearance of the borders of this une-

venly brushed layer, which incorporated deposits of dust, led to the conclusion that the stretched painting was mounted in the fence of a frame which was not carefully dedusted, even before the protective layer dried. In other words, the works of conservation were carried out under the pressure of time, as it is well known that it happened in 1897, when the two paintings were not lined at all, contrary to the statements in the older literature (Csaki 1901, 278; Csaki 1909, 304), because this would have led to the destruction of the red wax seal applied over the fabric used for lining in the 18th c., and therefore in this situation the conservation was targeted only on their paint layers. This conclusion could be confirmed by the eventual discovery of a record with a list of the paintings sent to Vienna to be restored or of a letter from Edmund Gerisch containing the list of the paintings which were lined there or of another document of this kind in the museum's archives, admitting, of course, the hypothesis that Michael Csaki knew the number of paintings sent to Vienna and that of the lined works (Csaki 1901, IV; Csaki 1921, 29) from detailed museum records and not from a simple communication (without such lists), coming from the conservator.

The paint layers, with slight impasto, show cuppings and gaps on the borders of the paintings as well as in the middle of its upper part. A close observation of the stratigraphy as well as the different brushing on some areas, the aspect of the craquelure network (which normally would cover the whole surface of an old painting, but which here lays under new paint layers), led to the assumption that there was a wide repaint. The radiography of the works evidenced this, revealing details of the composition which differ from the visible aspect of the two paintings. On the attached pictures can be located the areas in which the original elements of the composition have been covered by repaints (Fig. 13, 14). These changes do not prove to be related to any subsequent intervention of the author, because the aspect of an age caused craquelure indicates that conservations works were undertaken after distant time intervals. Subsequent interventions did not improve the composition but, on the contrary, covered carefully and precisely depicted details. Near the left border of *Still Life with Vase* (inv. 1012), near to the drapery area, there is a prominent stain of dried oil (Fig. 7, 9).

5. The conservation works. The materials and substances used during the conservation.

The cleaning of the superficial dirt was done by mechanical means. For the painted surface (avoiding the cleavage areas) soft brushes were used, and on the backside a broad hair brush and a vacuum cleaner. The loose paint layers were reinforced and fixed with a 7% solution of rabbit-skin glue and pressed with an electric spatula.

After the cleaning tests, it was found that the most suitable solution was composed of 80% acetone ($(CH_3)_2CO$) and 20% white spirits. In the areas with repaints was tested a 40% solution of dimethyl sulfoxide ($(CH_3)_2SO$) in ethyl acetate $C_4H_8O_2$. As the borders of areas with previous interventions could not be precisely determined (due to the risk of removing the original paint layers) and as in time successive paint layers were applied, which could not be found on the whole surface of the works in the same number and aspect (for example, in some areas a dark green layer isolates the original paint layer from the newly applied colours), it was decided to remove mechanically the repaints, by using the scalpel under the stereo-binocular microscope (Fig. 15). In the situation of *Still Life with Vase* (inv. 1012), following the stripping tests on the repainted layers in the work's from upper right part, where a rose is depicted, it was found that this area was too degraded to be recompleted (Fig. 16). For this reason, the decision was that it is necessary to keep the repaint. Although in the case of *Still Life with Tankard* (inv. 1011) such a solution was also considered as a theoretical possibility (given the discussions on the attribution of the painting), the decision to keep the forged signature with Arabic letters turned upside down is additionally justified by the cultural, historical and documentary importance of this otherwise not allowed intervention, due to the fact that it was made most likely by a mid-18th c. restorer and it is of a surprisingly good artistic quality, being perfectly hidden in the Oriental-looking carpet's pattern and therefore consonant with the theme and the look of the whole composition.

Moreover, the actual conservators' decision to keep or to remove the repaints which alterate the original aspect of the works is in agreement also with the principles of conservations followed by Edmund Gerisch, as they result from the statements of Michael Csaki (Csaki 1901, IV-V). He said that in former times many paintings were entirely and arbitrarily repainted by unknown restorers, often even if the damage was very small, and that only on this occasion they regained as far as possible their original appearance. He pointed, however, that some of the works show so many

