

Conservation of a polychrome sculpture – working on previously treated objects

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Background

During my third semester of the master programme in paintings conservation at the university of Gothenburg I had an internship at Studio Västsvensk Konservering, a conservation studio in Gothenburg run by the region Västra Götaland. During my internship I got to work on several different objects under the supervision of a senior conservator, mostly paintings but also painted wooden objects. One of these is a polychrome angel sculpture from Vänersborgs Museum. This sculpture had been in the museum's collection for a long time and its background and provenience was mostly unknown. The sculpture was in poor condition and had been partially treated in the 1980s or 90s, and we were commissioned to remove the old restoration material, clean, and stabilise the sculpture.

This article aims to describe the conservation of the sculpture and the ethics of the removal or non-removal of old restoration material.

Polychrome sculpture in Sweden

Compared to many other historically protestant countries in Europe, the Nordic countries have a relatively large amount of religious wooden sculptures made in the 12th-16th century that have survived to this day. This is largely due to the absence of a large-scale iconoclasm, which in many other countries led to sculptures in churches being destroyed (Tångeberg 1970). There are however, instances of medieval sculptures having their hands, feet, and noses cut off in some areas of the Nordics (Streeton 2017). Many sculptures have instead deteriorated due to disinterest, neglect or simply been forgotten. In the 18th and 19th century it was not uncommon for these sculptures to be sold or placed in storages or church attics which contributed to their deteriorating state (Tångeberg 1970).

Object prior to conservation

The sculpture is part of a set of two, and they had originally served as candleholders, most likely in a church. When they were originally made or where they've been previous to the museum is unfortunately unknown. Polychrome sculpture depicting icons are usually associated with pre-reformation society, but that doesn't mean that this sculpture can't be from a later period. A lot of church interiors, like retables, were replaced in the 17th and 18th century for newer ones, which might be the case here (Tångeberg 1970).

The sculpture is made from wood and painted with oil on chalk ground. Most of the body is painted light pink or beige except for a few details that are black or red. The hair, top part of the wings, and the pieces of cloth are gilded. The lower section of the wings is painted red and green. The backside is painted blue. The hands are holding a couple of wooden tubes, and one of them have a metal plate on top. These were originally made for holding candles. There is also a hole on top of the head for the same purpose. It should be made clear that all descriptions like 'left' and 'right' in this article are always from the perspective of the viewer, facing the front of the sculpture.

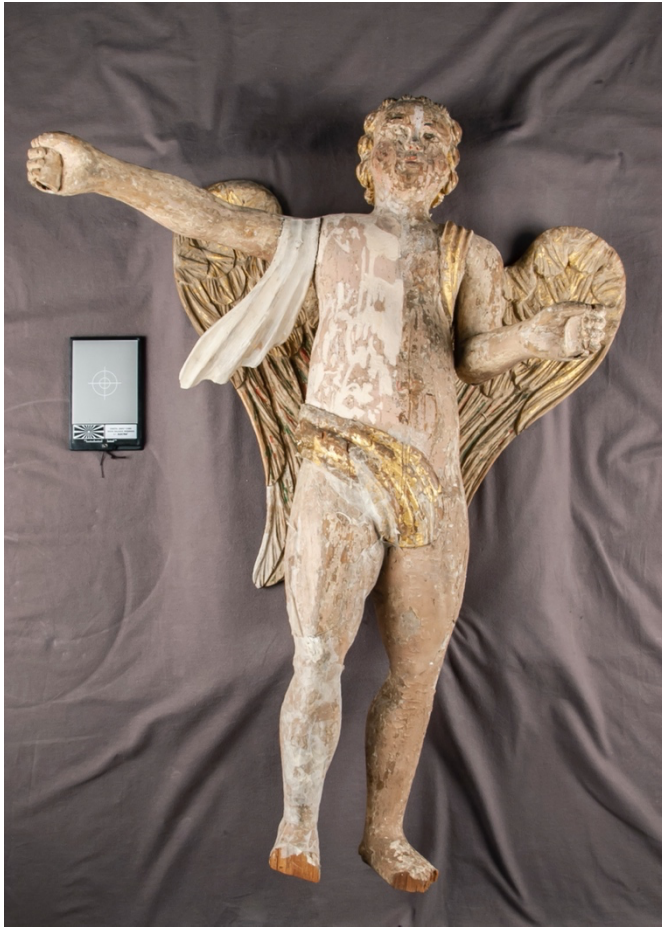


Figure 1: Sculpture before conservation

Condition

Structurally the sculpture is in relatively fair condition, except for the toes that have likely broken off by accident at some point. Toes and feet are particularly vulnerable for physical damage, and it has broken in line with the grain of the wood and have no toolmarks, which suggest that the damage is not done on purpose as a form of iconoclasm (Streeton 2017). There are also traces of glue on the broken area which means someone has tried to repair it at some point in the past. There are also some cracks, particularly around the joints and on the hands, as well as traces of wood borers (no active infestation). The paint surface is in poor condition. It has suffered extensive paint loss, delamination of paint and is very dirty. The paint is very brittle in some areas and more flexible in others.

