

## THE RESTORATION CAMP "13 for ASTRA" – THE EXPERIENCE OF VOLUNTEERING

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### **Abstract:**

*This paper refers to the second edition (2014) of the summer restoration camp organized by our faculty in cooperation with the ASTRA Museum from Sibiu, as a voluntary action for cultural heritage conservation. A group of 13 (thirteen) volunteers, with different levels of experience and expertise in the field of conservation, from undergraduate students to master and PhD students, alongside researchers and teachers, formed an united and dedicated team involved in this action. During a period of two weeks, this team has assumed the challenge of conserving and restoring three very different objects from the collections of ASTRA Museum: a chair from Săpânța - Maramureș, a long bench with drawers from Scoreiu Porumbacu and a cart from Brateiu - Sibiu County. Within this paper the three objects are briefly presented, alongside with some general aspects related to their conservation, while a more detailed description and illustration of the initial state and the conservation – restoration schedule is presented for the chair from Săpânța. A sequence of operations, including dry and wet cleaning, active conservation by biocide treatments and consolidation of wood material by impregnation with Paraloid B72, structural consolidation of the object, replacement of missing parts, chromatic integration and finishing with beeswax, were necessary for this purpose. An "exhibition" has been set in the working area where the reception of the restored objects was made by the museum's curators. The action as a whole represented a valuable professional and human experience, an opportunity to get new skills and strengthen cooperation with recognised specialists, while bringing a contribution to the necessary effort for cultural heritage conservation.*

**Key words:** conservation – restoration; cultural heritage; volunteering; traditional wood chair.

### **INTRODUCTION**

Conservation of cultural heritage in its material and spiritual forms is of primordial importance in preserving cultural identity. This is a moral duty at national and international level, to ensure the access to culture as a basic human right (Oprîș 2013, Pendlebury *et al.* 2004). However, this should not be the concern of museums and other cultural institutions only. Consciousness, education, formation of specialists and raising public awareness and interest to this matter are necessary steps for a more successful approach. With this respect, education institutions, especially universities, should be actively involved not only in the formation of specialists, but also in the formation of an educated attitude and in taking active actions for cultural heritage conservation.

Volunteering for conservation of cultural heritage is a necessary approach, developed at international level. The *World Heritage Volunteers* (WHV) initiative was launched under UNESCO in 2008 to mobilize and involve young people and youth organizations in world heritage preservation and promotion (<http://whc.unesco.org/en/whvolunteers/>). After six years of fruitful experience, about 2500 volunteers participated in 165 action camps, located in 36 countries around the world. *Heritage without borders* is another international association (<http://heritagewithoutborders.org/about-us/our-volunteers/>) relying on the support of its volunteers to undertake projects.

The Faculty of Wood Engineering of the *Transilvania* University of Brașov has assumed such a mission, voluntary actions of cultural heritage conservation, public dissemination of these actions and valorisation of restored artefacts by restoration exhibitions, being proofs for this approach (Timar *et al.* 2013a, Timar *et al.* 2013b, Beldean *et al.* 2014, Timar *et al.* 2014).

This paper refers to the second edition (2014) of the summer restoration camp organized by our faculty in cooperation with the ASTRA Museum from Sibiu, as a voluntary action for cultural heritage

conservation. A group of 13 (thirteen) volunteers, with different levels of experience and expertise in the field of conservation, comprising undergraduate students (4), master students (5), PhD students (1), researchers (1) and teachers (2), formed an united and dedicated team involved in this action, accordingly named "13 for ASTRA". During a period of two weeks (7-20 July 2014) this team has assumed the challenge of conserving and restoring a group of 3 very different objects from the collections of ASTRA Museum: a chair from Săpânța - Maramureș, a long bench with drawers from Scoreiu Porumbacu (Sibiu County) and a one horse cart from Brateiu (Sibiu County).

Within this paper the three objects are briefly presented, alongside with some general aspects related to their conservation, while a more detailed description and illustration of the initial state and the conservation –restoration schedule is presented only for one of those, namely the chair from Săpânța.

### GENERAL PRESENTATION OF THE RESTORED OBJECTS AND CONSERVATION ASPECTS

The three objects restored within this action were: a chair from Săpânța village – Maramureș county (inventory number 16162), a long bench with drawers (inventory number 16684) and a one horse cart from Brateiu village - Sibiu county (inventory number 21128 AL).