damages to the original painting, that its completion exceeds the requirement of the modern conservation, to preserve strictly the original aspect of the work, and thus the restoration becomes a reconstruction, practically a repaint. In such situations the paintings were only cleaned, if they could allow the viewer to have an idea of the look which the artist intended to give them, despite their current precarious preservation status. Otherwise, they were left in the state in which they were at that time, "in order to keep at least their look of paintings". Similar to the decision of keeping the forged signature of Christian Berentz was a situation which occurred right in 1897 and concerned the forged signature of Albrecht Dürer and the forged date 1492 on the painting *Man in a Blue Turban* by Jan van Eyck, already from the Brukenthal Museum's collection (oil on oak wood, 22 x 17 cm, inv. 354), and Edmund Gerisch decided, naturally, to keep it (Csaki 1901, IV-V; Csaki 1909, 108-109; Csaki 1921, 31). The attitude of Edmund Gerisch on the removal, keeping or applying of repaints which affect the original aspect of a painting were, actually, common to the Viennese school of conservation, being shared also by Karl Schellein, who even applied them few years earlier (Führer 1893, VII-VIII), when he restored 12 works from the museum's collection (Führer 1893, VI; Csaki 1901, III-IV). As the latter had not to work under such a pressure of time like Edmund Gerisch, he did a work of better quality (although in normal conditions Edmund Gerisch would also have done a better work, as known from the sayings of actual conservators of paintings from Vienna, who saw works restored by him).

The stratigraphic analyses of the rose in the painting *Still Life with Tankard* (inv. 1011) shows that in 18th c., a dark green layer was applied over the original paint layers before the signature was painted and the rose was repainted, and only afterwards follow the layers which can be assigned to the later conservation works of 1897. The massive repaints are very carefully done, therefore they cannot have been made in 1897, when the conservators worked under the pressure of time, but when both this painting and its pendant seem to have been still less damaged (as resulting from the remarks made on the occasion of their most recent conservation). In the 2nd half of the 20th c. (respectively sometime during 1965-1968) only small conservation works were made (consisting, as already mentioned, in retouches made over gaps which were puttied with bee wax). Therefore, it is sure that both the signature of Christian Berentz was not forged at all in 1897 and that the massive

repaints which altered the work's original aspect were made as well in mid-18th c., when the painting was lined in mid-18th c. and when there was still available some information about its true author, unlike in 1897, when it was believed that he would be an Italian anonymous. It is very interesting that the same signature can be seen as well on the already mentioned copy of this painting made by a follower of Christian Berentz, which was auctioned on October 30, 1991 (when the original was still assigned to Gabriel Salci), but also that this copy has, however, the aspect of the original, before the massive repaints were made (and thus the red carnation is not covered by a tulip, like in the repainted original). Because the copy was made after the signature was forged, but before the original was massively repainted and altered, it seems very likely that the painter who copied the original could have been the latter's first conservator, who lined it as well and that the copy should be dated as well in mid-18th c. Who was this Italian painter and at the same time conservator and forger, is difficult to say. It seems less likely that he may be Cristoforo Munari, because as a disciple of Christian Berentz he would have seen an original signature of Christian Berentz, but mainly because Cristoforo Munari died already in 1720, a very short time after the original painting was made.

After the aged varnish was removed and, where it was necessary, also the previous retouches were removed from the painting, the stratigraphic gaps were puttied with a mixture of rabbit-skin glue and purified mountain chalk and afterwards their surface was polished. This step was followed by the chromatic integration of the puttied areas, in imitative style, with watercolours. Then a mixture of matte and shiny retouch varnish Regalrez 1094 was applied, after which was done a chromatic retouch in Maimeri Restauro varnish colours. Finally, the works were framed in new frames aesthetically appropriate for such early 18th c. still lifes with luxury items (Fig. 17, 18). For framing were used black-chromated Temart fix plates of appropriate size. The Temart fix plate is a device of high quality, created in 1982. It is made of hardened spring steel, which retains its strong spring force even after deformation. This characteristic distinguishes this fix plate from other plates used in framing, which are difficult to shape. It has two oval holes, which allow it to be mounted close to the artwork, without damaging the edge. Thus, the framing can easily be carried out according to the particular circumstances of a work of art.

When the pictures were taken to the Laboratory of Conservation, predictable interventions were expected, according to the needs of the extant kinds of degradations. The changes suffered over time by the paint layer revealed however an unknown history of the conservation works, even a significant change of the paintings' original aspect. Apart from the forged signature of Christian Berentz in *Still Life with Tankard*, made with upheld Arabic letters hidden in the carpet's pattern (which was made on the occasion of the paintings' lining in mid-18th c., but whose original meaning in late 19th c. was already lost and which therefore was considered only as an Oriental ornament), and given the short time which was available for the conservation of so much paintings in the museum's gallery in 1897, the reason for which drastic modifications of other elements of their original composition were desired would still remain a mystery, as the conservator Edmund Gerisch was praised by the museum's curator for his attitude towards repaints and the works were not so damaged, that such strong interventions would be justified.

