

Overpaint Removal from Polychrome Wood Artwork: Lithuanian Practice in the European Context

Aušrinė Dambrauskaitė

Stichting Restauratie Atelier Limburg (SRAL)

Avenue Céramique 224 6221KX Maastricht, Netherlands

ausrinedam@gmail.com

——— This paper focuses on alternative options regarding the often highly time-consuming treatments to overpaint removal from wooden polychrome objects used in Lithuanian conservation practice. It aims to highlight the variety of approaches used throughout the European region. Based on the case study analysis, the four types of approaches that have been identified throughout the European region are mechanical, solvent, biological, and physical. The four methods found in Lithuanian conservation practice are mechanical ablation with a scalpel, organic solvent-soaked compress action followed by scalpel ablation, organic solvent-soaked swab action, and application of commercial paint strippers (commercial organogels). Five more methods that are used abroad employ self-modelled organogels, hydrogels, enzymes, heat, and laser radiation. The further analysis helped determine twelve removal systems based on the methods mentioned above. These are illustrated in the flowchart, providing information on each process step by step, which can serve as an aid when designing a case-specific approach. Subsequently, the author of this paper presents an application of a diversified removal system regarding multiple campaigns of overpainting on a wooden polychrome reliquary.

Keywords: polychrome wood, overpaint removal, methods, conservation.

Introduction

The conservator's unique role is to contribute knowledge of what is technically most feasible for the expectations of the results. Thus, it is crucial to maintain knowledge about the object's condition, its constitution, and the range of applicable procedures. When dealing with overpainted objects, a thorough initial investigation of polychromy serves as a starting point; the later phase calls for consideration to which campaigns of over-painting should be removed and whether the layers should be removed at all. Discussions regarding these aspects can be found in Lithuanian¹ and foreign² publications.

1 Laima Kruopaitė, “Medinių skulptūrų bei jų puošybos pokyčiai. Dviejų polichromuotų skulptūrų tyrimai ir restauravimas” [Wooden Sculptures and Their Decoration Alterations. Research and Restoration of Two Polychrome Sculptures], in *Kultūros paminklai*, nr. 10, (2003): 186–194; “Medinių polichromuotų skulptūrų pažeidimai ir restauravimas” [Damages to Wooden Polychrome Sculptures and Its Restoration Approaches], in *Muziejinių eksponatų priežiūra. II dalis. Meno kūrinių restauravimo etiniai ir estetiniai principai*, ed. Jūratė Senvaitienė (Lietuvos muziejų asociacija, 2009), 171–183; Povilas Kuodis, “Dviejų skulptūrų iš Skarulių bažnyčios ansamblio tyrimai ir konservavimas” [Analysis and Conservation of Two Sculptures From the Church Ensemble in Skaruliai], in *LDM metraštis*, nr. 8, (2006): 240–244; “Skulptūros “Sopulingoji Dievo Motina” tyrimai ir restauravimas” [Analysis and Restoration of a Sculpture Our Lady of Sorrows], in *Kultūros paminklai*, nr. 20, (2016): 210–211; Greta Žičkuvienė, “Atrastos ir restauruotos evangelistų skulptūros” [Found and Restored Sculptures of Evangelists], in *LDM Metraštis*, nr. 19, (2017): 147–154; Jurga Bagdzevičienė et al., “Vilniaus Bernardinų bažnyčios Sokalio Dievo Motinos altoriaus technologiniai tyrimai ir restauravimo sprendiniai” [The Altar of Our Lady of Sokal at the Vilnius Bernardine Church: Technological Analysis and Conservation Solutions], in *Acta Academiae Artium Vilnensis 92–93: Restauravimo laboratorija*, ed. Dalia Klajumienė (Vilnius: Vilniaus dailės akademijos leidykla, 2019), 242–268; Aušrinė Dambrauskaitė, “Medinių paveldo objektų polichromija, jų užtapymų/ uždažymų priežastys ir stratigrafinė analizė: reikšmė sprendžiant sluoksnių šalinimo klausimus” [Wooden Polychrome Artwork. Causes of Overpaint and Stratigraphic Analysis Significance Regarding the Overpaint Removal Decision-Making], in *Kultūros paminklai*, nr. 26, (2022): 144–159.

2 René Hoppenbrouwers et al., “A matter of scale? From sculpture to interior: the conservation of polychrome surfaces”, in *ICOM Committee for Conservation 14th Triennial Meeting The Hague 12–16 September 2005*, (James & James/Earthscan, 2005), 841–846; Berta M. Alcaide et al., “A case study on polychromed alabaster: The Virgin of the Castle of Cullera”, in *Polychrome Sculpture: Artistic Tradition and Construction Techniques, Proceedings ICOM-CC Interim Meeting*, ed. Kate Seymour (Glasgow 13–14 April 2012, ICOM-CC), 137–143; Emmanuelle Mercier et al., “Study and treatment of a unique example of partial polychromy in the Low Countries: The altarpiece from the Church of Saint Denis in Liège”, in *ICOM-CC 17th Triennial Conference Preprints*, ed. J. Bridgland (Melbourne, 15–19 September 2014, Paris: International Council of Museums); Johannes Taubert, “On the Restoration of Sculptures”, in *Polychrome Sculpture: Meaning, Form, Conservation*, ed. Michele D. Marincola (Los Angeles: Getty Conservation Institute, 2015), 138–146; Aurelia Rampon and Fiorella Soffini, “Scultore di area veneto-prealpina Crocefisso ultimo quarto del XIII secolo (Cristo); primi decenni del XIV secolo (croce)”, in *Restituzioni. Tesori d'arte restaurati 17* (April – July 2016), 135–141; Emmanuelle Mercier, “Brussels–Copenhagen (1967–2017): A story of the history of polychrome sculpture”, in *ICOM-CC 18th Triennial Conference Preprints*, ed. J. Bridgland (Copenhagen, 4–8 September 2017, Paris: International Council of Museums); Michele D. Marincola and Lucretia Kargère, *The Conservation of Medieval Polychrome Wood Sculpture: History, Theory, Practice* (Getty Publications, Imprint: Getty Conservation Institute, 2020), 41–63, 162–169.

The actual process of the overpaint removal itself depends on the feasibility of the procedures and the safety of the removal operation “for both the object and the conservator”³; therefore, a variety of options is necessary to justify the feasibility factor. However, the empirical evidence in 2021 suggested a larger number of approaches to overpaint removal from polychrome wood objects⁴ within the conservation field abroad than the number of methods used in Lithuanian museum practice. Moreover, Lithuanian specialists expressed the need for less time-consuming methods, which encouraged the author of this paper to aim to identify the spectrum of overpaint removal methods used by specialists in other European regions. The analysis was based on the hypothesis that awareness of the alternative approaches to overpaint removal could play a role when defining more feasible, safer, and less time-consuming operations in Lithuanian conservation practice. The objectives of this research were as follows: to collect accessible data about the removal approaches in Lithuania and other countries in Europe within the past 20-year period, to compare the findings, and to assess the feasibility of alternative methods regarding an overpainted eighteenth-century wooden polychrome reliquary.

The initial study of the literature showed a lack of recent methodological overviews in English.⁵ Information about single-approach applications is accessible within case studies, but it is either scattered throughout the publications and presented in different languages, or it is not accessible from abroad. As a result, it increased the relevance of the research during the master’s degree period in 2020–2021 at Vilnius Academy of Arts and became a thesis research project under the supervision of Dalia Klajumienė,

3 Emmanuelle Mercier, “Brussels–Copenhagen (1967–2017): A story of the history of polychrome sculpture”, in *ICOM-CC 18th Triennial Conference Preprints*, ed. J. Bridgland (Copenhagen, 4–8 September 2017, Paris: International Council of Museums), 4, <https://www.icom-cc-publications-online.org/1749>.

4 Methodology for removing retouches from easel paintings is not part of the analysis as it typically addresses much thinner layers on a flat surface, therefore, it requires different approaches.