Previous treatment

The sculpture had been partially treated in the 1980s or 90s, but there is no documentation from this that we know of, so the details are mostly unknown. A couple of paintings from the same

museum had also been partially restored during approximately the same time, something was done for the purpose of showing visitors how a painting is cleaned. It is unclear if the treatment of the sculpture was done for the same purpose or if it was supposed to be finished but left undone for one reason or another.

The previous treatment involved protective facing on one of the legs and on the loincloth, partially filled lacunae on the angel's torso, and a layer of filler covering the golden cloth on the left shoulder. The facing is made out of nonwoven cloth and according to the senior conservator, could have been attached with animal glue, such as gelatine. Both the facing and filler is water-based and some of it is easily removed, although the filler on the shoulder cloth have another consistency and seems to have been mixed with some sort of binder. The facing is difficult to remove in some areas and easier in others, as the glue seems to have a much stronger adhesion to the surface compared to the internal strength of the cloth, which breaks apart easily. The adhesive is also unevenly applied. There are also little pieces of paper stuck to the edges and underside of the wings and left shoulder cloth.

UV-fluorescence

Before treating the sculpture, it was photographed in UV light to see if it was possible to determine any binders, pigments or adhesives based on their fluorescing colour. Determining material based on UV is not the most reliable method, but it can give you an idea of what you're dealing with. The pink surface fluoresces orange, which may suggest that the paint binder is linseed oil. Some red pigments that may be present in the paint also fluoresce orange, but since it is probably mixed with



Figure 2: The sculpture in UV light (overview)



Figure 3: The torso in UV light. The fillings fluoresce dull greyish purple, the paint orange, and the chalk ground white.



Figure 4: The right leg in UV. There is a small dot of filler on the knee fluorescing bright, light green.



Figure 5: The left foot in UV. The facing in the background flouresce bright white and the glue residue on the foot is slightly green.

white it's uncertain how much effect the pigment would have on the fluorescing colour. It would make sense that the colour comes from the binder, and since the paint is not water-soluble it's likely to be linseed oil. The ground fluoresces bright white and is probably a mixture of chalk and hide glue. The filler on the torso has different colours, the former a dull greyish purple and the former a dull white. If the difference is because of different pigments or binders is unclear. The facings fluoresce a bright white, which could be either from the cellulose in the sheets themselves, or from animal glue (Measday, Walker & Pemberton 2017).

Retreating older interventions

When faced with an object that bears signs of previous interventions it is important to assess whether they should be retreated or be left alone. In an article, author Jean D. Portell (2003) describes various types of repairs to historical objects and the importance of keeping said repairs. In some cases, evidence of previous interventions can add a certain value to the objects, whether it be historical, cultural, age value, or something else.

There are various examples where previous interventions preferably should not be removed or retreated unless absolutely necessary. The original artist may have retouched or changed their own artwork (*pentimento*) (Martens 2015, p. 4). The original owner of a working object, such as an article of clothing, may have mended or altered it themselves. The repair might have become part of the object or an artform in itself, such as the practice of *kinsugi* (mending ceramic with gold), or the related practice of staple repairs. The repair might have a cultural, historical or spiritual significance (Portell 2003). These are all examples of interventions not necessarily done by conservators, but by artists or craftsmen, however, the same principles apply when dealing with object previously treated by conservators or restorers.

Going back to the article, it concludes with a list of concerns that a conservator may want to ask themselves before retreating an object:

- Is the repair aesthetically unacceptable? (Who decides this?)
- Are the materials or methods used in the repair unstable, or has the repair damaged the object? (Does an unstable or hazardous condition require immediate attention?)
- Is the repair documented? (Has the old repair acquired significance as an attribute of the object, to the extent that the object is now expected to match its old description?)
- Was the repair done by a historically significant person? (If so, does this fact enhance the object's appeal or value?)
- Is the repair culturally appropriate and desirable? (Would it be helpful to consult someone who is familiar with the object's culture of origin, such as a member of that group?)
- Does the object, even after repair, have sacred or ritual significance? (Should an appropriate expert be consulted before proceeding with any further treatment?)
- Was the repair done by, or supervised by, the artist? (If so, might the repair interest art historians?)
- Is the intent of the artist known? (If the artist has documented his or her preferences

regarding exhibition and preservation of the artwork, where might one find this information? If the artist is living, should he or she be consulted?)