(Cristina Fău, Celestina Albișor)

6. Conclusions.

The stylistic comparison of the two paintings with luxury items from the Brukenthal National Museum's collection attributed to Christian Berentz (as suggested by Federico Zeri and resulting from the researches of Valentin Mureșan) with other works by the same artist, but also with still lifes by Franz Werner von Tamm, Maximilian Pfeiler, Cristoforo Munari and Gabriele Salci, confirms the authorship of Christian Berentz and suggests that they should be dated during c. 1707-1717, even towards the last part of this period, during c. 1715-1717 perhaps. However, the painter's signature with Arabic letters turned upside down (still unknown until now on other works by him), hidden in the pattern of a Persian carpet recalling the so-called Isfahan type is forged, being added already in mid-18th c., when despite a still quite good condition of preservation of the paint layer the canvases of the paintings were lined and major repaints altered the original aspect of the two still lifes. Only afterwards they were exported to Vienna, wherefrom they were bought by Baron Samuel von Brukenthal. In 1897 and sometimes during 1965-1968 they were restored again, but only for smaller damages. The decision to keep the artist's forged signature was taken considering both a practice established already in 1897 for similar situations in paintings

from the museum's collection and the cultural, historical and documentary importance of this fraudulent intervention of good artistic quality,

which is perfectly concealed in the composition and is consonant with its theme.

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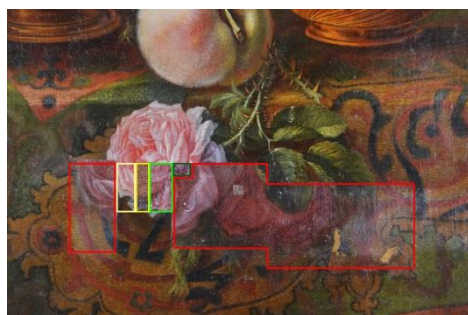
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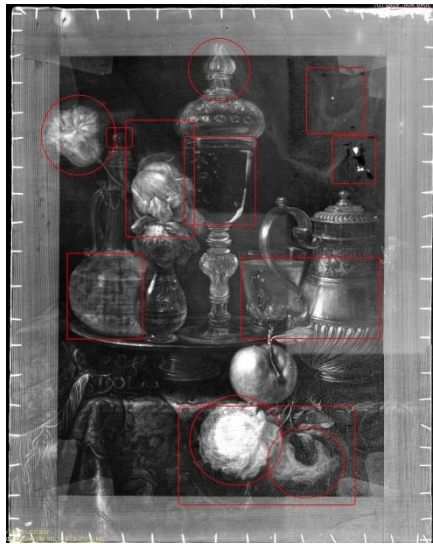
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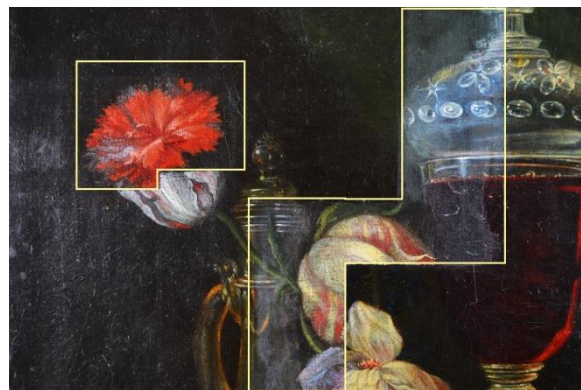
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COMPARATIVE STUDY OF THE TECHNOLOGICAL PROCESS OF CONSERVATION FOR TWO GÂRLA MARE CERAMIC PIECES

Simona Violeta GHEORGHE*

Abstract: *The paper presents the comparative study of the process of conservation of two ceramic pieces from the Gârla Mare-Cârna culture, from the Oltenia Craiova Museum collection, highlighting the reasons for which complementary conservation treatments were similarly chosen.*

Keywords *Gârla Mare ceramic, conservation.*

Rezumat: *Lucrarea prezintă studiul comparativ al procesului de restaurare și conservare a două piese ceramice din cultura Gârla Mare-Cârna, aparținând colecției Muzeului Olteniei Craiova, evidențiind motivele pentru care au fost alese în mod similar, tratamente complementare de restaurare.*

Cuvinte-cheie: *ceramică Gârla Mare, restaurare.*

The paper presents the comparative study of the process of restoration and conservation of two ceramic pieces from the Gârla Mare-Cârna culture (Fig. 1, Fig. 2). The pieces belong to the collection of archaeological ceramics of the Oltenia Museum, Craiova and were discovered in different campaigns, being dated to the Bronze Age.

The archaeological investigations concerning the Bronze Age in the area of the Middle and Lower Danube demonstrated the existence of a cultural complex characterized through a series of common elements that reveal the relationship among the different cultural manifestations. The main common element is the ceramics whose specific ornamentation consists in motifs inlaid with white pasta.

The most elaborate decoration are the spiral motives. Typical motifs include concentric circles, ray circles, excised triangles and rhombuses, S-shaped slashes, zigzag, spiral hooks, and the lesser spiral.