5 Larger-scale overviews regarding the technical aspects of the overpaint removal from polychrome wood sculptures in Germany and Austria until 2000 have been presented in German by Rudolf Göbel and Manfred Koller: Rudolf Göbel, “Zur Geschichte der Abnahme von Skulpturenfassungen”, in *Zeitschrift für Kunsttechnologie und Konservierung* 19, no. 2 (2005): 323–355; Manfred Koller, „Freilegung“ gefasster Skulpturen in Österreich als Problem für Kunsthistoriker und Restauratoren”, in *Gefasste Skulpturen – Mittelalter II*, ed. Manfred Koller, Ulrike Knall (Wien, Klosterneuburg 2007), 29–39; “Hundert Jahre “Freilegung” polychromer Skulpturen: Rückblick und Konsequenzen”, in *Zeitschrift für Kunsttechnologie und Konservierung*, vol. 22 (2008): 73–88.

PhD, and polychrome sculpture and easel paintings conservator Greta Žičkuvienė. The author analyses 31 cases that involved overpainting removal within Lithuanian museums as well as 20 cases from other European countries via interviews, questionnaires, publications, and conservation documentation. The number of the cases used for this research was defined by the time frame given for the research and the accessibility of the data as well as the methodical information repetition aspect which occurred after analyzing 10 to 15 cases. It is important to convey that even though a large number of overpaint removal systems could be defined during the research, this study does not reveal all the possible approaches.

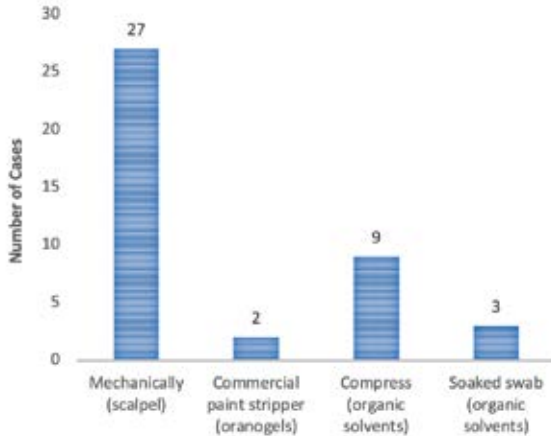
As the treatments to overpaint removal “can be divided into various methods that are dictated by the underlying support ... the amount of overpaint and its intrinsic properties,”⁶ it is important to note that this paper only attempts to provide an overview of the removal systems found currently in use in Europe but not an overall evaluation of the feasibility of those approaches regarding particular types of overpaint or the ethical bounds related to the decision-making. Nonetheless, the author shares insights about the adaptation possibilities of certain approaches within the Lithuanian conservation practice.

Overpaint removal in Lithuania

In 2020, empirical data suggested that a wider range of approaches could be considered compared to the four methods usually considered in Lithuanian institutions [fig. 1]. Analysis of the 31 cases of conservation documentation, publications, and specialists’ surveys⁷ revealed that all the approaches involved were either mechanical and/or solvent action. These included the organic solvent-soaked swab cleaning (three cases); the organic solvent-soaked compress treatment followed by scraping with a scalpel (the second most popular choice with one-third of the cases), and a few removals with a commercial paint stripper (consisting mostly of thickened organic

6 René Hoppenbrouwers et al., “A matter of scale? From sculpture to interior: the conservation of polychrome surfaces”, in *ICOM Committee for Conservation 14th Triennial Meeting The Hague 12–16 September 2005*, ed. Isabelle Verger (James & James/Earthscan, 2005), 842, <https://www.icom-cc-publications-online.org/2142>.

7 Surveys are presented in: Aušrinė Dambrauskaitė, “Methods of overpaint removal for wooden polychrome artwork: application of aqueous cleaning system according to the modular cleaning program” (MA thesis, Vilnius Academy of Arts, 2021), 97–108, <https://vb.vda.lt/object/elaba:97326183/>.



1. Approaches to polychrome wood overpaint removal in Lithuanian museums between 2000 and 2022

solvents). The fact that the latter approach would still be chosen amongst the conservation specialists cast some doubts about its overall feasibility. The empirical evidence and literature analysis suggested that commercial paint strippers have become obsolete over the years. The application of commercial paint strippers came across in two publications during this research. First, in R. F. McGiffin's⁸ case study about the overpaint retention method in the USA in 1979, and in A. C. Hulbert's⁹ publication about the restoration of the wooden polychrome ceiling in England in 1994. Nonetheless, the actual commonness of this approach cannot be assumed yet.

A more thorough analysis of removal cases in 2020–2021 revealed that mechanical ablation is the most popular choice in Lithuanian museum practice and has been part of the treatment 80% of the time. Twenty-nine percent of the time, it involved another or a supplementary method. A single-method treatment was present in 74% of the cases. It is of no doubt that conservation specialists have always aimed for the best options in each situation, but the fact that during 20 years of practice of overpaint removal, a surgical blade was chosen as the sole tool for more than half of the cases (55%) stood out when compared with the cases from other countries that involved similar types of overpaint. Nevertheless, a rather unique approach

⁸ Robert F. McGiffin, "A Method for Overpaint Retention", in *Studies in Conservation*, 24 (1979), 50, doi:org/10.1179/sic.1979.006.

⁹ Anna C. Hulbert, "Conservation of the Fourteenth-Century Ceiling at Saint Helen's Church, Abingdon", in *Painted Wood: History and Conservation*, ed. Valerie Dorge and F. Carey Howlett (Colonial Williamsburg Foundation Williamsburg, Virginia, 11–14 November 1994), 295, <https://www.getty.edu/publications/virtuallibrary/0892365013.html>.



2.

Crucifix (Church of St. George the Martyr; Kaunas, Lithuania): thermal IR radiation application in oil overpaint removal in Lithuania, photo by Lauryna Kiškytė, 2022, LATGA, Vilnius, 2023

was introduced to the local practice of polychromed wood conservation in 2022. A private contractor of polychromy conservation, Lauryna Kiškytė successfully applied thermal IR (infrared) radiation for oil overpaint removal in 2022 [fig. 2].¹⁰ In this case, thermal radiation facilitated overpaint removal by scalpel and quickened the process as well. This example resembles several other cases abroad, which reveals the relevance of heat as means for overpaint removal.

All in all, local practice does not differ from the rest of Europe based on a statement that “the main options available at present are the removal of overpaint by mechanical means and/or by solvents.”¹¹ However, as presented in the second part of this paper, European conservation practice abroad revealed a wider range and more complex removal strategies, which often include combined procedures.

¹⁰ Lauryna Kiškytė, personal communication: “The wooden polychrome “Crucifix” (118 x 71 x 22 cm) from the 2nd half of the 18th century belongs to the Church of St. George the Martyr in Kaunas, Lithuania. We looked for different approaches to overpaint removal from this object, since the overpaint layers were excessively hardened due to, what seems, previous consolidations. Scalpel ablation alone would have taken too much time. The idea to soften the overpaint layers with IR radiation came from wall paintings practice. The tests showed good results and I continued softening the 2–3 overpaint layers simultaneously with the IR heat tool (*Speedheater Systems*, “Cobra” machine) on the larger areas of less relief. I would monitor the time of exposition to the radiation by visual and sensual (smell) means. Exposition of overpainted surface to the IR heat would take about 10–15 s from about 20–30 cm until I would start noticing the specific smell of the oil paint and the slight deformation of the exposed surface. Removal with a scalpel would be done right away. It could be concluded that the heat did not affect the underlying polychromy layers as they showed the same shiny surface as in the areas where the heat was not used (only scalpel). However, it seems that IR cannot be used for surfaces with deeper carvings. Also, a smaller perimeter IR lamp would be more practical. It was also very important to watch out for the areas where the overpaint was applied directly on the wood or leftovers of the ground layer.” Message received: March 9, 2022.

Overpaint removal in other European countries

After defining the methods used in the Lithuanian practice the focus of the research shifted towards the relevant information abroad. At this point, the analysis consisted of three phases that helped systematize the practice of overpaint removal in Europe. Necessary data was extracted from interviews with German specialists as well as conservation reports, proceedings, and preprints of the conferences presented by conservators in Belgium, France and the Netherlands. The first analysis phase involved indicating the case studies that would provide enough data for this research. The second part led to identifying the eight basic methods [tables 1–3] that were assigned to the cases. Afterwards, the cases were allocated to one of the three groups based on the type of the overpainting: oil-based, brass-based, or not specified [tables 1–3].

