Comparative Examinations of Cleaned Paint Surfaces

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Edited by

Paul-Bernhard Eipper

Cambridge Scholars Publishing



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This book first published 2017

Cambridge Scholars Publishing

Lady Stephenson Library, Newcastle upon Tyne, NE6 2PA, UK

British Library Cataloguing in Publication Data A catalogue record for this book is available from the British Library

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ISBN (10): 1-5275-0342-9 ISBN (13): 978-1-5275-0342-7

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INTRODUCTION

Unfortunately, the dialogue regarding cleaning methods between the English- and German-speaking communities of conservators is not a very active one. The reason might be that in German-speaking countries, the Wolbers¹ have dominated methods of aqueous cleaning and the Ormsby² cleaning suggestions for acrylic paints are not quite as popular as "homeopathic methods of surfactant-based cleaning" for oil and acrylic paints.

Not only in private conservation studios, but also in museums and art galleries, substances that, in our opinion, are potentially harmful for cleaning unvarnished or varnished painted surfaces are often used, even on paintings of the highest quality. For surface cleaning, agents are usually applied which do not reduce or remove any part of the varnish, such as baby soaps and shampoos, medicinal detergents, detergents free of alkalis, photo-film detergents or cleansing agents for dishes. Even potassium oleate (soft soap), sometimes used for the cleaning of painting surfaces, can impair the painting because soft soap does not dry. All these detergents may contain potentially damaging components, such as perfume oils, colour or bleaching agents, fungicides, solvents and plasticizers, special emulsifiers, etc. Even remnants of these detergents can soften the paint layer, as they are hygroscopic and tend not to dry. They can, therefore, cause a discolouration of paint and catalyse the decomposition of the painting materials.

Our main interest has been the comparison of painted-surface treatment methods: dry and wet with tap water, demineralized water, saliva,

¹ Wolbers, 1990, pp. 1–158; Wolbers, 1990, pp. 119–125; Wolbers, 1998, pp. 273–274; Wolbers et al., 2010, pp S. 34f.

² Ormsby, 2006, pp. 135–149; Ormsby et al, 2006; Ormsby, et al. 2007, pp. 189–200; Ormsby et al., 2008, pp. 865–873; Ormsby & Phenix, 2009, pp. 13–15; Ormsby, B. &, Learner, 2009, pp. 29–41; Ormsby et al., 2009, pp.186–195; Ormsby et al., 2010, pp S. 36f; Ormsby et al., 2013, pp. 227–241.

³ Reeve, 1987, pp. 46–50.

⁴ Eipper, 1993, pp. 9–51.

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celluloseethers, and non-ionic and anionic surfactants. Our sole purpose has been to clean the painting surface, not to remove the varnish.

In the last few years, several varnished and unvarnished surfaces of paintings by the Rhenish painter, Professor August Deusser (1870–1942) have been examined and cleaned at the August Deusser Museum (Bad Zurzach, Switzerland). After 1888, Deusser used the same painting material as van Gogh – oil paints from Lukas Schoenfeld, Düsseldorf, Germany.

Examination of the untreated and treated surfaces with different examination tools, such as a scanning electron microscope and an environmental scanning electron microscope was called for because an ordinary microscope would not have been sufficient to provide an objective view of the changes in the treated surfaces. Additionally, with laser-profilometry and 3D-measurement an objective measurement can be achieved.

Dry and wet cleaning methods have been compared and combined. The aggressive anionic surfactant, sodium dodecyl sulphate (SDS) in aqueous solutions has been reviewed before for cleaning painted surfaces.⁵

As a result, the nonionic surfactant, Marlipal® 1618/25 powder, has proved especially effective for the cleaning of painting surfaces in comparison with the strong anionic surfactant, SDS.⁶

It was also found that cellulose ethers (e.g. methyl cellulose or carboxymethyl cellulose) can be used for the cleaning of soiled oil-painting surfaces. The conservator should, therefore, find out whether cellulose ethers are effective enough to clean these objects. They reduce the surface tension of water to a certain extent. In any case, whether cellulose ethers are used in low concentrations or as pastes, the authors recommend a second cleaning with tap water to remove residues.

It would be ideal for the conservators who clean the surface of a painting to know whether the binding medium of the paint film is oil or protein in order to select the appropriate cleaning agent. The paint ingredients are not normally examined before the cleaning of the painted surface. Marlipal® 1618/25, however, is relatively safe in comparison to other cleaning

⁵ SDS is sometimes called ORVUS and is mentioned in Watherston, 1971, pp. 831–845; Watherston, 1972; Watherston, 1976; Eipper, 1993, pp. 9–51.