The name of the Gârla Mare culture comes from the name of the locality in Mehedinți County, where the first discoveries were made (Crăciunescu 2014, 251). The culture is noted by the incineration cemeteries found in Bulgaria, Serbia and Romania in the flood zone of the Danube. The necropolis was mostly located on sand dunes. Each grave contained an urn in which the incinerated remains of an individual were deposited. In or near the urn, vessels with liquids or food were deposited, considered necessary for the deceased in this

new phase of his existence.

Among the archaeological discoveries that are available in the actual stage of the researches, is evidenced the Gârla Mare type pottery that belongs to the wider area of the incrustated ceramics groups situated on one side and another on the middle and inferior course of Danube.

In Romania, the most important discoveries had been made in the area Ostrovu Corbului, Balta Verde, Gruia, Ostrovul Mare, Mehedinți County and in the south of Dolj County, around the pools from Ghidici, Cârna and Bistret.

The Museum of Oltenia has a rich and varied collection of ceramic pieces from the Gârla Mare culture, dated 1650-1250 BC. The collection is still a priority for restoration because of its poor conservation status. One of the reasons for the serious deterioration is the improper storage spaces from the years prior to the rehabilitation of the Museum of Oltenia buildings.

In the past, they suffered inadequate interventions, which further aggravated their poor conservation status (Koob 1998, 58), due to the faulty microclimate in the storage areas prior to the museum's rehabilitation.

The ceramic material is similar, handmade pottery, with a macroscopically observable porosity.

According to the physico-chemical analyses, the deposits of adhering salts on the ceramic surface were identified as carbonates.

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Addressing the conservation methodology equally took into account the ceramic material and the typology of conservation status degradation (Fabri 2004, 100).

The following common elements of the state of conservation stands out:

- has been inappropriate intervention on them in the past;
- they were covered with salt deposits, dirt, earth;
- many bonding areas have lost their alignment;
- some fragments were detached, others were unstable;
- the gypsum used for additions was cracked / broken / loose, often covering the ceramic surface;
- assembling was done without cleaning the ceramic paste;
- the old adhesive was very aged and, in all cases, exceeded the edges of the fragments, leaving the surface of the ceramic parts.

For both ceramic pots, the initial operation of the conservation technological process consisted of immersion in hot water for the breakdown in the component fragments.

This was followed by the cleaning of the fragments by soil and dust deposits, by the adherent deposits of carbonates, as well as by the adhesive and gypsum stains. Two complementary methods were used that led to the success of this operation without the aggression of the support material: pressure steam cleaning (Fig. 3) and ultrasonic cleaning (Fig. 4).

Pressure steam cleaning was performed with the VAPORJET 2000BT (from our laboratory) having the characteristics: 2000W heating power, 2 l capacity, 4.8 bar steam pressure, dimensions: 250x330xh380 mm.

The steam cleaning was alternated with a light mechanical cleaning, helping to remove the adhesive stains with the scalpel and soft brushes.

Pressure steam cleaning was followed by ultrasonic baths, in aqueous solution of Tween 20 neutral detergent (20%), the ultrasound frequency being 28-34 kHz. The treatment consisted of 4 rounds of 15 minutes each, at a temperature of 40 degrees Celsius. After each bath the fragments were mechanically cleaned with soft brushes.

In the case of several fragments that still had adherent carbonate points, piezoelectric cleaning with a frequency between 27-32 KHz was used (Pedeli 2007, 144).

The next step was washing the fragments in distilled water and drying them on filter paper, away from the direct heat source.

Considering the nature of the ceramic material of the Garla Mare culture, for the assembling of the parts was used the vinyl polyacetate emulsion with the following characteristics: Brookfield viscosity: 2,200 mPa, long working time, mild water cleaning.

The bonding was done on the subassemblies, following the exact alignment of the edges of the ceramic fragments.

The lacunae areas were filled with gypsum on wax support. The fillings were then finished with abrasive paper of different granulations and with a very fine abrasive cloth.

The similar type of the ceramic material as well as the common degradations that the pieces presented allowed to carry out the same technological process of conservation.

The conservation of these objects (Fig. 5, Fig. 6) brings back to the exhibition space of the Oltenia Museum the extremely varied repertoire of the Garla Mare culture ceramics, decorated with much skill by combining a relatively small number of ornamental motifs, in such a manner that there are no two identical pots.