**Fig. 1.**

**A "first contact" image of the objects undertaken for restoration: a. - the chair from Săpânța and the long bench in the Brateiu cart; b. – representative details of wood, metal and paint degradation and biological infestation for the cart; c. – front view of the long bench; d. - the chair from Săpânța and the three volunteers mainly implied in its conservation-restoration.**

A first image of the three objects undertaken for investigation, conservation and restoration is presented in Fig. 1a. They are all artisanal objects produced in rural workshops, very likely using local resources and, therefore, examples of traditional approach of sustainability, arts and crafts.

The oldest and most interesting object was the cart from Brateiu, dating from the end of XIX<sup>th</sup> century, as resulting from the inscription „*Oberst Josef Cordier von Löwenhaupt Marz 1892 - Februar 1896*”, present on a metallic plate. This is a light, quite elegant urban cart, made from wood in combination with metal, pulled by a single horse and used for transporting supplies, goods or people. The painted finish, imitating robinia wood texture, alongside the fine metal work, seem to be specific to the rural areas nearby Sibiu and indicate a high level of art and craft. Considering its age, the carriage was in a fairly good conservation state, its integrity and functionality being not significantly affected (Fig. 1a), though the whole object was extremely dirty, there were some areas of biologically degraded frail wood and the painted original finish was flaking or totally missing on some areas, while the metal elements were rusted and dirty, as could be observed in the details from Fig. 1b,c. Minimum invasive active conservation and restoration work was carried-out to highlight the beauty of this artefact and ensure its preservation, as detailed in a previous paper of the authors (Beldean *et al.* 2014).

The long bench (Fig. 1c), dating from the first half of XX<sup>th</sup> century, was made of fir wood, finished opaque in a dark brown colour. It has to be remarked the elegant curved shape of the upper parts (armrests) of the two lateral sides, the frame with two panels structure of the backrest and a matching structure of the front part, where the place of panels is taken by two drawers, placed under the seat. The wooden elements were assembled by gluing and with wooden nails or metal nails. The finishing layer was thick and rough, dirty and sticky, with clogged dirt and depots, while different stains were present on the inner, unfinished parts. After cleaning, a two colour finish, imitating a wood structure pattern, was visible on the faces of the two drawers. The back side of the drawers had an opaque ochre finish, totally different from the rest of the object and deeply crackled, suggesting that these elements were made from wood recovered from another older artefact. Previous, inappropriate and unsuccessful interventions of drawers' consolidation, employing a PVAc glue were obvious. More details on the initial conservation state, investigations and the conservation-restoration procedure for this artefact will be the subject of a following paper.

The third object was a chair from Săpânța village in Maramureș county, a region mostly representative for wood civilization in Romania, where wood processing has a long tradition and cumulates at a high level art, crafts and skills with symbols and a real philosophy of life and death (<http://www.visitmaramures.ro/downloads/calendarEN.pdf>, Nistor 2007, Patrascu 2008). The wooden churches, many of them listed under the UNESCO cultural heritage (<http://whc.unesco.org/en/list/904>), the monumental wooden gates richly decorated by carving, as well as the “Happy Cemetery” from Săpânța are well known arguments (Oberländer-Târnoveanu and Duțu Ed. 2009). However, many other wooden artefacts, including artisanal furniture items (Ciocan *et al.* 2013), such as the chair presented as case study in this paper, are proofs for this long lasting and continuous tradition of wood processing, representing valuable cultural heritage.

## **CASE STUDY - THE CHAIR FROM SĂPÂNȚA**

### **Presentation of the object and its initial conservation state**

The chair, dating most likely from the first half of 20<sup>th</sup> Century, is manufactured as fix construction and is composed by the following parts: legged frame comprising three rails tenon-groove joined with the four prismatic legs; trapezoidal seat made of three wooden strips nailed to the legged frame and two side stretchers; the curved chair back is composed by an upper back rail, an intermediary back rail and a lower back rail connected with the back leg by means of tenon-groove joints, interconnected with decorative fret-sawed elements and carved with geometric motifs.