- In the case of an electronic or digital artwork, is there a record of a prior substitution or migration? (If the work was reformatted, would knowing what method was used reveal how the work may have changed, and could that information influence a decision about how the work will be treated next?)

(Portell 2003, pp. 377–378)

In an article in IIC Nordic Group's journal, Anderson (2021) describes good practices in the evaluation of previous conservations. The article describes elements of evaluation in non-conservation settings and how they can be translated to be relevant for conservators. These can be used for evaluating specific material or methods, or to evaluate previous interventions in collections or individual objects. While not the focus of the article, the points mentioned in it can also be used as a guidance when making decisions about future re-conservation, which is the focus of my article. Some of the questions from the article that can be relevant in these cases are:

- What was the purpose of the conservation?
- Which is the desired result or effect of the conservation?
- What counts as a non-desired change (damage) in the case in question?
- Is there any conservation documentation?
- Is there any other information that can give information about the object's condition?

(Anderson 2021, p. 9)

Some of these questions from different authors are similar to one another, but by using them we can begin to evaluate the previous interventions done to the angel sculpture.

The purpose and desired result of the conservation is still unknown. Since it is not finished and have no documentation and done during the same time as a couple of paintings were worked on for educational purposes, there is a chance that this was the case here too. Two main treatments were done in the past, facing and filling. Facing is a procedure done to temporarily protect a surface during for example moving the object, which means that it should have been removed at some point if the conservation were to be finished. It should be easy to remove without damaging the surface underneath (von der Goltz, Birkenbeul, Horovitz, Blewett & Dolgikh 2012, pp. 374–376). In the conservation of paintings, fillings are usually made as a preparation for inpainting, but this is practice may not be desired when it comes to painted wooden objects, such as sculptures or furniture, as paint loss is often the result of continuous wear rather than physical damage, and therefore part of its history (Samet 1998). In this case it is unknown whether the conservators were planning to fill the lacunae on the entire sculpture or just half the torso to show the difference between a filled and unfilled surface. It is also unclear if they planned on smoothening out the filling and retouch it or not. The shoulder-cloth was also covered in filler or grounding with very little original gilding left underneath. It is possible that the plan was to regild the area after grounding, but we do not know for sure.

Some of the side effects of the previous conservation are that the facing is at times very hard to remove since the adhesive is very strong and thick in certain areas, as well as possibly having aged in a way that makes it harder to remove without disturbing the underlying paint. The fillings appear visually disturbing, a sentiment that is shared by me, the client and the senior conservator. The

fillings are uneven, do not blend with the surrounding colours and are restricted to only one area with a distinct border in the middle of the torso. Some of it is also on top of the original paint surface. The filler or grounding on the shoulder-cloth is obscuring the little gilding that is left, as well as being distracting and not matching the rest of the object.

The last seven questions in Portell's article are not very relevant in this case, as the object have been in storage ever since it was conserved, making it very unlikely for the later additions to have any sort of historical or cultural value. It has almost no documentation regarding its origin or conservation and is not a well-known object.

Based on these answers I would say that the removal of old restauration material is warranted, as they do not do anything to improve the object, neither structurally nor aesthetically. The facing may have protected a certain area up until now, but since it is a temporary action and the whole paint layer is going to be consolidated anyways it should be removed. It is however, in all cases, important to properly document any old restauration material before changing or removing it.

Conservation

The lack of documentation of the previous treatments makes it difficult to determine appropriate methods of conservation, as we cannot know for sure what materials were used. We can make assumptions based on ocular examination, UV-fluorescence imaging, previous experience, as well as information from the client, but there is still room for error. There are other analytical tools that may give some more precise indication, such as XRF and FTIR, but there is a limit of time and resources we can dedicate to this object. The conservation was planned in accordance with the client's wishes and with what would be ethically acceptable considering its history.

Removing the facing

The facing was removed using warm water applied to a small section at a time with a brush. At first, attempts were made to soften the adhesive with warm water on a cotton bud, but it did not work. That would have been preferable since it would mean that the surface would be exposed to less water. Hot air, ethanol, white spirit, and acetone were also tried but were unsuccessful. Eventually the facing could be removed, but since the sheets were so strongly adhered to the surface, some pieces of paint were removed with it. Fortunately, most of these could be reattached.