As mentioned before, the second stage of the research consisted of analysis of the approaches found in the case studies. A certain approach would be indicated as a method based on its role in the procedure. For example, laser radiation is considered the main action during the procedure of removing brass-based overpainting from oil gilding.¹² Thus it would be assigned to the “laser” column [table 1]. Afterwards, the organic solvent-soaked swab action played an important role, so it is also identified in the table regarding this case. The pre-wetting before the Er: YAG (erbium-doped yttrium aluminium garnet) laser action as well as the rinsing procedure that follows the gelled-solvent action are not identified as an independent removal approach, since in no case has it been proved to have worked as a feasible method for overpaint removal. Likewise, Japanese paper may come in handy during the application of a gelled solution for even more controlled solvent action, as mentioned in a paper about an altar painting frame in Croatia where “gel was applied over Japanese paper, which facilitated the removal of most of the sticky gel after the desired exposition.”¹³

¹¹ René Hoppenbrouwers, et al., “A matter of scale? From sculpture to interior: the conservation of polychrome surfaces”, in *ICOM Committee for Conservation 14th Triennial Meeting The Hague 12–16 September* (James & James/Earthscan, 2005), 842, <https://www.icom-cc-publications-online.org/2142>.

¹² Gerry Alabone and Maria S. Carvajal, “The removal of bronze paint repairs from overgilded picture frames using an Erbium: YAG”, in *Journal of the Institute of Conservation*, 43:1 (2020): 111–118, doi:org/10.1080/19455224.2019.1706595.

¹³ Denis Vokić and Marin Berović, “Use of lipase to remove oil-based overpaint”, in *ICOM Committee for Conservation 14th Triennial Meeting The Hague 12–16 September 2005*, Preprints, vol. 2 (London: James & James / Earthscan, 2005): 865, <https://www.icom-cc-publications-online.org/2144>.

The following reference presented in Table 1 illustrates a description providing information about one of the more popular methods – the solvent-soaked compress action:

Table 1. Brass-based overpaint removal from polychrome wood artwork in Europe between 2000 and 2022

Conser- vator, country ¹	Object title, dating	Brass-based overpaint removal							
		Mecha- nical ablation	Com- press (org. solvent)	Soaked swab (org. solvent)	Organo- gels	Hydro- gels	Enzy- mes	Heat	Laser
R. Ur- banek, ² Germany	"The Golden Chamber", Cologne								+
G. Alabo- ne et al., ³ United Kingdom	Gilded frames (17th–18th century)		+	+					+
E. Mercier et al., ⁴ Belgium	Alterpiece (1525–30)		+						

1 Location where the overpaint removal was performed.

2 Regina Urbanek, "Laserreinigung von Vergoldung - Wirkungsweisen unterschiedlicher Geräte im Vergleich," *Laseranwendung in Restaurierung und Denkmalpflege* (2009): 111–122.

3 Gerry Alabone and María S. Carvajal, "The removal of bronze paint repairs from overgilded picture frames using an Erbium: YAG," *Journal of the Institute of Conservation*, 43:1 (2020): 111–118, <https://doi.org/10.1080/19455224.2019.1706595>.

4 Emmanuelle Mercier et al., "Study and treatment of a unique example of partial polychromy in the Low Countries: The altarpiece from the Church of Saint Denis in Liège," *ICOM-CC 17th Triennial Conference Preprints, Melbourne, 15–19 September 2014*, ed. J. Bridgland (Pulido & Nunes; ICOM Committee for Conservation, 2014): 5, <https://www.icom-cc-publications-online.org/1369>.

Ethanol used in a compress was effective at removing the varnish from unpainted areas, whereas a mixture of ethanol and acetone (1:1) was required to remove this layer from the painted flesh. ... Local overpaint on the flesh areas, as well as the bronzine retouching on the gilded parts, were removed together with the varnish, revealing the original partial polychromy entirely ...¹⁴

14 Emmanuelle Mercier et al., "Study and treatment of a unique example of partial polychromy in the Low Countries: The altarpiece from the Church of Saint Denis in Liège", in *ICOM-CC 17th Triennial Conference Preprints, Melbourne, 15–19 September 2014*, ed. J. Bridgland (Pulido & Nunes; ICOM Committee for Conservation, 2014), 5, <https://www.icom-cc-publications-online.org/1369>.

This method is represented in Table 1 as “compress.” It appears that a type of a carrier (possibly cotton wool or a microfiber) was soaked with a solvent mixture and left on the painted (and varnished) surface for a certain amount of time, probably covered with a type of airtight material (e.g., polyethylene film) until overpainting or retouching would soften to a desirable level and be removed, supposedly, by either a scalpel or a cotton swab. However, the latter part is not specifically indicated and is therefore not included in the table. Similarly, another publication briefly described that the “removal process was carried out by a combination of chemical and mechanical cleaning techniques, depending on the requirements of each specific area – preparation, paint or gilding composition.”¹⁵ The less in-depth descriptions about the removal treatments are understandable as the research analysis often focus on different aspects. Unfortunately, it impeded the interpretation of data for a study such as this. Thus, the publications which elaborated on the technical details of the removal procedures (e.g., erbium laser radiation for the removal of a brass-based overpainting in the British Museum;¹⁶ the application of enzymes for oil overpaint by the Croatian team) proved exceptionally useful.

The three cases presented in Table 1 illustrate a successful application of laser radiation for the removal of brass-based overpaint from gilding with both neodymium Nd:YAG (neodymium-doped yttrium aluminium garnet) and Er:YAG lasers. However, in contrast to the cases focusing on easel paintings, it appears that laser application to overpaint removal from three-dimensional polychrome wood objects has not yet received attention from conservation scientists.¹⁷ Interesting findings appeared from the four

¹⁵ Berta M. Alcaide et al., “A case study on polychromed alabaster: The Virgin of the Castle of Cullera”, in *Polychrome Sculpture: Artistic Tradition and Construction Techniques*, Proceedings ICOM-CC Interim Meeting, Working Group Sculpture, Polychromy, and Architectural Decoration, Glasgow 13–14 April 2014, ed. Kate Seymour (ICOM-CC, 2014), 142, <https://www.ards.be/bibliography/articles/00228>.

¹⁶ Pawita Boonrat et al., “Initial investigation into the effect of varying parameters in using an Er: YAG laser for the removal of brass-based overpaint from an oil-gilded frame”, in *Journal of the Institute of Conservation*, 43:1, (2020): 94–106, doi:org/10.1080/19455224.2019.1706592.

¹⁷ The following researches have recently addressed overpaint removal from easel paintings: Daniele Ciofini, “Removal of overpaintings from easel paintings using LQS Nd: YAG laser”, in *Applied Physics A*, 117(1), (2014): 341–346; Salvatore Siano, “Overpaint removal from easel paintings using an LQS Nd: YAG laser: The first validation study”, in *Studies in Conservation*, vol. 60, (2015): 59–47. A more universal approach to paint removal in Andrei V. Rode et al. “Cleaning of paint with high repetition rate laser: Scanning the laser beam”, in *Lasers in the Conservation of Artworks – Proceedings of the International Conference LACONA 7*, ed. Marta Castillejo et al. (CRC Press, 2008), 52–53.

cases where thickened aqueous solutions (hydrogels) were implemented for overpaint removal along with organogels [tables 2 and 3]. Here, “gels are mainly used as a vehicle for the cleaning fluid. Therefore, a first classification divides the gelled systems into two classes, whether the liquid phase is an organic solvent or water: organogels and hydrogels.”¹⁸ Aqueous solutions provide extra options when the traditional options do not prove effective. They also reduce the conservator’s exposure to toxic vapor.

Table 2. Oil overpaint removal from polychrome wood artwork in Europe between 2000 and 2022

Conservator, country ¹	Object title, dating	Oil-bound overpaint removal							
		Mechanical ablation	Compress (org. solvent)	Soaked swab (org. solvent)	Organogels	Hydrogels	Enzymes	Heat	Laser
S. Grimberg, ² Germany	“Crucifix dolorosus” (14th century)			+					
S. Grimberg, Germany	“St Bishop Clemens” (16th century)	+							
M. Vuga, ³ Slovenia	“Saint John the Evangelist” (18th century)	+			+				
M. J. Rodríguez Muñoz, ⁴ Spain	“Madonna and Child” (15th century)	+	+			+			
D. Vokić, ⁵ Croatia	A frame for the altar painting	+				+	+		
M. Joubert, ⁶ France	“Christ on an ass” (15th and 19th century)	+	+	+				+	
A. Truyen, ⁷ The Netherlands	“Crucifix” (16th century)	+						+	
A. Truyen, The Netherlands	“St Peter” (c.a. 1530)	+						+	

1 The country in which the object received the treatment.

2 Sarah Grimberg, „Methods of Overpaint Removal for Wooden Polychrome Artwork: Application of Aqueous Cleaning System According to the Modular Cleaning Program”, interview by Ausrine Dambrskaite at CICS, Cologne, Germany, January 9, 2020, p. 151–157, <https://vb.vda.lt/object/elaba:97326183/>.