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5. Vas Gârla Mare (A) după restaurare



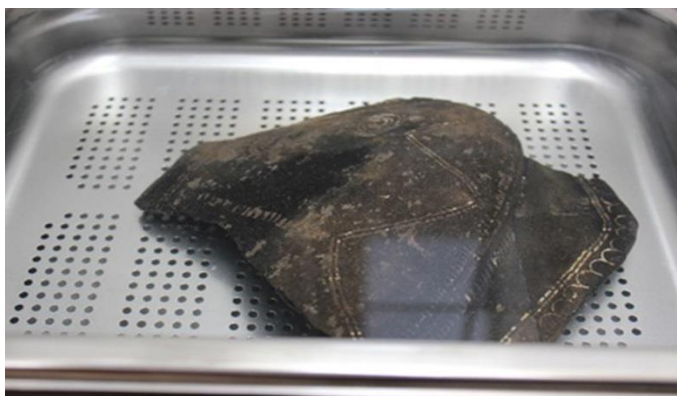
1. Gârla Mare pot (A) before conservation



2. Gârla Mare pot (B) before conservation



3. Pressure steam cleaning



4. Ultrasonic bath.



5. Gârla Mare pot (A) after conservation.



6. Gârla Mare pot (B) after conservation

ASPECTS OF THE VOTIVE IMAGE' STATE OF CONSERVATION IN THE GREEK-CATHOLIC CHURCH FROM TEIUȘ

Paul Victor LANGA*

Abstract: *This article presents the current state of preservation of the votive image of the Greek-Catholic Church from Teiuș. Following the fire of 2018, a series of degradations appeared that no longer allow easy observation of the image of donors, such as smoke, water leaks, but also interventions to renovate the base.*

Keywords: *state of conservation, degradations, votive image, Teiuș*

Rezumat: *În acest articol este prezentată starea actuală de conservare a tabloului votiv din Biserica Greco-Catolică din Teiuș. În urma incendiului din anul 2018 au apărut o serie de degradări ce nu mai permit observarea facilă a imaginii donatorilor precum afumarea picturii, scurgeri de apă, dar și intervenții de renovare a soclului.*

Cuvinte-cheie: *stare de conservare, degradări, imagine votivă, Teiuș.*

Like others types of painting, the mural painting is usually subjected to the degradation that leads to the aesthetic modification, deforming the message that is intended to be transmitted by it (Boldura 2013, 16).

By analyzing the mural assemblies of the Transylvanian stoned churches from the 14th to the 18th centuries we can make a generous list of the current degradations. First, the historical events in this space had serious consequences on some paintings through their subsequent painting and pickling (churches in the Hunedoara area). Another cause of degradation is the environment inside churches that influenced the preservation of the layer. Also, in some cases there have been repaintings over time (Streisângeorgiu, Hunedoara County). Another factor that greatly influences the painting is the human factor, its actions consisting on the one hand of acts of vandalism, occult practices or incisions, and on the other hand in the inappropriate maintenance of the place of worship (Boldura 2013, 17-18, 100-183).

The Greek-Catholic church from Teiuș, with the dedication "Entrance to the Church of the Virgin Mary", is a foundation of the noble Petru Racz I and his wife Zamfira, dating from the second half of the sixteenth century (Șematism 1932, 52-53), local legends based on the inscription of on the entrance frame that attributes the foundation of Michael Racz, one of the courtiers of Michael the Brave ("I Raț Michael, slave with the mercy of the God, I built in the name of the Lord God, the Lord

to forgive"¹). Considering the presence of the coat of arms belonging to Petru Racz, it is assumed that this construction would be subsequent to 1585, when Peter was ennobled (Rațiu 2012, 14-15). The clothing of the characters is specific to the nobles from the area of the Romanian Country, Zamfira wears her hair fastened in the back in a loop of hair according to the fashion of the time. Both have their heads uncovered. Regarding the painting of the faces, clear typological differences can be observed. They hold the model of the church in their hands, their faces facing the viewer. One can notice the wooden watchtower built at the beginning, later replaced by the current wall tower and short form, without the added space for the extension of the place of worship (Rațiu 2012, 27; Langa 2018, 120).

Like the other painting areas on the walls of the original foundry, the votive picture shows a series of degradations that have occurred over time due to the environment and the quality of some pigments used, but also because of a fire that took place in 2018 at an annex of the church, extended to the main body of the building in the roof area, which considerably affected the mural painting of the monument. The image of the founders, although preserved only in a proportion of about 90%

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¹ „Eu Raț Mihail cu mila lui Dumnezeu sluger, am zidit în numele Domnului Dumnezeu, Domnul să ierte”

of the original layer of painting, is partially legible being affected by smoke and water leaks. Another degradation can be seen in the upper right area where there are writings, without historical importance, extended also in the continuation of the wall. In the lower part, the area presents a fragmentation on the left side, and on the entire base a subsequent intervention with cement, also a panel is attached. In the upper part of the intervention we can see a wear caused possibly by the narrow space between the wall and the pew, the displace-

ment of the people close to it and its touch. Taking into account the traces of left-right movement on the surface of the votive picture, it is possible to suppose a removal of the layer of deposits on it after the painting has dried, which has affected some present details.

At the time of the investigation, the person in charge of the care of the place of worship stated that steps were being taken to restore the original painting ensemble of the monument, as after the fire no one has intervened on the painting.