⁶ Eipper, P.-B., Frankowski, G., Opielka, H. & Welzel, 2004, pp. 1–152; Eipper & Frankowski, 2004, pp. 5–13; Eipper & Frankowski, 2007, pp. 473–486.

agents, even if one is not able to establish with certainty that the medium of the paint is free from protein.

For centuries, mixtures of cold pressed and refined seed oils have been used for oil paints. The proportion of cold pressed oil seeds and, therefore, of proteins in these mixtures is extremely small. This also applies to the paint film and paint layer of modern paintings that contain cold pressed linseed oil according to DIN 55933 and 55934 Standards. But it is also possible that oil paints contain oil from walnuts, poppyseeds, soya, or sometimes, as an additive, hempseed oil (mixed with linseed oil). The use of strong non-ionic surfactants may cause the lipids to leach, which may erode the paint surface and make it brittle. This effect is, however, not comparable to the effect caused by using solvents. This indicates that, before choosing an adequate surfactant, the possible damage caused by the cleaning has to be calculated.

If the paint film and paint layer contain proteins, the use of anionic surfactants, e.g. alkylsulphates, can cause these surfactants to interact with the protein, which causes a solubilization of formerly insoluble proteins. This can cause the paint surface to be eroded and become brittle. This expected damage has to be minimized.

In the following chapters, treated surfaces are examined with SEM, ESEM, Laser-Profilometry and 3D-measurement based on micro mirrors. The limits of each method of examination are pointed out and oilpaints are compared with acrylic paints.

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THE DISAPPEARANCE OF THE ORIGINAL: ON THE PERCEPTION OF ART*

PAUL-BERNHARD EIPPER

(Translated by Richard Baumann, Johanna Ellersdorfer, Christian Müller-Straten and Graham Voce)

Introduction

Unlike a reader who may be a professional and will thus know that any historical object necessarily has an altered surface from that which it had at its creation, the average visitor to an exhibition will take any presented surface as the "original" surface of the work. Thus it seems necessary to draw attention to the fact that an individual's perception of works of art is necessarily private and selective. This article aims to help illustrate this aspect of perception by providing examples taken from a conservator's everyday life. However, the first example is taken from literature, demonstrating how difficult it is to see things from the perspective of the past and of foreign cultures.

One of the most famous poems of Johann Wolfgang von Goethe is "Wanderers Nachtlied":

"Über allen Gipfeln ist Ruh, / In allen Wipfeln / Spürest du / Kaum einen Hauch; / Die Vögelein schweigen im Walde. / Warte nur, balde / Ruhest du auch."

["Wanderer's Nightsong: Over all the hilltops / is calm. / In all the treetops / you feel / hardly a breath of air. / The little birds fall silent in the woods. / Just wait...soon / you'll also be at rest." Translation by Hyde Flippo]

^{*} This paper is based on manuscripts of lectures presented by the author: "Restored art – Bridging authenticity and interpretation" (University of Witten/Herdecke, Faculty of Arts and reflection, 27.6.2009) and "The Disappearance of the Original: On the Perception of Art" (2nd International Schiele Research Symposium, Neulengbach, 29.06.2013), is based. See also: Eipper 2011, pp. 16–41; idem, 2013, pp. 21–33.

In 1902, the poem was translated into Japanese, then in 1911, from Japanese into French, and shortly thereafter back into German (assuming that it was a Japanese poem). A magazine printed it under the title: "Japanese Nightsong" as follows:

"In the jade pavilion it is still / crows fly silently / to pruned cherry blossom trees in the moonlight. / I sit / and cry." 1

This exhilarating example beautifully illustrates the difficulties of translating a text into another language, or even a different culture. In my opinion, we have, in this case, lost the original concept of the artwork through a spiritual and technological progression. As such, most interpretative conservations can only fail because of the time that has passed separating us from the origin of the work. Not only our subjective approach, but also the artwork itself hinders our desired objective perception of it. The conservator's need to mitigate the degradation process reflects the incompatibility between the act of restoration and reality itself, through the inability of the conservator to produce authentic results.

Artworks sometimes show traces of the working process that were not intended to be seen by later viewers. Artworks are altered through material degradation, and inappropriate storage conditions may accelerate this. Once aged, the work of art may thus differ significantly from the original work which represented the intention of the artist. Works of art are subject to interpretation which takes place on the basis of the spirit of a certain time and the same holds true for conservation interventions which – depending on the skills and philosophy of the conservator – may significantly alter the artist's original intention.

Artworks are also subject to later interpretations. These can, above all, influence the process of conservation – depending on the level of craftsmanship, time-specific options, aesthetic standards, assessment of the conservation requirements and time intended, as well as ideological views – and differ considerably from the original intention of the artist.

¹ After Dagmar Matthen-Gohdes, 1982, quoted in: Horst Albach: "Interkultureller Dialog".