3 Martina Vuga and Miladi M. Semion, “Typical Conservation Problems of Polychrome Wooden Sculptures in Slovenia,” *Conservar Património* 22 (2015): 26, https://arp.org.pt/revista_antiga/pdf/2015009.pdf.

18 Nicole Bonelli et al., “Confined Aqueous Media for the Cleaning of Cultural Heritage: Innovative Gels and Amphiphile-Based Nanofluids”, in *Nanoscience and Cultural Heritage*, ed. Philippe Dillmann, Bellot-Gurlet, Nenner Irene (Atlantis Press, 2016), 288.

4 Maria J. R. Muñoz et al. "Preliminary Studies and Conservation Treatment of the Polychrome Sculpture 'Virgen Con Niño' of the Cathedral of Valencia, Spain." In *Polychrome Sculpture: Artistic Tradition and Construction Techniques*, ICOM-CC Interim Meeting, Working Group Sculpture, Polychromy, and Architectural Decoration, Glasgow 13–14 April 2014, edited by Kate Seymour (ICOM-CC, 2014): 57–58, <https://www.ards.be/bibliography/articles/00228>.

5 Denis Vokić and Marin Berovič, "Use of lipase to remove oil-based overpaint," *ICOM Committee for Conservation 14th Triennial Meeting The Hague 12–16 September 2005*, Preprints, vol. 2 (London: James & James / Earthscan, 2005): 864–866, <https://www.icom-cc-publications-online.org/2144>.

6 Manon Joubert, "Étude et restauration du Christ des Rameaux du musée de l'Œuvre Notre-Dame de Strasbourg," *CeROArt* [Online], EGG 4 (2014), <https://journals.openedition.org/ceroart/4010#authors>.

7 Arnold Truyen, personal communication: "The initial analysis of Jan van Steffeswert's "Crucifix" (232 x 209 cm) in Bonnefanten museum (Maastricht) started at 1995. The curator of the museum's funds at the time had inquired the restorers at SRAL about the possibilities of removing the overpaint which he guessed had been covering high-quality polychromy and carvings. We tried numerous ways to remove the overpaint layers from the 16th century polychromy since scalpel and solvent removal seemed too slow. More than 80% of the 16th century polychromy was present, covered by 7–20 layers of overpaint. It was calculated that it would require about 4500 hours of labour and the museum could not afford it at that time. In 1997 I continued looking for more efficient approaches on my own initiative. I tried neodymium (Nd:YAG) laser after participating in the LACONA symposium in Greece, but we had a problem with the reaction to lead white pigment and the gilding of one of the overpaint campaigns reflecting the beam. Later I had a chance to ask Richard Wolbers to run solvent tests but it was also unsuccessful since the overpaints and the earliest layers were all oil-based and the strong-enough solvents for several layers would affect the 16th century polychromy too. I then borrowed an ultrasound tool to try vibration-ablation and a sanding (*zandstralen*)/glass particle-stream machine from KIK-IRPA, but both these methods reduced the control over the penetration into the paint layers. At around 2000 we attributed the sculpture to Jan van Steffeswert and funds were found to initiate overpaint removal. I then started testing with heat. First, I tried a heated spatula where a scalpel was placed instead of the spatula, but it was hard to control the heat; the sharpness of the blade was excessive along with the heat. It appeared easiest to monitor the process under the microscope while working with a scalpel and the way I found it possible to speed up was with the LABOR S (*Leister*) hot air tool. I worked by monitoring the process under a microscope; checking the temperature with a thumb that was in a way of the stream. I could heat the oil overpainting all the way down to the water gilding on the loin-cloth, but everywhere else I had to stop at the earliest overpaint layer and remove it entirely with a scalpel in order to prevent damage to the first polychromy which was a similar colour and also bound in oil. Sometimes we had to leave a thick overpaint layer because it was stuck together too much with the original polychromy. Eventually it still took 4500 hours throughout 5 years period. Also used the same technique on the St Peter's sculpture." Answers received: March 14, 2022. Illustrations can be found in: René Hoppenbrouwers et al., "A matter of scale? From sculpture to the interior: the conservation of polychrome surfaces." *ICOM Committee for Conservation 14th Triennial Meeting The Hague 12–16 September 2005* (James & James/Earthscan, 2005): 841–846, <https://www.icom-cc-publications-online.org/2142>.

Table 3 reveals all the cases with an unclear composition of the overpaint layer as well as the layer constitution from which overpainting is being removed. However, it was mentioned that all these layers contain a pigment and a binding medium. No additional methods were identified within these cases in comparison to those used for the removal of the oil-based or brass-based overpaint. Either these eight cases involved the removal of oil or brass-based overpainting or it would appear that layers of different compositions do not require additional methods.

Table 3. Unidentified composition overpaint removal from polychrome wood artwork in Europe between 2000 and 2022

Conservator, country ¹	Object title, dating	Overpaint of unidentified composition							
		Mechanical ablation	Compress (org. solvent)	Soaked swab (org. solvent)	Organogels	Hydrogels	Enzymes	Heat	Laser
K. Liebetrau, ² Belgium	"Antwerp relief" (16th century)			+					
K. Liebetrau, Germany	"Crucifix", Cologne	+		+					
K. Liebetrau, Germany	Polychrome wood sculpture, Germany	+							+
S. Grimberg, Germany	"St Bishop" (1330), Germany	+			+				
L. Ferrazza, ³ Spain	"Virgin of the Immaculate Conception" (18th century)	+		+		+			
V. B. Perez, ⁴ Spain	"The Virgin of the Rosary" (15th century)			+					
A. Rampon, ⁵ Italy	"Crucifix" (13 – 14 century)	+				+			
M. Allegra et al., ⁶ Venice, Italy	Central body of the Repository (1771)	+			+				
M. Potrawiak, ⁷ Poland	"Pieta" (14th century), Poland	+							

1 The country in which the object received the treatment.

2 Katharina Liebetrau, „Methods of Overpaint Removal for Wooden Polychrome Artwork: Application of Aqueous Cleaning System According to the Modular Cleaning Program“, interview by Ausrine Dambrauskaitė at LRV-Landes Museum Bonn, Germany, January 19, 2020. Transcription in Lithuanian, 138–147, <https://vb.vda.lt/object/elaba:97326183/>.

3 Livio Ferrazza et al. "Wooden Polychromed Sculpture. A Case Study: The Virgin of the Immaculate Conception," *Polychrome Sculpture: Artistic Tradition and Construction Techniques*, ICOM-CC Interim Meeting, Working Group Sculpture, Polychromy, and Architectural Decoration, Glasgow 13-14 April 2014, edited by Kate Seymour (ICOM-CC, 2014): 117, <https://www.ards.be/bibliography/articles/00228>.

4 Valle B. Pérez et al., "Restoration or Tradition," *Ibid.*, 126–129.

5 Aurelia Rampon and Fiorella Soffini, "Sculture di area veneto-prealpina Crocefisso ultimo quarto del XIII secolo (Cristo); primi decenni del XIV secolo (croce)," *Restituzioni. Tesori d'arte restaurati* 17, (April – July 2016): 135–141, http://www.restituzioni.com/wp-content/uploads/2016/03/2016.rest_15.pdf.

6 Marta Allegra et al., "Relazione di restauro repositorio" (Conservation and restoration report, Istituto Provinciale per l'infanzia Santa Maria della Pietà, Venezia, 2018), <https://www.ivbc.it/wp-content/uploads/2020/06/Relazione-finale-Repositoryo.pdf>.