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3. Detail of writing and subsequent intervention

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2. Detaliu ștergere și uzură a stratului de pictură
3. Detaliu scrijelire și intervenție de renovare



1. The votive image of Greek-Catholic Church from Teiuș



2. Detail of removal of the layer of deposits and painting layer wear



3. Detail of writing and subsequent intervention

RESTORATION INTERVENTIONS FOR WOODEN ICON "MADONNA WITH CHILD" ATTRIBUTED TO GHEORGHE, THE SON OF IACOV (1774)

Alexandra BALAN *
Mirel-Vasile BUCUR**

Abstract: *This paper presents the interventions made to restore this icon from the inventory of the new icon museum in Alba Iulia - Museikon. It places particular emphasis on the digital radiological analysis as a method of modern non-destructive investigation. After the restoration, the piece will be displayed by the holder in the permanent exhibition at the Museikon*

Keywords: *icon on wood panel, digital radiography, non-destructive analysis, restoration, color integration.*

Rezumat: *Lucrarea prezintă intervențiile executate pentru restaurarea acestei icoane din inventarul noului muzeu al icoanei din Alba Iulia - Museikon. Se pune un accent special pe analiza radiologică digitală ca alternativă de investigare modernă și non-distructivă. După resturare, piesa va fi etalată de deținător, în cadrul expoziției permanente de la Museikon.*

Cuvinte-cheie: *: icoană pictată pe lemn, radiografie digitală, starea de conservare, intervenții de restaurare, semnal radiografic, pigmenți.*

Preliminary

The icon that is the subject of this case study is part of the Museikon collection - the new icon museum in Alba Iulia - and appears in the inventory register at number 217 (Fig. 1-2). The icon is dated in 1774 and the researcher Ana Dumitran attributes to Gheorghe the painter, the son of Iacov.

The Icon is made on a support of softwood wood with knots, with size 62 x 40,5 cm. The panel has a small curvature and is reinforced with a single cross with blunt edges (Fig. 3).

Scientific analysis

It is necessary to understand the constituent materials and the state of conservation of the part, basic steps in determining the appropriate treatment. We carried out a series of investigations such as: visual investigation in direct and natural light through the magnifying glass and microscope, image captures with portable digital microscope, biological investigations, chemical investigations and digital radiography. Digital radiological image data obtained

and combined XRF revealed the presence of pigments such as lead white, red cinnabar, red lead, gold leaf. We used the modern method of radiography, the digital and, obviously, non-destructive method. Over time, these explorations have become a relatively common practice and appreciated for the information they reveal. Since 1977, there is a volume edited by Arturo Gilardoni and his team, in which the theoretical basis of the method and a series of concrete cases, devices dedicated to the investigation of heritage objects and the working methodology based on the investigated material are presented (Gilardoni et al. 1977). Our method is, in fact, the adjustment of the digitalized radiographical investigation of the human body for the study of icons on panel and glass. The case is part of a set of inquiries we make currently at the stage of establishment of the conservation status and the constituent materials of the artifacts to be restored. As mentioned in other articles, under collaboration agreements with Sibiu Pediatric Hospital, and in this case, we used SWISSRAY DDR Multisystem, year of manufac-

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ture 2000, average power (150 kV, 400 mA), with a maximum resolution of 5 megapixel camera, equipped with operating system SwissVision (Bucur, Sofariu 2008, p. 60; Bucur, 2009, p. 253-254).

Given the size of the whole area icon radiography was performed by two exposures. The two images obtained are further processed in order to obtain the overall picture (Fig. 4). Tonal range from white to black is complex, highlighting information about the nature of the pigments used. Thus, we consider that the face and hands contain lead white characters because of their radiographic signal light, open. Since Virgin Mary's garment gave a quite bright radiographic signal, we supposed that it contained red lead. Gaps paint layers are visible in the radiograph as irregular areas with dark grays signal range. The grays intensity scale is different depending on depth worst losses with a dark signal. In these cases, the electromagnetic radiation passing through fewer layers has a lower attenuation and the resulting dark tones. In the analysis 31/2019 issued by Livia Bucșa stating that the attack was caused by *Anobium punctatum* and the wood used in making the panel and sleepers is softwood - *Abies alba*. Paint layers present aging cracks, separation and depth gaps in different areas, especially in the central and bottom of the icon. Also, in the lower part of the icon, a severe wear of the color layer is visible. We can see the carbonization caused by the approach of a flame (candle, lamp) in the upper right corner. Varnish old is yellow and brown. Surface dirt, sticky and clogged is present over the entire surface, making it difficult to read clearly its composition.

No previous restoration interventions were highlighted but we have to mention a previous intervention: a label application on the back.