On the perception of works of art

We are all "victims" of our own perceptions and self-assessment. These related influences are sometimes positive and, unfortunately, sometimes negative. Niklas Luhmann's² beautiful and succinct statement: "We can see what we can see, but we cannot see what we cannot see" is complemented by Armin Nassehi:³ "We are guided in our cognition and perception much more by our already extant knowledge than we might realize. If we could only agree to accept this, we could more adequately cope with knowledge."

Works of art are usually composed of a large number of different materials, upon which different specific environmental factors will have an effect in different ways. Often a particular work will have become far removed from its original intentions.

Many questions are therefore raised in the viewing of art:

Is our perception of an artwork always what the artist wanted to show us? What do we see and what remains hidden from us? How real is the current "reality" of the displayed object or historical monument? What shapes our habits in seeing and understanding the work of art itself? Do we always see the creation of the artist, or do we unknowingly (as in Plato's *Allegory of the Cave*) only comprehend an "aspect" of the genuine work of art? What characterizes the appearance of an artwork?

And who or what determines what it should look like? Which signs of ageing support the historical patina of an object and what enables us to explore its potency entirely?

What has changed and what has been changed? To what extent can conservation change an artwork and its subsequent reception? Can the fact that a conservation treatment has been executed on the work of art

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² Niklas Luhmann (8.12.1927-6.11.1998), German sociologist and social theorist. As one of the most important representatives of the sociological systems theory, Luhmann counts as one of the outstanding classics of Social Sciences of the 20th century. http://de.wikipedia.org/wiki/Niklas Luhmann.

³ Armin Nassehi (born 9.2.1960), German sociologist, lectures at Ludwig Maximilians University in Munich. http://de.wikipedia.org/wiki/Armin_Nassehi.

⁴ Lisa Nimmervoll: Wissen schränkt unseren Horizont ein. In: Der Standard, April 5/6, 2014, p. 26.

influence the discussions of art historians? And does this process expose subjective arbitrariness?

Are there objective rules for performing a successful restoration? Is there something of a universal approach to art restoration or should the rules be re-established with each and every conservation project? Which thoughts guide the conservator when, for example, they undertake cleaning, and what criteria can be applied to ensure that such cleaning is properly carried out?

When viewing artworks, one does not normally approach them from an "unbiased" perspective; we are rather essentially influenced by our training, our various impressions, and expectations – "our world of accumulated knowledge".

Awareness of these control mechanisms and predispositions increases the chances of approaching an approximate "objectivity". What does this mean for the practice of restoration?

Which "internal enemies" must the conservator-restorer overcome in order to approach the original artwork properly?

Artworks change materially as a result of their ageing, as does the way they are received. "Collective" patterns of reception can indeed be overcome by individual "unbribable" observers, but are there ways of receiving that stand the test of time while remaining both coherent and "correct"?

Conservation interventions have a significant impact on what the public perceives as the "aura of the original". Seemingly minor interventions on the surface of an object can produce results that deviate from the "historical truth" or original condition.⁵ Which options are available to work in restoration, apart from historically changeable "tastes", in a sustainable and conserving manner, and how can one stop subjectively based tendentious practices, in order not to endanger or even abnegate the "age-authenticity" of an artwork? When should one stop retouching? When to stop cleaning?

⁵ Janis, 2005 pp. 1–232; Matyssek, 2010, pp. 1–176.

On the objectivity of perception

Since ancient times, people have been interested in the objectivity of their own perceptions. The Greek philosopher Plato wrote about this in his so-called *Allegory of the Cave*.⁶ Also for Frimmel-Traisenau, the gnoseological progress of art historians is based on observation and he is fully aware of its subjectiveness: "The beginning of gnoseology in art history lies in seeing ... The art historian must understand to observe subjectively, like the aesthete, his emotions caused by works of art and to link them methodically to each other; and, like a critic of style, finally he must combine this with the sensitivity of the connoisseur's intuitive observation of, and so he, of course, has to verify everything carefully by a conscious, perceptive, honest, and sound study of the works in question." (Translation)

It is, therefore, completely natural and desirable for the critical beholder to not always trust the perception: "[Art history] owes its existence to the general suspicion of perceptions: namely that perception is not sufficient

turned towards these shadows, they interpret and name them as though they were

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⁶ The Greek Philosopher Plato (427–347 BC) describes in the seventh book of his major work "Politeia"/"The Republic" (Pol 514a–517a), 370 BC, the "Allegory of the Cave", which is still used today as a standard introduction to the gnoseology as one of the main pillars of philosophy. From it, what is interesting to us is the conversation among the people who have been tied up in an underground cave since childhood, so that they can neither move their heads or bodies and can only see the opposite facing cave wall. They only have light from a fire that burns behind them. Between the fire and their backs there is a wall. Pictures and objects are carried past this wall and cast shadows on the wall in front of them. The prisoners can only perceive these shadows of the objects. When the carriers of the objects speak, their voice bounces back from the wall sounding as though the shadows themselves are speaking. Since the world of the prisoners is exclusively