7 Maja Potrawiak, personal communication: "<...> sculpture was the depiction of Pieta from Wola Mędrzechowska in Lesser Poland from the first quarter of XIV century. The sculpture is an element of the main collection of the Diocesan Museum in Tarnów. <...> Firstly, we tried various combinations of chemicals. Buffers, challators, surfactants with organic solvents that we gelled in xanthan gum. That only helped us remove the dirt from the surface but it had little effect on the layer of overpaint we wanted to remove. Only the bicin with EDTA, Ecosurf, gelled in xanthan gum with 1% BnOH 10% MEK delicately dissolved the layer. But that was very subtle and we didn't decide to use that method because it would take us ages. We didn't identify the binder of that paint from the overpainting but it was very resistant to the methods we applied. For sure it was the paint from the XX century judging on the flashy colours used there. We also tried

various solvents mixtures in different proportions, but they were not working. I have to add that the layer of that overpainting was on the very thick layer of ground that was already cracking and covering the subtle details of the form of the sculpture. So, after the struggle of finding the right combination of substances we decided to remove it mechanically. We used scalpels and what may sound drastic – the Dremel tool which we used on the lowest power. On that specific situation it was justified. The layer of the ground was having sometimes even 3 mm and it was safe for the layers below. As it turned out, after removing the upper ground layer, the original painting layer was preserved residually.” Message received: November 24, 2021.

Another observation regarding the overall data analysis revealed a larger number of methods used abroad. As seen in Tables 1–3, the analysis resulted in a total of eight methods that involved action with mechanical ablation, organic solvent-soaked compress, organic solvent-soaked swab, organogels, hydrogels, enzymes, heat, or laser radiation. Here, mechanical ablation with a sharp tool (scalpel, glass-fiber eraser, or electric rotary tool) appeared to have been used in twelve cases (67%) and was the most often used approach – the same tendency seen in Lithuanian cases. However, in only two out of the 20 cases (11%) mechanical ablation was applied as the sole method; more often, it was used as a complementary procedure. All in all, the mechanical ablation and solvent action (either by a swab or a compress) remains the most popular choices for layer removal.

Examples in Table 2 illustrate how some of the steps, like scalpel ablation or the solvent-soaked swab action, are sometimes used as independent methods as well as supplementary procedures. For example, one of the cases illustrates how optimal treatment for the overpainting removal from the sixteenth-century polychrome sculpture *St. Bishop Clemens* consisted of a single method – the mechanical ablation with scalpel performed by Sarah Grimberg. However, scalpel ablation is often employed as an asset to the method as shown in this example where “Applications of gel for 3 to 4 hours and covered with Melinex polyester film were repeated several times. The remains of overpainting were removed using a scalpel and a solvent solution.”¹⁹

Adapting heat from various sources (heat spatula, hot air fan, IR radiation) has been proved as a feasible approach as well. The author of this paper had been first introduced to such application by Prof. H. D. Portsteffen, a conservation specialist, during an interview in 2021²⁰ when he shared details

19 Martina Vuga and Miladi M. Semion, “Typical Conservation Problems of Polychrome Wooden Sculptures in Slovenia”, in *Conservar Património* 22 (2015), 26, https://arp.org.pt/revista_antiga/pdf/2015009.pdf.

20 Hans D. Portsteffen, “Methods of Overpaint Removal for Wooden Polychrome Artwork: Application of Aqueous Cleaning System According to the Modular Cleaning Program”, interview by Aušrinė Dambrauskaitė at CICS, Cologne, Germany, January 9, 2020, 148–150, <https://vb.vda.lt/object/elaba:97326183/>.



3.
Hot air stream hand tool LABOR S (Leister Technologies), adapted for oil overpaint removal in Germany and the Netherlands, <https://www.leister.com/en/product/Labor-S-with-Minor>

about a case study from 1994. The overpaint removal process in this case involved three methods. First, mechanical ablation with a surgical blade was used to start the process by thinning the blue oil overpaint layer to facilitate the next part of the treatment. Then, the already thinner layer was induced by a hot air stream via a LABOR S hand tool (Leister Technologies) [fig. 3] and instantaneously acted on with organic solvent-soaked cotton swab.²¹ In the recent decade, the LABOR S hand tool was successfully used for the overpaints removal at least twice by polychrome conservator Arnold Truyen at Stichting Restauratie Atelier Limburg (SRAL) in Maastricht, the Netherlands [table 2]. Nonetheless, as mentioned in paragraph one, thermal IR radiation is an eligible addition to the mechanical means for oil overpaint removal as well.

All in all, a single-approach application is seen in seven cases (39%) (e.g., only with a soaked cotton swab), but the rest of the cases demonstrate rather complex systems consisting of two or three methods.

Overpaint removal systems: combining methods for an optimal approach

The data analysis has broadened the primary understanding of the two usually mentioned and widely applied approaches: mechanical and solvent cleaning. It appeared that these two categories can merge and could be supplemented by biological (enzymes) and physical (laser, heat)

²¹ Publication about the case study can be found in: Jutta Mannes and Hans Portsteffen, "Die Marienkrönungsgruppe aus der Zisterzienserinnenabtei Oberschönenfeld", in *Jahrbuch der Bayerischen Denkmalpflege*, 47/48, 1993/1994 (München, 2001): 159–169.

methods. The author attempts to summarize such observations in this part of the paper.

As mentioned before, it is rare that an overpaint removal process depends on a single method. This matter has also been addressed during an interview with paintings and polychrome objects conservator Katharina Liebetau, where she stated, “Very rarely you get a sculpture where you use only one method. Maybe if there is a very young overpainting of acrylic color; but normally I must deal with several removal problems and a pallet of methods.”²² Another example of a three-step treatment involved two mechanical ablations and solvent action:

First, a gelled solvent in an emulsion is applied by brush to remove the majority of the layer. The surface is then rinsed to remove any traces of the product from the area to avoid leaving any residues on the surface. Subsequently, in this particular case, it is more efficient and uniform to eliminate the remainder of the overpaint mechanically.²³

A combination of mechanical, physical, and chemical means was designed for the removal of the brass-based overpainting from a gilded frame in the UK in 2020:

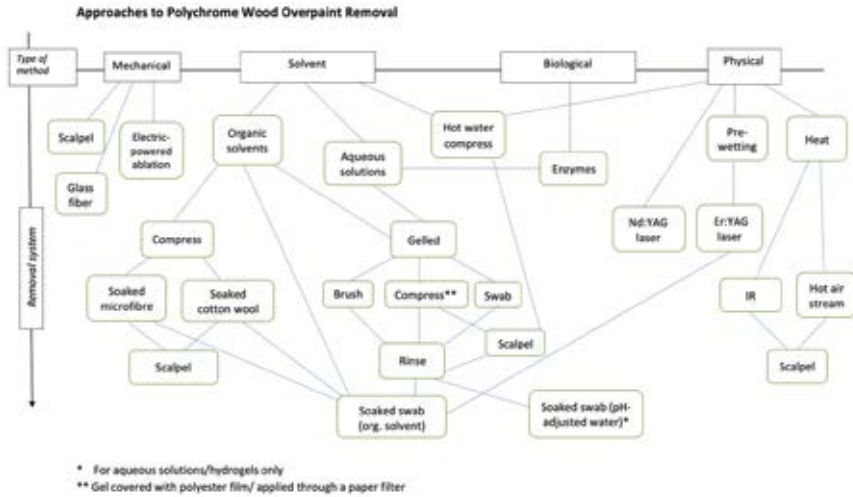
... a three-step process: firstly, pre-wetting ... Secondly, using the laser ... Finally, as a third step, benzyl alcohol was applied and left on the surface for 2 minutes before removal with a swab of isopropanol, or acetone in the more resistant areas.²⁴

A common situation is when a continuous overpaint layer (as well as different campaigns of overpainting) lies on varying underlying support

²² Katharina Liebetau, “Methods of Overpaint Removal for Wooden Polychrome Artwork: Application of Aqueous Cleaning System According to the Modular Cleaning Program”, interview by Aušrinė Dambrauskaitė at LRV-Landes Museum Bonn, Germany, January 19, 2020. Transcript in Lithuanian language, 138–147.

²³ Livio Ferrazza et al., “Wooden Polychromed Sculpture. A Case Study: The Virgin of the Immaculate Conception”, in *Polychrome Sculpture: Artistic Tradition and Construction Techniques*, Proceedings ICOM-CC Interim Meeting, Working Group Sculpture, Polychromy, and Architectural Decoration, Glasgow 13–14 April 2014, ed. Kate Seymour (ICOM-CC, 2014), 117, <https://www.ards.be/bibliography/articles/00228>.