Restoration

Removing the label was achieved by hot water compresses, the excess adhesive was removed mechanically with a scalpel (Fig. 6-7). Similar was removed and the label on the verso. The strengthening of the painting layers was done in several stages. First, Japanese paper was applied to the entire surface by applying an aqueous solution (3%), of hot fish glue, by brush. After 24 hours, a new layer of hot glue (4% aqueous solution) was applied with a brush. After a period of about 2

hours, hot pressing was applied with the alternating electronic spatula with cold pressing.

For the mechanical reinforcement at the lower edge, where a fairly large crack and several small cracks were visible, a rod made of wood of the same essence has been fitted. This rod has rounded ends to prevent creating new tensions in the panel, tensions which usually produces new cracks. Fitting was done with fish glue (15%) by maintaining pressure for 24 hours (Fig. 11-12). Excess timber was removed with a chisel edge to the panel. Small differences were clogged with fine sawdust mixture of fish glue.

Gaps in the paint layers were grouted with a mixture of chalk mountain and fish glue. Grouted areas were finished with cork and egg yolk emulsion (Fig.13). Cleaning the painting layer was performed according to the tests with ammonia water, artificial saliva, mixture of alcohol, water, ammonia, purified turpentine oil. The verso of the icon was cleaned with ammonia water, keeping a small witness area. Chromatic integration was performed with watercolor in the pointillist technique. The applied varnish is a mixture of natural resin (dammar) solubilized in turpentine essence (8% concentration to avoid high gloss) applied by the brush.

Recommendations and conclusions

Because the support exerts a capital influence in preservation paint layer, it should be protected primarily by thermal variations and relative humidity. Very hygroscopic, rapidly absorbs and wood moisture, to achieve a balance with the environment. The relative humidity should hold it's far as possible between 50 and 65% without exceeding the upper limit. Recommendations are almost universal and most all states have legislation and concerns to publicize and enforce such rules that ensure preservation of heritage.

Temperature is closely related to relative humidity. An optimum temperature is situated between 18-20° C. The maximum illumination must be between 150 and 180 lx.

If at first, I saw a composition that stands out quite a bit, with the weak support, I came to the end, to an almost miraculous result to a healed object, with an improved resistance that can be presented in an exhibition and I rediscovered the hidden image or old layers of dirt and varnish.

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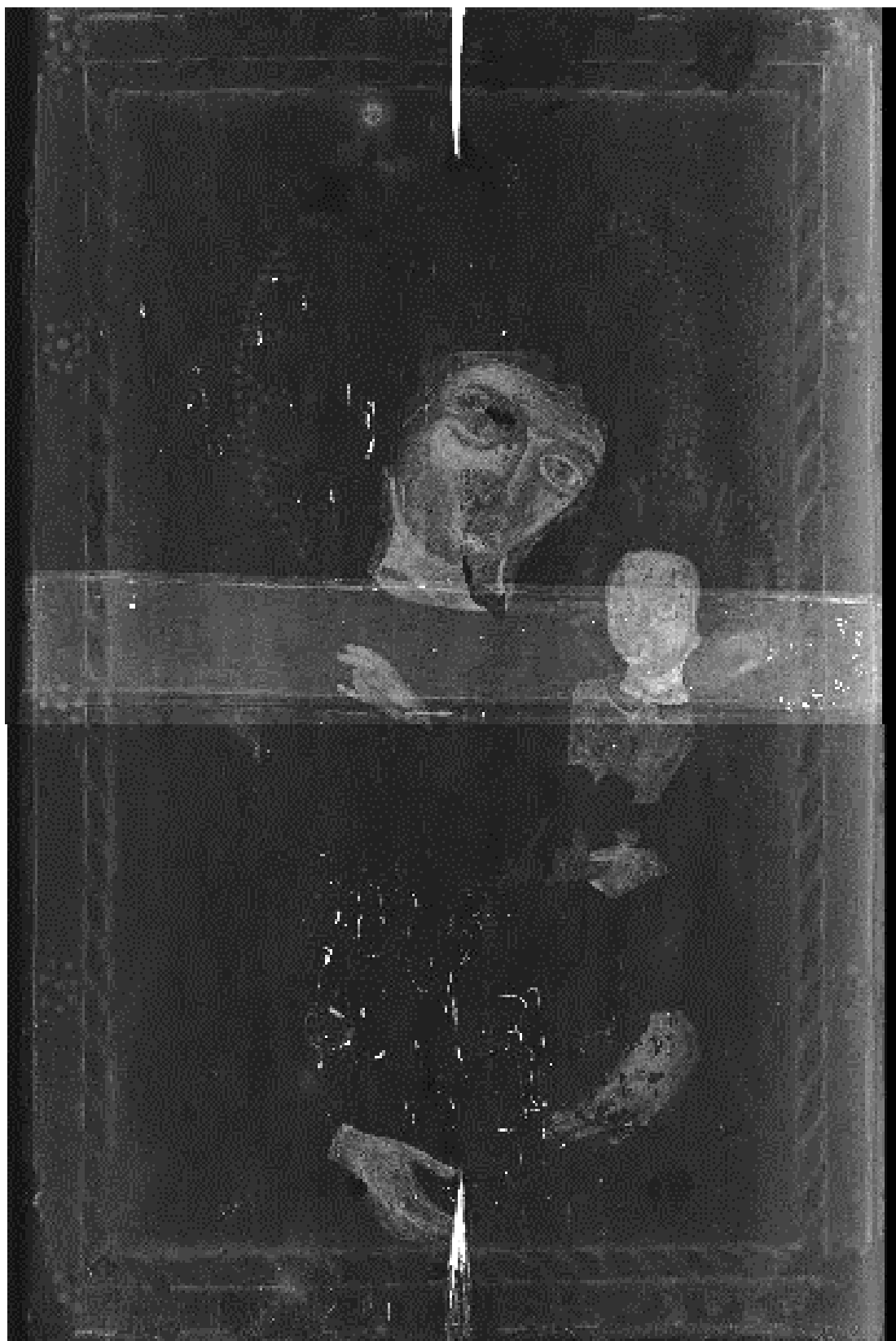
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2. The back of the icon before restoration