⁷ Frimmel, 1897. Theodor von Frimmel-Traisenau (1853–1928) was an Austrian art historian, musicologist and Beethoven scholar. Frimmel-Traisenau went to school at a secondary school in Vienna, studied medicine and graduated as a medical doctor in 1879. From 1881 to 1883 he was employed at the Austrian Museum for Art and Industry. From 1884 to 1893 he was curator at the Wiener Hofmuseum, later director of the Galerie des Grafen Schönborn-Wiesentheid and professor at the Wiener Athenäum. Of note is his Beethoven research. Frimmel-Traisenau was one of the last contemporaries of the composer. His bequest can be found at the Beethoven.

for the understanding of art and has to be supplemented, if not completely replaced, by other knowledge."8 (Translation)

This statement shows us that facultative overestimation in art history is not a new feature, although one should assume that conscious modesty limits the boundaries of our own horizons.

Visitors to exhibitions are, however, sometimes misguided by secondary sources such as the labelling of the work of art or descriptions in publications. Information on previous conservation treatments is rarley given. This means not simply accentuating the art historical approach, but it equates to censorship. Museum interpreters should take special care of this aspect in future.

Questions on the verification of perceptions of art

In this article the author would like to answer three of the questions raised above in more detail:

What do we see and what stays hidden from us?

1. Painting technique

The question of what we see and what remains hidden might first and foremost be answered by the following: "We see the paint layer and the carrier is hidden." Priming, imprimatura, sketches, corrections, etc. are more or less visible depending on the transparency of the overlying layers. Priming, imprimatura and underdrawing are occasionally part of the image and can be apparent and also considered. However, as a rule, they were not intended for accentuating the painting. Over the course of time these factors can affect the perception of the surface and the image, sometimes even dominating it. Some of these effects attract and sometimes irritate the beholder. Therefore, some of these factors need to be addressed in order to enable the beholder to distinguish between them.

Under the paint layer of the paintings "Allegorie des Geschmacks" [Allegory of taste] and "Allegorie des Gehörs" [Allegory of Hearing], both in the

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⁸ Germer, 1999, pp. 194–207.

⁹ Up to 1985 it was considered that, for example, for Dutch panel paintings, Dutch oak panels were used. Dendrochronological studies show that these are from the Baltic States

collection of the *Alte Galerie* at the *Universalmuseum Joanneum Graz*, AG Inv.-No 884 & 885 by Johann Georg Platzer (1704–1761), we find half a map. Platzer has recycled a copper printing plate. He cut the master copy of a map apart in order to make it into a support for two of his works. He applied a priming layer and painted on that. In raking light with 3D Fringe Projection Scanning it can be seen that a map after Gerard Mercator, the "*Bavaria Ducatus*" of 1632, lies beneath. This practical "recycling" was not intended for the spectator and was only discovered in 2007.

We can see a complete underdrawing in Jan van Eyck's unfinished painting *St Barbara* which, in completed paintings, would remain hidden (or, at most, show through in a few places). Undoubtedly, these sketches were not intended for the eventual viewers.

In Michaelangelo Buonarroti's incomplete *Manchester Madonna*, the preparatory greenish umber underpainting of the flesh tints can be seen. He wanted to let the flesh tints remain softer than they would have appeared had he painted them directly over the hard white ground layer. In the Baroque period, we tend to find pink-red ground layers, and in the Classical period mostly cool, grey imprimaturas.

In Lorenzo Costa's *Portrait of a Young Man*, we find pounce marks on the eyes and nose. This "painter's guide" was never intended for the viewer. What the old master could not know was that, over time, the naturally increasing transparency of thin oil-paint layers, a condition exacerbated by heavy restoration treatments (especially cleaning and varnish removal), cause the underpainting (also preparatory sketches, pounce marks, lines, numbers in grid transfers, captions and tips for the painter's assistants) to become visible through the paint layer.

Of course, we do not find such image systems only in old master paintings. For example, E. L. Kirchner's *Mandolinistin* ["Mandolin Player"] from 1921 was also painted with diluted colours.¹¹

Some painters complete their paintings in the frame, and in such cases, frame and painting represent a unit that may not be separated. If such paintings are removed from their frames, the edges of the paintings reveal the painting process. In Maria Lassnig's (1919–2014) painting "Vorschlag für eine Plastik" ["Suggestion for a Sculpture"], a painting note can be

¹⁰ Eipper; Rathgeb; Paar 2012, pp. 15–21.