²⁴ Gerry Alabone and Maria S. Carvajal, “The removal of bronze paint repairs from overgilded picture frames using an Erbium:YAG”, in *Journal of the Institute of Conservation*, 43:1 (2020): 107–121, doi:org/10.1080/19455224.2019.1706595.



4.

Approaches to polychrome wood artwork overpaint removal in Europe between 2000 and 2022, auth. Aušrinė Dambrauskaitė, 2021

(e.g. structurally, deterioration-wise) and/or varies in the amount of overpainting thickness itself. Such cases require an even more flexible approach as presented here:

The nature of the binder used for the different layers ... being similar, we directed to a mechanical removal to avoid the risk of altering the layers with solvents. ... Overpaint laying directly on the wooden support have been removed using cotton compresses soaked in ethanol (covered with a stretch film to slow down the evaporation of the solvent) or hot water that penetrates through the network of micro-cracks and solubilizes the underlying preparation. They soften the pictorial layer, which is then removed with a scalpel and impregnated cotton pads.²⁵

A flowchart is used as a visual aid to illustrate the examples [fig. 4]. The flow diagram represents all removal systems identified during the analysis of all case studies, including the Lithuanian cases. The eight methods and more than twelve approaches found within this quantitative study illustrate the breadth of the spectrum of options at hand. It appears

²⁵ Manon Joubert, "Étude et restauration du Christ des Rameaux du musée de l'Œuvre Notre-Dame de Strasbourg", in *CeROArt* [Online], EGG 4 (2014), <https://journals.openedition.org/ceroart/4010#authors>.

as if the options are limitless when it comes to choosing the best treatment. The “Approaches” section in the chart defines the core method: mechanical, wet, biological, or physical. Indeed, this does not imply that mechanical means cannot be included in biological or wet cleaning. However, the four approaches are defined this way to simplify the chart for practical use. Nonetheless, the findings about the variety of methods present in European conservation practice have influenced the author’s ongoing project during the postgraduate studies, as described in the next paragraph.

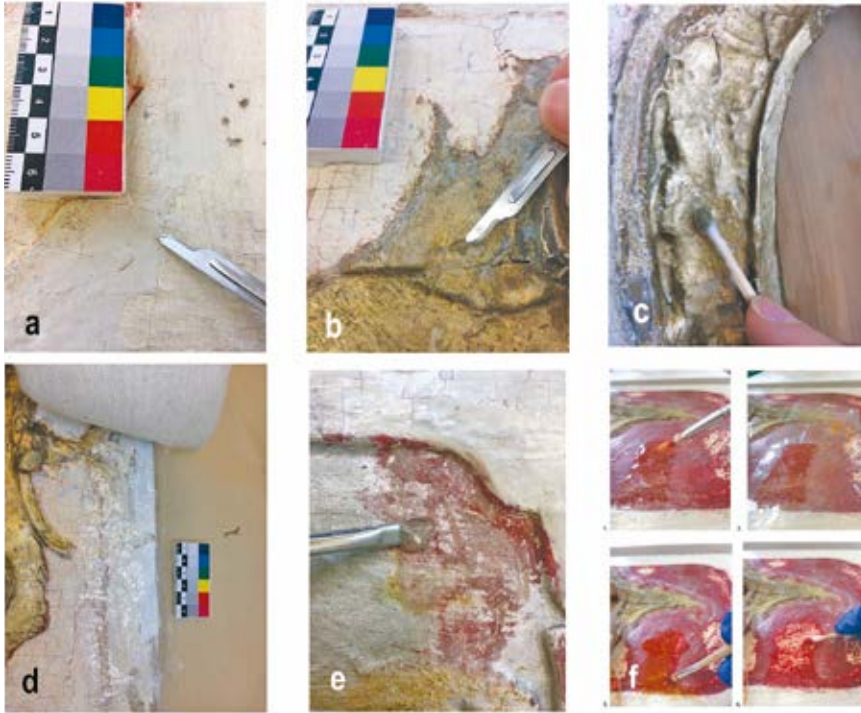
A modified approach to overpaint removal: the case of Lithuania

A new perception about the range of the removal systems encouraged the author of this paper to consider modifying the traditional removal options regarding the second half of the eighteenth-century wooden polychrome reliquary – a thesis project during her master’s degree studies.²⁶ Initial examination, discussions with specialists, and test series resulted in the application of four methods. One of the methods (a thickened ethanol solution) has not been implemented before.²⁷ The test series confirmed a need for several methods to remove multiple campaigns of the overpainting. Different layers of overpaint covered the various structural features and condition levels beneath them.

In this case, a gelled solution (1% Klucel H solution in ethanol) was employed instead of a solvent-soaked compress as it proved more effective and easier to control regarding a particular oil overpaint layer. An organogel approach helped reach satisfactory results faster than would have been with scalpel ablation or soaked-swab action. An isopropanol-soaked swab appeared useful when thinning a rather thick oxidized brass-based overpaint layer. Partial removal of the white oil-based layer lying directly on the wooden support was successfully reached with the compress action, which

²⁶ Aušrinė Dambrauskaitė, “Conservation of a former Valkininkai church XVIII century second half wooden polychrome reliquary nr. 2 from a four-piece reliquary set” (MA thesis, Vilnius Academy of Arts, 2021).

²⁷ *Ibid.* The decision to remove certain layers was reached after the clear identification of the sequence of the various repaints and alterations as well as clarifying the different values of the remains of the various polychromy phases the detailed documentation of individual layers of polychromy was executed. Based on the information gathered, the two phases of repaints consisting of three layers were decided to be removed: the latest phase consisting of aluminium powder pigment bound in synthetic polymer and the earlier phase consisting of white zinc pigment in oil and the red pigment bound in oil.



5. Eighteenth-century polychrome wood reliquary (Church Heritage Museum, Vilnius, Lithuania): methods used for overpaint removal – a. mechanical ablation with a scalpel; b. organic solvent-soaked swab cleaning; c. organic solvent-soaked microfiber compress action (followed by scalpel ablation); d. prolonged action with a thickened (gelled) organic solvent, photos by Aušrinė Dambrauskaitė, 2021

was followed by scalpel ablation. Only this time, cotton wool was substituted with a microfiber (Evolon CR) cloth to serve as a better contained carrier for the organic solvent. This approach facilitated the work process and reduced the amount of the solvent (and the carrier) needed and the conservators' exposure to the toxic vapor. However, much of this thick, white, homogenous overpainting was removed using a scalpel. Knowledge of the more complex treatments used abroad encouraged the author of the paper to test a combination of different methods throughout the entire removal process [fig. 5]. This allowed for designing a more suitable treatment regarding the complexity of the overpaint.

As this case study demonstrates, choosing a more complex treatment to one's usual choice could prove useful when seeking a less time-consuming and safer approach for both the object and the conservator. The author is grateful to all the specialists who shared their knowledge and opinions regarding this study.

Conclusions

It can be stated that one of the most significant findings in this research was the number of methods identified within the conservation practice in the European region. Even though mechanical action (e.g. scalpel ablation) and/or solvent action (solvent-soaked swab or compress) can be identified as the most widely used options for overpaint removal, it has been proven that the biological (enzymes) and physical (laser; heat) actions are both employable. After a more thorough analysis of the case studies, the author suggests these promising methods: mechanical ablation, solvent-soaked compress action, solvent-soaked swab cleaning, laser, and heat radiation, organogels, hydrogels, and enzymes. The combinations of these approaches, along with the supplementary procedures and materials, results in a variety of removal systems, as presented in the flow diagram. Not only does this diagram demonstrate the successful applications of removal systems within the past 20 years but also suggests possible alternative variations to the sequences already presented in the flow chart.

The use of mechanical ablation demonstrated a noticeable difference when comparing the local practice of overpaint removal with the cases abroad, where mechanical removal with a scalpel is mostly employed as a supplementary procedure. Nonetheless, the findings dictate that the removal process rarely relies on a single approach. Cases from across Europe revealed a wider spectrum of methods and their variations. It encouraged the author of this paper to consider and apply a modified overpaint removal treatment. Additional organogel and solvent-soaked microfiber compress options appeared to be a feasible modification towards an overpainted wooden polychrome object in Lithuania. This proved that alternative, supplementary methods to already established techniques might

determine a less time-consuming and safer approach. The existing variety of removal systems proves the need for such, regarding the unique problems that artefacts impose. However, the applicability of the methods or their sequence requires thorough understanding based on necessary analysis which, of course, is the specialist's responsibility. In addition, no method described in this paper could be considered universal or superior to others.