The initial conservation state of the chair, illustrated in Fig. 2, could be resumed as quite poor. The structure was obviously unstable (Fig. 2a), with loose or broken joints (Fig. 2b,e) and deformed elements, so that the whole object was not able to stand in a right position. Areas of frail degraded wood, present especially at the bottom part of the legs, associated with functional erosion of the wooden material contributed to this (Fig. 2c). There were clear evidences of previous (non-documented) interventions of structural consolidation of joints, replacing of some missing elements (decorative elements from the backrest) and parts of frail, degraded wood (bottom part of the front and back left legs) (Fig. 2d), but these were obviously not professional and did not help the conservation of the object. The holed front rail under the seat, the broken joint between this and the front leg (Fig. 2b), evidence of residues of modern adhesive (Fig. 2f), an extra tenon present lower on this leg without being involved in any joint (Fig. 2d), may even indicate a past reconstitution from elements originating from two different chairs. The seat made of three planks glued together was broken and fixed with metallic nails (Fig. 2h), though some old wooden nails or corresponding holes were present. The whole surface was dusty and dirty (Fig. 2b,g), with different stains and depots, partially hiding initially the engraved geometrical decorations (Fig. 2i) of the backrest elements.



**Fig. 2.**

**Initial conservation state for the Săpânda chair: a. - general view; b. - structural instability - broken joint between front rail and left leg; c. - frail, degraded wood and erosion of bottom parts of legs; d. - view from the bottom side showing deformed structure and previous interventions; e. - detail of structural damage and insects attack; f. - evidence of inappropriate previous interventions of structural consolidation with modern adhesive; g. - initial aspect of surfaces with dirt, stains, evidence of insects attack and nails holes; h. - detail of seat degradation; i. - details of wood processing and decoration and evidence of replacement of some missing ornaments in a previous intervention.**

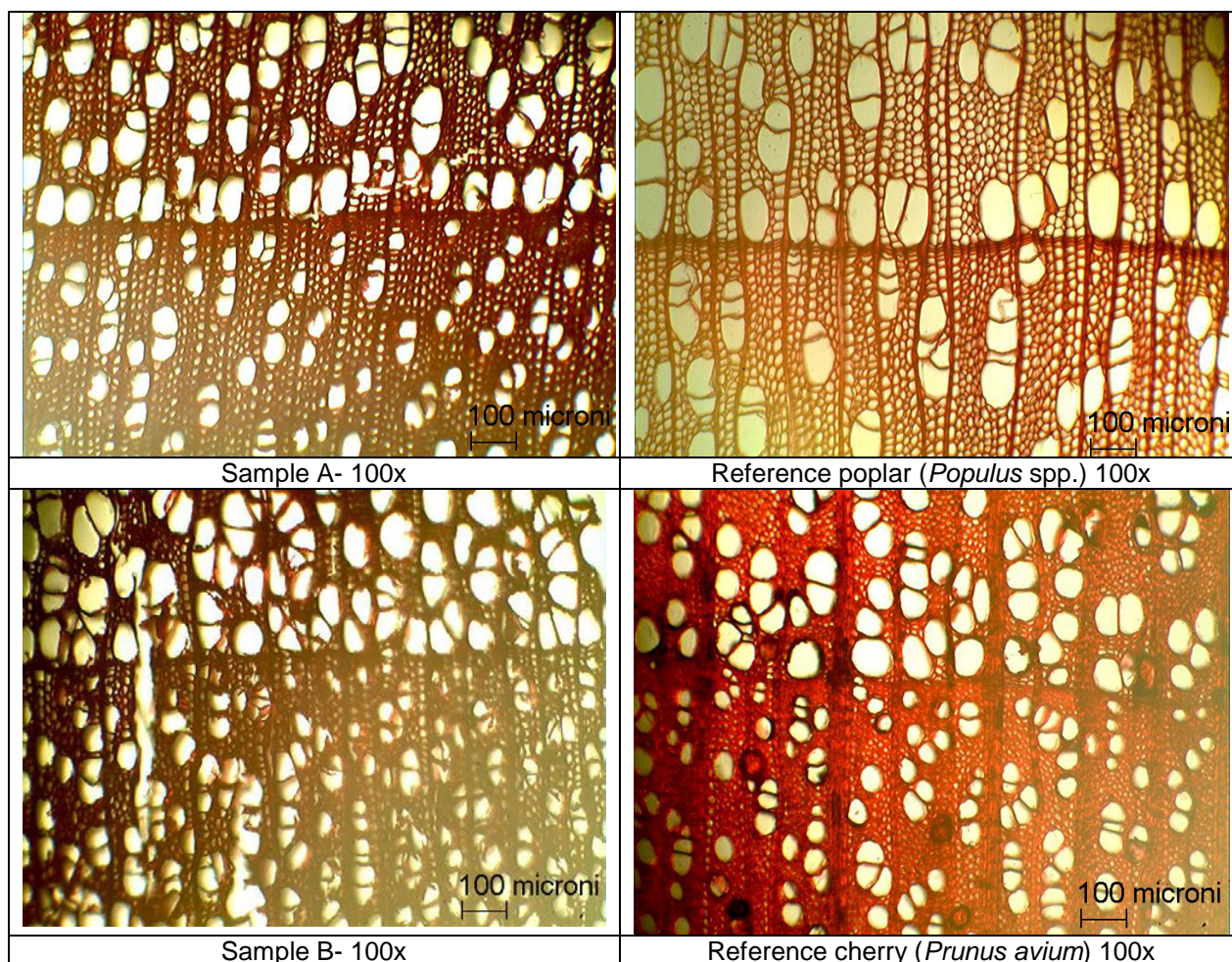
### **Investigations and conservation-restoration**