Consolidation

The paint was consolidated prior to cleaning as it was very fragile and could loosen during cleaning if not secure. A synthetic consolidant was planned to be used, such as Lascaux Medium for Consolidation (MfC). It was the first choice due to its flexibility, retreatability, and low yellowing over time (Riksantikvarieämbetet 2014). A synthetic consolidant is also easily distinguishable from original material. It was tested by applying it to a small area. Unfortunately, the consolidant was unable to hold the paint layer



Figure 6: The right thigh is being impregnated with consolidant through a piece of paper

down and an alternative had to be used, and eventually the choice fell on Acronal 500D, which managed to stick to the paint layer much better. The disadvantage of Acronal, at least for the predecessor 300D, is that it is prone to yellowing over time (Horie 2010, p. 167). Since it was applied thinly it might not be a problem, but it is important to keep the sculpture under observation in case it starts to yellow.

The consolidant was then applied under the paint flakes either by dripping it with a small brush or impregnated under the paint through a thin piece of paper. Any excess was wiped off with a moist cotton bud before drying, or if missed, could be removed using some ethanol after drying. After the consolidant had dried, delaminated paint was adhered to the surface by reactivating the consolidant and softening the paint with hot air and pressing it down with a heat spatula.

Cleaning

After consolidating the paint, the surface could be cleaned. Areas with loose dirt and dust were first dry-cleaned using a brush and vacuum cleaner. The surface was then wet-cleaned with saliva or 1% tri-ammonium citrate. The filler material was able to be removed with water on a cotton bud.



Figure 7: The filling on the torso and shoulder cloth have been removed but have not yet been retouched.



Figure 8: The right side of the torso have been retouched but not the left.

Retouching

A suggestion was made in the treatment proposal to retouch the visible chalk ground to match unpainted wood surrounding it. This would give the sculpture's colour a more uniform appearance and would be appropriate if the sculpture was ever to be exhibited. If not, this step would have been unnecessary as it is only cosmetic. The client accepted this suggestion, and the visible grounding was tinted with gouache. This step has yet to be completed, but the areas that have been retouched have a much less disturbing appearance. The idea came from another project at the university, where a 17th century polychrome banner was conserved, and instead of filling and

retouching all the lacunae, the edges of the remaining paint was toned to give it a more uniform appearance (Bernéus 2020).

To re-serve or not – other examples

Re-conserving previously treated objects is not always an easy task to consider. There are several examples of objects that have had some form of intervention done to them in the past that would be difficult to undo. One example is the painting “Who’s Afraid of Red, Yellow and Blue III” by Barnett Newman (1967), that had been vandalised and later overpainted. The painting was slashed with a knife by a vandal in 1986, and from 1988 to 1991 the artwork was being restored by Daniel Goldreyer, the artist’s personal restorer. After the restoration was complete, other conservators claimed that the painting had been painted over, while Goldreyer himself claimed that he had made millions of tiny dots. The Gerechtelijk Laboratorium (the Judicial Laboratory) in Rijswijk investigated the case and concluded that the entire red surface of the painting had been overpainted with an alkyd paint, probably using a roller. This paint had been applied without an insulating layer between it and the original, making it impossible to remove without causing serious damage to the original (Forder 1994). Afterwards, there were discussions about whether the surface had been destroyed by the overpainting or if it had given the painting a new function. Several professionals argued that the original texture and small varieties in nuance of the surface had been lost, while others argued that it could never be the same after the attack and could now be considered a form of concept art (Hummelen & Scholte 2012, p. 40). Even if the overpainting has destroyed the original, attempting to remove it might just make things worse, and it would be better to err on the side of caution. One might also argue that the attack and subsequent botched conservation is part of the painting’s identity, and that trying to remove all traces of it would be dishonest to its history.

Another example of re-conservation is the conservation of the Ghent Altarpiece (van Eyck 1432). The altarpiece has been cleaned and overpainted numerous times through history since it was first completed in 1432, with a significant conservation performed in the early 1950s (Dubois 2018). The conservation followed a very careful approach where the removal of old overpaint and varnish was limited. Instead, the conservation focused on securing loose paint flakes with wax and spike oil vapours. Due to time and technical limitations, the conservation was never finished, and concern remained that the varnish would degrade and yellow even further, and that the climate in the church would contribute to further deterioration of the painting (Dubois & Van Grevenstein-Kruse 2011). The painting was eventually conserved again in 2012 and continues to this day, and the old restoration material from the 1950s was removed, along with almost all of the old overpaint. The old restoration material from the 1950s had not aged well, and the old overpaint obscured around 70% of the whole surface. The original paint surface was in relatively good condition and was more detailed than the overpaint, which was degraded and visually disturbing. However, removing so much old restoration material is not an easy decision since it may bear traces of an object’s history, but the conservators assessed that the value of the original van Eyck painting weighed more than any eventual historical value that the old overpaint had (Martens 2015; Bedos et al. 2020).