Justifications for the wider spectrum of approaches found abroad are various. These include the complexity of the polychromy materials, the technological finesse, and the deterioration level dictated by the intricacy of the removal system. It is possible that Lithuanian cases are often of a less problematic nature where thick oil-bound or synthetic twentieth-century overpaint layers lay atop the relatively well-preserved polychromies, usually consisting of oil paint itself. Therefore, the four methods used in Lithuania would appear sufficient results-wise (but not necessarily time-wise). Additionally, while laser radiation stands out as rather costly and the application of enzymes proves challenging, alternatives like self-modeled organogels and hydrogels, glass-fiber erasers, microfiber use for compress action, or heat radiation appear as viable options for the Lithuanian overpaint removal practice.

Received ——— 17 12 2021

Bibliography

Sources

- Allegra, Marta et al. "Relazione di restauro repositório". Conservation and restoration report. Istituto Provinciale per l'infanzia Santa Maria della Pietà, Venezia, 2018. <https://www.ivbc.it/wp-content/uploads/2020/06/Relazione-finale-Repositorio.pdf>.
- Dambrauskaitė, Aušrinė. "Methods of overpaint removal for wooden polychrome artwork: application of aqueous cleaning system according to the modular cleaning program". MA thesis, Vilnius Academy of Arts, 2021. <https://vb.vda.lt/object/elaba:97326183/>.
- Grimberg, Sarah. "Methods of Overpaint Removal for Wooden Polychrome Artwork: Application of Aqueous Cleaning System According to the Modular Cleaning Program". Interview by Aušrinė Dambrauskaitė. CICS, Cologne, Germany, January 9, 2020. Transcript, 151–157. <https://vb.vda.lt/object/elaba:97326183/>.
- Kiškytė, Lauryna. Personal communication. Message received: March 9, 2022.
- Liebetrau, Katharina. "Methods of Overpaint Removal for Wooden Polychrome Artwork: Application of Aqueous Cleaning System According to the Modular Cleaning Program". Interview by Aušrinė Dambrauskaitė. LRV-Landes Museum Bonn, Germany, January 19, 2020. Transcript, 138–147. <https://vb.vda.lt/object/elaba:97326183/>.
- Portsteffen, Hans D. "Methods of Overpaint Removal for Wooden Polychrome Artwork: Application of Aqueous Cleaning System According to the Modular Cleaning Program". Interview by Aušrinė Dambrauskaitė. CICS, Cologne, Germany, January 9, 2020. Transcript, 148–150. <https://vb.vda.lt/object/elaba:97326183/>.
- Potrowiak, Maja. Personal communication. Message received: 24 November, 2021.
- Truyen, Arnold. Personal communication. Answers received: 14 March, 2022.

Literature

- Alabone, Gerry and Maria S. Carvajal. "The removal of bronze paint repairs from overgilded picture frames using an Erbium: YAG". In *Journal of the Institute of Conservation*, 43:1 (2020): 107–121. doi:org/10.1080/19455224.2019.1706595.
- Alcaide, Berta. M. et al. "A case study on polychromed alabaster: The Virgin of the Castle of Cullera". In *Polychrome Sculpture: Artistic Tradition and Construction Techniques, ICOM-CC Interim Meeting, Working Group Sculpture, Polychromy, and Architectural Decoration, Glasgow 13–14 April 2014*. Edited by Kate Seymour, 136–144. ICOM-CC, 2014. <https://www.ards.be/bibliography/articles/00228>.
- Bagdzevičienė, Jurga et al. "Vilniaus Bernardinų bažnyčios Sokalio Dievo Motinos altoriaus technologiniai tyrimai ir restauravimo sprendiniai". In *Acta Academiae Artium Vilnensis* 92–93: *Restauravimo laboratorija*. Edited by Dalia Klajumienė, 242–268. Vilnius: Vilniaus dailės akademijos leidykla, 2009. https://leidykla.vda.lt/Files/file/Acta%2092_93/Acta_2019_170x240mm_Bagdzevicien.pdf.
- Bonelli, Nicole et al. "Confined Aqueous Media for the Cleaning of Cultural Heritage: Innovative Gels and Amphiphile-Based Nanofluids". In *Nanoscience and Cultural Heritage*. Edited by Philippe Dillmann, Belot-Gurlet, Nenner Irene, 283–311. Atlantis Press, 2016.
- Boonrat, Pawita et al. "Initial investigation into the effect of varying parameters in using an Er: YAG laser for the removal of brass-based overpaint from an oil-gilded frame". In *Journal of the Institute of Conservation*, 43:1, (2020): 94–106. doi:org/10.1080/19455224.2019.1706592.
- Dambrauskaitė, Aušrinė. "Medinių paveldo objektų polichromija, jų užtapymų/ uždažymų priežastys ir stratigrafinė analizė: reikšmė sprendžiant sluoksnių šalinimo klausimus".

- In *Kultūros paminklai*, no. 26, (2022): 144–159.
- Ferrazza, Livio et al. “Wooden Polychromed Sculpture. A Case Study: The Virgin of the Immaculate Conception”. In *Polychrome Sculpture: Artistic Tradition and Construction Techniques, ICOM-CC Interim Meeting, Working Group Sculpture, Polychromy, and Architectural Decoration, Glasgow 13–14 April 2014*. Edited by Kate Seymour, 113–119. ICOM-CC, 2014. <https://www.ards.be/bibliography/articles/00228>.
- Göbel, Rudolf. “Zur Geschichte der Abnahme von Skulpturenfassungen”. In *Zeitschrift für Kunsttechnologie und Konservierung* 19, no. 2 (2005): 323–355.
- Hoppenbrouwers, René et al. “A matter of scale? From sculpture to interior: the conservation of polychrome surfaces”. In *ICOM Committee for Conservation 14th Triennial Meeting The Hague 12–16 September 2005*. Edited by Isabelle Verger, 841–846. James & James/Earthscan, 2005. <https://www.icom-cc-publications-online.org/2142>.
- Hulbert, Anna C. “Conservation of the Fourteenth-Century Ceiling at Saint Helen’s Church, Abingdon.” In *Painted Wood: History and Conservation*. Proceedings of a symposium organized by the Wooden Artifacts Group of the American Institute for Conservation of Historic and Artistic Works and the Foundation of the AIC. Edited by Valerie Dorge and F. Carey Howlett, 287–300. Colonial Williamsburg Foundation Williamsburg, Virginia, 11–14 November 1994. <https://www.getty.edu/publications/virtuallibrary/0892365013.html>.
- Joubert, Manon. “Étude et restauration du Christ des Rameaux du musée de l’Œuvre Notre-Dame de Strasbourg”. In *CeROArt* [Online], EGG 4 (2014). <https://journals.openedition.org/ceroart/4010#authors>.
- Koller, Manfred. “Freilegung” gefasster Skulpturen in Österreich als Problem für Kunsthistoriker und Restauratoren”. In *Gefasste Skulpturen – Mittelalter II*. Edited by Manfred Koller and Ulrike Knall, 29–39. Wien, Klosterneuburg, 2007.
- . “Hundert Jahre “Freilegung” polychromer Skulpturen: Rückblick und Konsequenzen”. In *Zeitschrift für Kunsttechnologie und Konservierung*, no. 22 (2008): 73–88.
- Krupaitė, Laima. “Medinių skulptūrų bei jų puošybos pokyčiai. Dviejų polichromuotų skulptūrų tyrimai ir restauravimas”. In *Kultūros paminklai*, no. 10 (2003): 186–194.
- . “Medinių polichromuotų skulptūrų pažaidos ir restauravimas”. In *Muziejinių eksponatų priežiūra. II dalis. Meno kūrinių restauravimo etiniai ir estetiniai principai*. Edited by Jūratė Senvaitienė, 168–194. Vilnius: Lietuvos muziejų asociacija, 2009.
- Kuodis, Povilas. “Dviejų skulptūrų iš Skarulių bažnyčios ansamblio tyrimai ir konservavimas”. In *LDM metraštis*, no. 8 (2006): 238–245.
- . “Skulptūros “Sopulingoji Dievo Motina” tyrimai ir restauravimas”. In *Kultūros paminklai*, no. 20 (2016): 210–211.
- Mannes, Jutta and Hans D. Portsteffen. “Die Marienkrönungsgruppe aus der Zisterzienserinnenabtei Oberschönenfeld”. In *Jahrbuch der Bayerischen Denkmalpflege* 47/48 (Lkrs. Augsburg, 1993/1994): 159–169.
- Marincola, Michele. D. and Lucretia Kargère. *The Conservation of Medieval Polychrome Wood Sculpture: History, Theory, Practice*. Getty Publications, Imprint: Getty Conservation Institute, 2020.
- McGiffin, Robert F. “A Method for Overpaint Retention”. In *Studies in Conservation*, 24(2), (1979): 47–53. doi:org/10.1179/sic.1979.006.
- Mercier, Emmanuelle. “Brussels–Copenhagen (1967–2017): A story of the history of polychrome sculpture”. In *ICOM-CC 18th Triennial Conference Preprints, Copenhagen*. Edited by J. Bridgland. Paris: International Council of Museums, 2017. <https://www.icom-cc-publications-online.org/1749>.