Prior any interventions the chair was thoroughly examined and pictures were taken to document its initial conservation state and the obvious previous interventions, made very likely prior the acquisition of the chair by the ASTRA museum in Sibiu (1999), as these were not mentioned in the available conservation record. After an initial dry cleaning with soft bushes for dust removing, tests were performed to establish the

best option for wet cleaning, in order to remove stains and clogged dirt. A solution made from neutral detergent diluted in water with an addition of ethyl alcohol and a few drops of ammonia was finally employed.

Though it was documented in the museum records that the chair was made of fir wood, a thorough macroscopic examination of cleaned surfaces revealed beech as wood species, obvious on the original seat, upper backrest rail and also on the previously replaced ornaments and completions on the left legs. However, more wood species could be observed after cleaning and careful sanding of unfinished surfaces, especially joining areas, accessible after dismantling. Therefore, two small samples were extracted for microscopic investigation in order to complete and correct the present museum's records referring to this object.

Sample coded A originated from the broken tenon of the middle rail of the backrest, while sample coded B was extracted from a small original decorative element between the middle and lower rails of the backrest. These samples were prepared as thin transparent micro-slides for microscopic investigation, by sectioning with microtome after previous plasticising by boiling in water. The thin slices were stained with safranin to improve contrast and temporarily mounted with water for examination in transmitted light under a Biostar optical microscope fitted with image capturing system (Gurău *et al.* 2013). The micro images of the samples were compared with images of reference samples from the laboratory collection, also available as an electronic catalogue (Timar 2009) and are presented in Fig. 3.



**Fig. 3.**

**Microscopic aspect of transverse sections for samples A (tenon of the middle backrest rail) and B (decorative element) from the chair in comparison with reference samples of poplar and cherry wood.**

The microscopic investigation of sample A revealed a hardwood species with diffuse porous structure, with pores disposed in lines of two up to four, uniseriate rays following the vessels contour, indicating poplar as a possible match. Sample B presents the structure of semi-ring porous species, with vessels grouped following a pattern similar to cherry. Thickenings and deposits are visible in vessels from latewood. This structure may indicate cherry (or a related fruiting tree wood species) as a possible match, though the

investigated sample was more porous than the reference and with predominantly narrow rays. Thus more hardwood species were included in this traditionally manufactured chair.



**Fig. 4.**

**Aspects of chair conservation and restoration: a. – elements after dismantling; b. - gluing of cracks and ruptures; c. - injecting of insecticide and aspect of the legs consolidated with Paraloid B72; d. - gluing of the seat elements with horizontal and vertical pressing; e. - adjustment of joining area of the front rail; f. - new ornaments and original model; g. - aspect during assembling; h. - final aspect of the fully restored and conserved chair.**

The conservation - restoration concept took into consideration the preservation of authenticity, while ensuring active conservation of frail material and the structural consolidation and stability of the chair, maintaining all the original elements. At the same time, parts of object's history, such as previous completion of bottom parts of the left legs, the replaced decorative elements of the backrest and the holed front rail with

a rather strange curved shape were preserved. However, inappropriate interventions of joints consolidation with nails, modern adhesive, as well as broken or inadequate joining elements or intentions of adding new joining elements were all reconsidered and amended. To make possible all these interventions it was decided to dismantle the whole object into elements after their codification (Fig. 4a).