3. Detail before restoration.



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5. Detail before restoration



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6-7. Detail. Consolidation of the paint layers



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8-9. Wand embedding on the icon



10. Grouting lacunas



11. Detail during chromatic integration



12. Detail during chromatic integration



13. The icon after restoration

MUZEUL NAȚIONAL BRUKENTHAL

PUBLICAȚIILE PERIODICE APĂRUTE DE-A LUNGUL TIMPULUI (INCLUSIV PRECURSORII)

CRONOLOGIE	ISTORIE, ARHEOLOGIE	ARTA PLASTICĂ	ȘTIINȚELE NATURII	RESTAURARE	ETNOGRAFIE
Ante 1950		Mitteilungen aus dem Baron von Brukentalischen Museum 1931-1937 - Neue Folge I-VII 1941 - Neue Folge I-VIII 1944 - Neue Folge IX-X 1946-1947 - Neue Folge XI-XII	Verhandlungen und Mitteilungen der siebenbürgischen Vereins für Naturwiessenschaften zu Hermannstadt 1849-1945 95 de numere		
1959-1989	Studii și comunicări Muzeul Brukenthal, Sibiu 1956, nr. 1 1965, nr. 12 1967, nr. 13 Volum omagial, Anuarul Muzeului Brukenthal, 1817-1967 1969, nr. 14 1973, nr. 18 1975, nr. 19 1977, nr. 20 1981, nr. 21	Studii și comunicări Muzeul Brukenthal, Sibiu 1956, nr. 4, 5 1956, nr. 7 Istoria culturii 1978, nr. 1 1979, nr. 2	Studii și comunicări Muzeul Brukenthal, Sibiu 1958, nr. 10, 11 1970, nr. 15 1971, nr. 16 1972, nr. 17 1973, nr. 18 1975, nr. 19 1976, nr. 20 1977, nr. 21 1978, nr. 22 1979, nr. 23 1980, nr. 24 + Supliment 1983, nr. 25 + Supliment 1984, nr. 26 1998, nr. 27 2003, nr. 28 2004, nr 29 + Supliment		Studii și comunicări Muzeul Brukenthal, Sibiu 1956, nr. 2, 3, 6 1958, nr. 8, 9 Cibinium, Studii și materiale privind Muzeul tehnicii populare din Dumbrava Sibiului, Sibiu 1966, vol I 1967/68, vol II 1969/73, vol III 1974/78, vol IV 1979/83, vol V
După 1989	2006, I, 1 2007, II, 1 2008, III, 1 2009, IV, 1 2010, V, 1 2011, VI, 1 2012, VII, 1 2013, VIII, 1 2014, IX, 1 2015, X, 1 2016, XI, 1 2017, XII, 1 2018, XIII, 1	2006, I, 2 2007, II, 2 2008, III, 2 2009, IV, 2 2010, V, 2 2011, VI, 2 2012, VII, 2 2013, VIII, 2 2014, IX, 2 2015, X, 2 2016, XI, 2 2017, XII, 2 2018, XIII, 2	2006, I, 3 2007, II, 3 2008, III, 3 2009, IV, 3 2010, V, 3 2011, VI, 3 2012, VII, 3 2013, VIII, 3 2014, IX, 3 2015, X, 3 2016, XI, 3 2017, XII, 3 2018, XIII, 3	2010, V, 4 2011, VI, 4 2012, VII, 4 2013, VIII, 4 2014, IX, 4 2015, X, 4 2016, XI, 4 2017, XII, 4 2018, XIII, 4	