¹¹ Skowranek, 2013, p. 11.

found, which she would have written for herself. The note is written in ballpoint pen on the head before the artist painted over it. In writing this note, she is part of a long tradition: this method had already been used, for example, by Konrad Witz¹² who left notes on colours for his painting assistants to execute his work, ¹³ and also 500 years laters by August Deusser (1870–1942) who wrote himself reminders for his colours on painting primers.

Egon Schiele (1890–1918) provides us with an interesting, yet extreme case. There exist several versions of his Krumauer pictures, ¹⁴ one of which is in the collection of the *Neue Galerie* in Graz. The painting "*Stadtende/Häuserbogen III*", Inv.-No I/466, 109.3 x 139.7cm, oil on thin, industrial pre-primed, coarse linen in simple basketweave (manufacturer's stamp missing) emerged in 1918 (Signature: "EGON SCHIELE 1918" below centre). On the *verso* of the painting a portrait sketch is visible.¹⁵

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¹² Konrad Witz (* approximately 1400–approximately 1446) was a German-Swiss painter in the first half of the 15th century. He is considered with Hans Hirtz to be one of the most important painters from the Upper Rhine in the late Gothic period influenced by the Dutch (Robert Campin, Jan van Eyck, Rogier van der Weyden) "ars nova" ("new art", that is, the early Renaissance north of the Alps).

¹³ So is, for example, in "Esther before Ahasver", approximately 1435 (Kunstmuseum Basel) a colour note written in red pen is visible with infrared (reproduced in Nicolaus, K.: Du Mont's Handbuch der Gemäldekunde, Köln 1979). The label "cinnabar" was probably given explicitly because different red tones are apparent in the picture and cinnabar was only to be used in this place. (Information by Dr. Bodo Brinkmann, Kunstmuseum Basel.)

¹⁴ Krumau (today: Český Krumlov) lies in the southern region of the Czech Republic. More thematically related paintings of the subject matter are: Krumau (Stadt am Fluss), 1916, 110.5 x 141 cm (formerly Neue Galerie der Stadt Linz), mixed media (tempera, graphite, oil paint) on canvas; Inselstadt, 1915 (Krumau/Häuserbogen II) 110 x 140 cm, Leopold Museum Vienna; Krumau/Häuserbogen I (Die kleine Stadt V), 1915, 109,7 x 140 cm, Israel Museum, Jerusalem; Die kleine Stadt III, 1913, 88,3 x 87,6 cm, Leopold Museum Vienna.

¹⁵ Previous owners, Karl Grünwald, then Wolko Gartenberg, then Hugo Bernatzik, Vienna. The painting was acquired in 1956 from this collection. Cf.: Kallir 1966, p. 458, p. 231; Gesamtkatalog der Gemälde, 1988, p. 66, p. 61, p. 298; Kallir 1990, p. 331. A re-use of already discarded sketches and more or less completed paintings by Schiele is rare, but there is precedent (e.g. a landscape of a cluster of houses from Krumlov is the formerly considered lost work "Weltwehmut" (1910) and on the unfinished last painting by Schiele "Liebespaar" (1918) one can recognize overpainting of faces and figurative representations with the naked eye (Leopold, 1972). Under "Die ausgebrannte Mutter", 1909–1911, lies a completely overpainted portrait, a row of houses and a naked back (Emberger-Gaisbauer,

The oil paint comprises many layers, some with impasto, others thinly glazed. The reason for this heterogeneous character was first recognized in May 2011.¹⁶ Under the painting there are two incomplete, discarded portrait sketches. (The heads of the portraits are horizontally oriented, one on either side, resembling a playing card. After Schiele rejected his original portrait orientation the canvas was changed to a landscape format.) On the verso of the painting a sketch of a man with a moustache is visible due to the impression made by the strong pressure of the paintbrush that was used to apply diluted paint (mostly Prussian blue, ultramarine blue, and black). 17 This sketch was previously documented, though never interpreted as being replaced initially by the double portrait on the recto. It was seen as a separate sketch for an unexecuted painting. The unusual choice for Schiele to paint on raw canvas was not questioned at that point: upon closer examination of the painting technique, it was shown that the paint was not just applied to the raw canvas, but that it was pushed through from front to back. It is suspected that Heinrich Benesch or Franz Hauer is depicted on the *verso*. 18 A comparison with one of Schiele's drawings at the Albertina in Vienna suggests (among other details) that the impasto painted portrait to the right is Heinrich Benesch. 19

A second portrait sketch which lies on the left side of the painting was made with less diluted colours. This was not visible until 2011, and was unknown to art history. The overpainted forehead with hairline is visible in normal light, while the whole sketch is visible in transmitted light.²⁰ In the

^{2009,} issue 3/4, pp. 278–286). Under "Die Eremiten" (1912) and "Krumau an der Moldau" (1914) are traces of another motive (ORF-Information 13.8.2011).