Conclusion

During my internship at SVK, I worked on conserving a polychrome sculpture that had been partially treated 30-40 years ago. The sculpture had almost no documentation and not much was known about the previous treatment or why it was done. This article has described the sculpture, the old treatments, and the re-conservation of it. It has also described certain points of reference from other sources about the conservation of previously repaired, conserved, or otherwise changed objects, and used these to come to a conclusion about the most appropriate treatment of the sculpture. In the article are also some examples of more well-known works of art that have been

previously treated and later either been left alone or re-treated. The decision to remove or change previous restoration material must be judged on an individual basis depending on a number of different criteria.

Bibliography

Printed sources

Anderson, A. (2021). God praxis för utvärdering av tidigare konserveringar. *Meddelelser om konservering*, 2021, pp. 5–20.

Bedos, I., Darowska, M., De Boulard, C., Devolder, B., Dubois, H., Froyen, K., Glatigny, J.-A., Ketels, J., Laquière, N., Mortiaux, L., Postec, M., Rosier, F., Steyaert, G. & Van Acker, K. (2020). *Conservation and restoration treatment of the Adoration of the Mystic Lamb polyptych (The Ghent Altarpiece) - Phase 2: The lower register of the open altarpiece (2016-2019)*. Brussels: KIK-IRPA. Conservation report.

Dubois, H. (2018). The conservation history of the Ghent Altarpiece. *The Burlington Magazine*, 160(1386), pp. 754–765.

Dubois, H. & Van Grevenstein-Kruse, A. (2011). Bridging Controversy: The Contribution of an International Commission of Experts to the 1950-51 Study and Treatment of Van Eyck's Ghent Altarpiece. In: *ICOM-CC Triennial Conference*. Lisbon: ICOM.

Forder, C. (1994). Who's Afraid of Red, Yellow and Blue III? *International Journal of Cultural Property*, 3(1), pp. 83–92, doi:10.1017/S0940739194000093.

von der Goltz, M., Birkenbeul, I., Horovitz, I., Blewett, M. & Dolgikh, I. (2012). Consolidation of flaking paint and ground. In: Hill Stoner, J. & Rushfield, R. (eds.) *Conservation of Easel Paintings*. New York: Routledge, pp. 369–383.

Horie, V. (2010). *Materials for Conservation*. 2nd ed. New York: Routledge.

Hummelen, Y. & Scholte, T. (2012). Collecting and archiving information from living artists for the conservation of contemporary art. In: Hill Stoner, J. & Rushfield, R. (eds.) *Conservation of Easel Paintings*. New York: Routledge, pp. 39–47.

Martens, M. P. J. (2015). 'Leave it or take it away': ethical considerations on the removal of overpaintings. *CeROArt*, (HS), doi:10.4000/ceroart.4765.

Measday, D., Walker, C. & Pemberton, B. (2017). A Summary of Ultra-Violet Fluorescent Materials Relevant to Conservation. *AICCM National Newsletter*, (137).

Portell, J. D. (2003). Prior Repairs: When Should they be Preserved? *Journal of the American Institute for Conservation*, 42(2), pp. 363–380, doi:10.1179/019713603806112778.

Riksantikvarieämbetet (2014). *Lascaux Medium for Consolidation (4176) - Förstudie till utvärderingsprojekt*. Visby.

Samet, W. H. (1998). The Philosophy of Aesthetic Reintegration: Paintings and Painted Furniture. In: Dorge, V. & Carey, F. (eds.) *Painted Wood: History and Conservation*. pp. 412–423.

Streeton, N. L. W. (2017). Decoding damages to late-medieval cult sculpture from Norwegian churches. In: Bridgland, J. (ed.) *ICOM-CC 18th Triennial Conference*. Copenhagen: ICOM-CC.

Tångeberg, P. (1970). Polychrome Sculpture in Sweden. *Studies in Conservation*, 15(4, Special Issue on the Conservation, Technique and Examination of Polychromed Sculpture), pp. 316–326, doi:<https://doi.org/10.2307/1505531>.

Other sources

van Eyck, J. & H. (1432). *The Ghent Altarpiece*. [Oil on panel painting]. Ghent: St Bavo's Cathedral.

Newman, B. (1967). *Who's Afraid of Red, Yellow and Blue III*. [Painting on canvas]. Amsterdam: Stedelijk Museum.

Bernéus, A. (2020). *Conservation report – KLM014946 Huvudbaner Pebr Stålhammar*. [Internal material]. Gothenburg: University of Gothenburg.