The following operations were: thorough, repeated wet cleaning until complete removal of dirt and stains, curative treatment with insecticide solution Per-Xil 10 applied by repeated injecting into the galleries and consolidation of the degraded frail wood areas with solution of Paraloid B72 (concentrations 5 and 7% in ethyl acetate). This was applied by injecting in all the affected areas, excepting the bottom parts of the legs, which were treated by immersion for a better impregnation (Fig. 4c). The surfaces were then gently sanded with sanding paper of grit size 240-280 for the finished areas and 100-150 for the joining elements. Any remaining residues of old adhesive were further cleaned by moistening and scrapping away and then all the areas (cracks, broken parts, joining elements) needing further gluing were degreased with technical ethyl alcohol. Gluing of cracks, ruptures (Fig. 4b,d) and completion/ replacement of broken/severely degraded joining elements was done with animal glue (skin glue 30%) applied as warm solution on both interfaces. Attention was given to an appropriate "pressing" of elements to ensure adequate contact until adhesive film formation (min 8-12h). Some elements, such as the front holed rail under the seat, needed some adjustments in the joining area (Fig. 4e) in order to ensure a more stable and straight structure (joints at about 90°). Missing ornaments were manufactured according to existing models (Fig. 4f) and chromatically integrated. The elements were then joined together: first into subassemblies (back legs with the rails forming the backrest, front legs with the interconnecting rail) and finally the whole chair was assembled by gluing with animal glue. The seat was fixed with glued wooden nails as originally. Remaining nails holes and other local defects were covered with putty made of animal glue, wood flour and brown pigment. Finally, colour reintegration was done with a brown stain in white spirit and the whole object was finished with beeswax in white spirit (concentration 20%), applied by brushing. After 24h the surface was polished with a cotton cloth to get a satin gloss.

#### **OUTCOMES OF THE RESTORATION CAMP**

The investigation, conservation and restoration of the three objects within a two weeks camp were a real challenge for the volunteer restorers. They had to work together, to learn from the specialist restorers and conservators of the museum, to improve their general knowledge on wooden cultural heritage, traditional wood processing and decoration techniques as well as their practical restoration skills. This was possible by a common effort of a dedicated team, so that this camp was a real unconventional "team building". The successful accomplishment of the undertaken challenge was a reason of satisfaction and joy, a moment to celebrate together with the museum's specialists at the end of the camp (Fig. 5). With this occasion an "exhibition" has been set in the working area where the reception of the restored objects was made by the museum's curators. Press was present and the event was disseminated by media.



**Fig. 5.**

***The end of the camp: volunteers and specialised personnel from ASTRA Museum enjoying together the successful accomplishment of the undertaken restoration challenge.***

#### **CONCLUSIONS**

Volunteering is both a professional and human valuable experience. The restoration camp "13 for ASTRA" is a proof for this statement. Following a sustained and dedicated effort, three objects from the collections of CNM ASTRA were successfully conserved and restored by a group of thirteen volunteers. All the work has been done under the supervision and in close cooperation with the specialists of ASTRA Centrum for Cultural Heritage, so that to ensure both professional interventions of high quality, in accordance to the international guides for good practice, and an useful professional experience, including skills improvement for the volunteers.

This restoration camp followed the successful first edition, "11 for ASTRA" in 2013, when a group of 11 volunteers restored 10 artefacts, representing furniture and traditional household objects for two newly transferred monuments: Dragu – Brad and Sărățeni, which are currently open to the public in the open air museum. Thus, several wooden objects from the valuable collections of CNM ASTRA were conserved and restored with the contribution of our faculty.

It can be said that a tradition has been started and it is in our intention of continuing it, in the benefit of cultural heritage conservation and formation of specialized personnel with adequate knowledge, problem understanding and practical skills. Moreover, acting as a volunteer for a cause you believe in, being part of a team, thinking and acting together for a common goal, making it happen, sharing the effort, thoughts, concerns, to finally enjoy together the success, are all parts of a worthy experience.

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