¹⁶ Eipper 2011, pp. 44–45; id. 2011, p. 8; id. 2011, pp. 14–18; id. 2012, pp. 95–106.

¹⁷ These sketches are documented and illustrated in Kallir, 1990, p. 337.

¹⁸ Kallir, 1966, p. 231, 458; Kallir, 1990, p. 331.

¹⁹ The inspector of the K.U.K railway, Heinrich Benesch, was an art collector and one of the first and most important supporters of Egon Schiele. His son, Otto Benesch was an art historian and curator of the Graphics collection at the Albertina, Vienna. The double portrait of them was created in 1913, oil on canvas, 121 x 130 cm, Inv.-No. 12 and can be found today at the Lentos Kunstmuseum, Linz.

²⁰ It is also possible that a portrait after the painted sketches was never pursued (there are similarities with Erich Lederer, Hugo Sonnenschein and Albert Paris von Gütersloh too), for which no other studies exist, i.e. a unique portrait for which no other studies exist. As a rule, there are often preliminary sketches on paper or cardboard before Schiele completed an oil painting. In principle, it is also possible that this is now unknown.

author's opinion, it is probable that Schiele put down the preliminary sketches for a double portrait "Heinrich and Otto Benesch" on the ground layer in 1913, then five years later he painted "Stadtende/Häuserbogen III" over it. In doing so, Schiele very artfully and originally worked the heavily impastoed portrait of Benesch (after the impasto paint layer had dried) into the current picture of houses in 1918. The eyes, ear and moustache he overlaid with trees, the back of the suit jacket became a wall and the arms were worked into a row of houses. This integration of a previously discarded portrait is exceptional in Schiele's opus. Did Schiele want us to discover the portrait? It would be unprecedented for Egon Schiele, in the last year of the war and in the last months of his life, to turn a portrait into a view of a city in which the architecture itself would be painted around the portrait so that the subject of the portrait forms some kind of "foundation", as if buried in an imaginary cemetery, overgrown with vibrant trees. It also shows a certain degree of sensitivity on Schiele's part in dealing with the image of his former sponsor which he did not simply want to paint over and obliterate. Integrating the portrait made the creation of the new image quite difficult. It is striking that small figures surround the two heads which not only revitalize and inhabit these areas. but also allude to the presence of the portraits in their gestures. In this there is a wide spectrum of possible interpretations for future discovery. ranging from the humorous approach of a started and then discarded portrait finally used as a foundation for another image, to a deeply serious handling of life during the war and its ending. This late discovery²¹ also demonstrates how important it is that conservator-restorers work together with art historians on the objects of a collection: this is a core task of a museum which tends to be lost in the background due to tight exhibition schedules and the dead hand of hierarchical structures.

2. Material degradation

Material degradation leads to the second question:

Is what we see really what the artist wanted to show us?

Often, time will change what we see without outside intervention. And, due to this, we tend to believe that what we see now is what has always been. However, change is sometimes intentional: Andy Goldsworthy (born

²¹ Within the recent Schiele literature (Comini, 1974; Kallir, 1966, 1990, 1998; Leopold, 1972, 1998; Nebehay, 1989; Schmidt, 1989; Natter; Storch, 2004; Natter; Trummer, 2006; Price, 2005; Schröder, 2005; Kuhl, 2006) this has not been noted.

July 26, 1956), incorporates anticipated changes deliberately into works of art such as *Twigs and Branches* which has been transformed naturally by environmental influences away from its initial state and this change is documented photographically. For the artist Dieter Roth (1930–1998), the decay of works is an artistic subject in itself.

If we regard art objects as things for our interpretation, we must accurately explore their veracity. German "source studies deal with the critical examination of sources which are used for the interpretation of a given subject. The critical judgement of sources examines the value and significance." Many art historians have questioned the "truthfulness" of artefacts. "Sources do not consist only of the authentic content of facts, but of information communicated by people with certain interests, selected and handed down over time. These sources are very often biased, unreliable and manipulated, and in any case have already been interpreted." The assumed authenticity of a source is a prerequisite of the usual interpretation by art historians.

But previous states can only be reconstructed under certain circumstances. The source quality of an art object is reliant on the unchanged condition of the original. However, this can be no more authentic than at its time of origin. Droysen wrote on this as early in 1883: "The task of the historical critic can thus only be to determine the relationship of material that we intend to use historically, to the act of will, about which it gives us information."²⁴ (Translation)

We should also not forget that artists have always been bound by the availability of materials in a particular period. For example, varnish

²² Bauer, 1989, p. 118. Hermann Bauer (1929–2000) was a German art historian. His research was focused on the history of Bavaria, his methods were of the critical form (after Sedlmayr), iconology (after Erwin Panofsky), based on phenomenology (after Edmund Husserl). He coined the terms of the picturesque in the painting of the 18th century and the maquis (spots) in the painting of the late Rococo. http://de.wikipedia.org/wiki/Hermann Bauer (Kunsthistoriker).