- . et al. “Study and treatment of a unique example of partial polychromy in the Low Countries: The altarpiece from the Church of Saint Denis in Liège”. In *ICOM-CC 17th Triennial Conference Preprints, Melbourne, 15–19 September 2014*. Edited by J. Bridgland, 1–7. Pulido & Nunes; ICOM Committee for Conservation, 2014. <https://www.icom-cc-publications-online.org/1369/>.
- Muñoz, María. J. R. et al. “Preliminary Studies and Conservation Treatment of the Polychrome Sculpture “Virgen Con Niño” of the Cathedral of Valencia, Spain”. In *Polychrome Sculpture: Artistic Tradition and Construction Techniques, ICOM-CC Interim Meeting, Working Group Sculpture, Polychromy, and Architectural Decoration, Glasgow 13–14 April 2014*. Edited by Kate Seymour, 52–60. ICOM-CC, 2014. <https://www.ards.be/bibliography/articles/00228>.
- Pérez, Valle B. et al. “Restoration or Tradition”. In *Polychrome Sculpture: Artistic Tradition and Construction Techniques, ICOM-CC Interim Meeting, Working Group Sculpture, Polychromy, and Architectural Decoration, Glasgow 13–14 April 2014*. Edited by Kate Seymour, 126–129. ICOM-CC, 2014. <https://www.ards.be/bibliography/articles/00228>.
- Rampon, Aurelia and Fiorella Soffini. “Scultore di area veneto-prealpina Crocefisso ultimo quarto del XIII secolo (Cristo); primi decenni del XIV secolo (croce)”. In *Restituzioni. Tesori d'arte restaurati* 17, (April – July 2016): 135–141. http://www.restituzioni.com/wp-content/uploads/2016/03/2016_rest_15.pdf.
- Taubert, Johannes. “On the Restoration of Sculptures”. In *Polychrome Sculpture: Meaning, Form, Conservation*, 138–146. Translated from German by Carola Schulman. Edited by Michele D. Marincola. Los Angeles, Getty Conservation Institute, 2015.
- Urbanek, Regina. “Laserreinigung von Vergoldung – Wirkungsweisen unterschiedlicher Geräte im Vergleich”. In *Laseranwendung in Restaurierung und Denkmalpflege* (2009): 111–122.
- Vokić, Denis and Marin Berovič. “Use of lipase to remove oil-based overpaint”. In *ICOM Committee for Conservation 14th Triennial Meeting The Hague 12–16 September 2005*. Preprints, vol. 2. Edited by Isabelle Verger, 862–868. London: James & James / Earthscan, 2005. <https://www.icom-cc-publications-online.org/2144>.
- Vuga, Martina and Miladi M. Semion. “Typical Conservation Problems of Polychrome Wooden Sculptures in Slovenia”. In *Conservar Património*, 22 (2015): 17–28. https://arp.org.pt/revista_antiga/pdf/2015009.pdf.
- Žičkuvienė, Greta. “Atrastos ir restauruotos evangelistų skulptūros”. In *LDM Metraštinis*, no. 19 (2017): 147–154. <https://www.lndm.lt/wp-content/uploads/2017/11/146-154.pdf>.

Santrauka

Polichromuotų medinių kūrinių užtapymo ir uždažymo šalinimas: Lietuvos praktika Europos kontekste

Aušrinė Dambrauskaitė

Reikšminiai žodžiai: polichromuotas medis, užtapymo šalinimas, metodai, restauravimas.

Tyrimu siekta nustatyti alternatyvias priemones Lietuvoje taikomiems polichromijos užtapymo šalinimo metodams, kurie dažnu atveju reikalauja daug laiko. Empiriniai duomenys atskleidė platesnę metodų skalę Europoje, o literatūros apžvalga rodė susistemintos informacijos šia tema trūkumą. Buvo iškelta prielaida, kad detalesnė metodikų apžvalga pasitarautų nustatant saugesnes ir mažiau laiko sąnaudų reikalaujančias procedūras. Šis tyrimas pradėtas 2020 metais kaip magistro baigiamojo darbo dalis, darbui vadovavo dr. Dalia Klajumienė bei molbertinės tapybos ir polichromijos restauratorė lekt. Greta Žičkuvienė.

Pirmoje tyrimo dalyje nustatyti keturi Lietuvos muziejų praktikoje taikomi metodai: šalinimas skalpeliu sausuoju būdu, minkštinant sluoksnį organinių tirpiklių prisotintu vatos kompresu (likučius šalinant skalpeliu), valant organinių tirpiklių prisotintais vatos tamponėliais, minkštinant pramoniniais dažų nuėmikliais (sutirštintais organiniais tirpikliais). Pastebėta, kad Lietuvoje dažniausiai taikomas mechaninis šalinimas skalpeliu. Bendrai vertinant, nustatyta, kad Lietuvoje kelių metodų kombinacijos taikomos retai.

Antroje tyrimo dalyje atskleidžiama platesnė užtapymo šalinimo metodų skalė, nustačius organogelių, hidrogelių, lazerio radiacijos, kaitros bei mikroorganizmų pritaikymo atvejus kitose Europos šalyse. Iš viso darbe pristatomi keturių tipų metodai: mechaninis (mechaninis šalinimas sausuoju būdu), fizikinis (lazeris, kaitra), veikiant tirpikliais (vatos

tamponėliais, kompresais, organogeliais arba hidrogeliais) bei mikroorganizmais (fermentais). Taip pat nustatyta dvylika anksčiau minėtų metodų variacijų, rodančių specifinių priemonių poreikį.

Lyginant Lietuvos ir kitų Europos šalių užtapymo šalinimo praktikas buvo svarstomos galimos nustatytų skirtumų priežastys. Pirmiausia atsižvelgta į medžiagiškumo specifiką. Užsienio šalių publikuojamuose atvejuose galima pastebėti įvairesnę medžiagiškumo paletę. Lietuvoje įprastai randama aliejinių arba XX amžiumi datuojamų sintetinės prigimtės uždažymų, dažnu atveju dengiančių aliejinę, sąlyginai gerai išsilaikiusią polichromiją. Tačiau visi užsienio publikacijose aptarti metodai taikytini ir aliejiniam užtapymui šalinti.

Iki šiol keturiais Lietuvoje taikomais metodais pasiekiami norimų rezultatų, tačiau nebūtinai per numatytą laiką. Išskyrus vis dar gana brangią lazerio technologiją bei nemažo pasirengimo reikalaujantį fermentų taikymą, savarankiškai specialistų ruošiami organogeliai bei hidrogeliai, abrazyvai stiklo pluošto pagrindu, mikropluošto pritaikymas sluoksniams brinkinti kompresais bei sluoksnių minkštinimas kaitra yra potencialios priemonės sluoksniams šalinti, taikytinos Lietuvoje. Šiuo atžvilgiu tyrimo autorė paskutinėje straipsnio dalyje pristato sėkmingai adaptuotą keturių metodų kombinaciją polichromuoto medinio liturginio objekto uždažymui šalinti. Taikant šią Lietuvos praktikai nebūdingą būdą remtasi technologiniais tyrimais, literatūroje pateikiama informacija bei specialistų konsultacijomis.