²³ Goertz, 1995, p. 87. Hans-Jürgen Goertz was Professor for History until 2003 at the Institute for Social and Economic History at the University of Hamburg. http://de.wikipedia.org/wiki/Hans-J%C3%BCrgen Goertz.

²⁴ Droysen, 1883, pp. 98–99. Johann Gustav Bernhard Droysen (1808–1884) was a German historian. First, a teacher at the secondary school of the Grey Monastery in Berlin, he was a private lecturer from 1833, and from 1835, Associate Professor at the University of Berlin, from 1840 Professor at the University of Kiel, then in Jena (from 1851) and again at the University of Berlin (from 1859).

coatings of heavily discolouring linseed oil were only replaced with the less yellowing dammar from Sumatra in 1832. Moreover, certain colours were not always available. Prussian blue was first manufactured in 1704 and superseded smalt as a blue pigment. Watercolours and gouache discolour under light. Graphics on industrially produced paper of the 19th and 20th centuries discolour more rapidly than rag papers from Rembrandt's time, for example, which is why in museums the display of coloured drawings is limited to 10 weeks, and graphite, charcoal and red chalk drawings limited to 12 weeks at a time. This is followed by a twoyear rest period in order to minimize the degradation of the paper and fading of the colours. Ultimately, however, the material degradation of an object will prevail.

Everything is in transition and will come to degradation. Heraclitus' saying "nothing is as constant as change" (Translation) also applies to paintings, as will become clear in the following. In Johann Georg Platzer's painting "Allegorie auf den Geschmack", irreversible discolouration of the original madder glaze on the child's suit jacket was caused by light exposure. The original colour is only preserved in the areas protected from light under the frame rebate.²⁵ Earth colours, by contrast, are almost inert, and do not degrade further; thus their colour is maintained. Without knowledge of the original colours the observers accept the colours they see today as authentic, which is a fallacy.

Also, in the work of Van Gogh (1853–1890), the luminous chrome vellow (Lead (II)-chromate, PbCrO4) has changed, disappearing under a darkening brownish layer²⁶ when exposed to UV light.²⁷ This phenomenon can also be observed in Schiele's work.

The answer to the question "Can that be restored?" has to be "No". To illustrate this, the terracotta warriors from *Xian* (246–208 BCE) have also lost their original appearance. Due to the effects of being buried in the ground, the original appearance has been ruined. Today we would cringe at the brightness of the original colour version and find the appearance of the figures after excavation more pleasing.

²⁵ A phenomenon that can be observed on many paintings, e.g. works by Van Gogh. Imhoff 2009, p. 303.

²⁶ Pohlmann: Schäning, 2011, pp. 21–29.

²⁷ Monico et al., 83, 2011 (4), pp. 1214–1224; Monico et al., 83, 2011 (4), pp. 1224-1231

The "Athena Lemnia" is another example (Roman marble copy, 1st century AD after a Greek bronze statue of Phidias, around 450 BC, about 250 cm high) whose reconstructed colour version is quite shocking to us today. The same holds true for the reconstructed statue of Mercury in the reconstructed Tempel of Tawern (district of *Trier-Saarburg*) which has also been reconstructed as a colour version.

The "Bunte Götter" ["Colourful Gods"]²⁸ travelling exhibition has helped with the understanding of original colour versions, though long before, Klenze, Schinkel and Alma-Tadema²⁹ dealt with this topic and left evidence of their interpretations.

"Bunte Götter" is still only a small step away from the ongoing overrestoration of pieces that we find taking place in great numbers up and
down the country, above all in churches and monastaries, where wellmeaning, unbridled pastors and priests, local councils and "friends of..."
support and do too much "good". An over-cleaned, centuries-old object
coated with a shiny bright varnish (e.g. Pfalzgraf/Maria Laach; Znaimer
Altar/Belvedere, Vienna; Gonzaga-Truhe/Landesmuseum für Kärnten,
Klagenfurt) can be regarded as "untrue", as it has lost all traces of its
actual age or history. There is thus a disparity between the cleaning or
glossing of the object (however inadequate) and this being seen as
covering up or hiding the "true" age of the object, even if the observer is
conscious that a glossy varnish produces necessary depth of colour.

In principle, views on this have changed in a relatively short time. When one visualizes the additions to the *Aegineten* frieze³⁰ in the Munich *Glyptothek* by Thorvaldsen,³¹ in which the famous sculptor struck off parts

²⁸ Brinkman, V.; Scholl, A.: Bunte Götter. Die Farbigkeit antiker Skulptur. Munich 2010, pp. 1–260.

²⁹ Sir Lawrence Alma-Tadema (1836–1912): Phidias shows his friends the Parthenon frieze (1868), Birmingham Museum and Art Gallery.

³⁰ In the Glyptothek in Munich is the group of Aegina pediments from Temple of Aphaia (east and west gable). For over a century they were set up with supplements after a reconstruction Thorvaldsen in Munich. Thorvaldsen's additions were carried out after classical notions but could not be kept from an archaeological perspective.

³¹ Bertel Thorvaldsen (1770–1844), Danish sculptor. Son of an Icelandic wood carver. At the age of eleven he was a student at the Royal Danish Academy of Art under the tutelage of Nicolai Abraham Abildgaard. From 1796 to 1803 he stayed in Rome on a scholarship. Recognition by Georg Zoega and Antonio Canova. In 1805 the Royal Danish Academy of Fine Arts in Copenhagen made Thorvaldsen a full

of the original sculptures in order to install his additions with the most straightforward attachment points, additions that were removed again after the war. This then demonstrates that today the fragment is found to be more honest and also "more beautiful" than the "completed" artwork.

Sculptures were not the only art works changed, most of the formerly collected and now discarded gothic works of art were altered, as was the stone fabric of cathedrals, for example that of the Cathedral of St George (1175–1250), Limburg/Lahn, where remains of the original colouring were removed in the years 1872 and 1873. In the 19th century, a specific aesthetic, perhaps an ideology of "the authentic" was postulated, although at the same time the polychrome monuments from antiquity began slowly to become part of archaeological knowledge. Medieval monuments were also cleared of their plaster mouldings, in order to satisfy the maximum extent of the supposedly originally visible stone surfaces. In reality, Medieval rooms were often richly polychromed and furnished with pictures. The disregarding of this in the 20th century has, conversely, led to fatal preservation errors. In the 19th century, plaster exteriors were rigorously removed and in the post-war period historicist style interiors were efficiently removed as well. Spever Cathedral is a particularly prominent example of this. The fact that we have today become used to the appearance of "clean" stone cathedrals, and that we consider this authentic, is, in part, due to the bitter discussions which were held regarding the restoration of the colourful appearance of *Limburg* cathedral, from 1968 to 1972. Since then, there have been further examples. In the whole Middle-Rhine area, a veritable campaign has seen numerous late Romanesque structures regain their colours. The results were quite surprising for many people. Undeniably these treatments today also serve a protective function, and irregularities in the substance of the walls have provided a weighty argument for adopting this coloured version. Such walls seem to ask for a "raincoat" of plaster and paint. The coating of the stone monuments is now re-established. In 1975, for example, Mainz Cathedral returned to a coating, red in appearance, suggested by the colouring of 1975, and following this, St Mathew's in Trier, and the Cathedral of Cologne have experimented with colours on their roofs.

member and in the same year, the Academy of Fine Arts in Bologna honoured him with an honorary membership. He received orders by Napoleon Bonaparte. In 1818 he became Professor of the model class at the Academy of Fine Arts in Copenhagen. The Thorvaldsen Museum Copenhagen was inaugurated in 1846 and was built around the courtyard of Thovaldsen's grave.

http://de.wikipedia.org/wiki/Bertel Thorvaldsen.

3. Interpretations

With the third question – "What was changed?" – we have reached manmade changes.

How much an artwork will change over time through material degradation has already been touched upon. Changes are, for example, particularly clear with the golden *Madonnas*: these are roughly cut wooden statues, intended to be coated with gold leaf (details had not been applied directly onto the wooden core because details were drawn in the leaf).³²

There is also, for example, the originally coloured *Imad*-Madonna, which was later finished with gold leaf, that was then removed again at a later point in time (evident by nail traces). Later still, it lost its surface entirely, so that today the wood is exposed, and it conforms in no way to its original appearance: the confusion is perfect.

But it was not only in earlier times that objects were treated and adjusted according to the tastes of the time. Our contemporaries also changed objects through manipulation or restoration (from cleaning to reconstruction). Their present appearance never existed before. However, many of us still believe that the results refer to its original appearance.

Format changes show this aspect in its obvious brutality. Previously, many paintings were cut from the stretcher, usually when lining was necessary, because of canvas punctures, and they were stretched onto a new, but smaller stretcher. As the tacking margins were still on the former stretcher, and as the painted material at the edges had to be changed for the new stretching, the format of the image would become smaller and no longer fit the frame, which is why the original frame would be replaced. Giotto's "Polyptich Baroncelli" from Santa Croce, Florence, 1328, is one of thousands of examples which were cropped during the Renaissance.

Instead of inducing a sad shake of the head, the following incident may well conjure up a wry smile: when, after German unification in 1871, pictures of the first German Emperor Wilhelm I were scarce, but representations of Wilhelm I as king of Prussia were abundant, these earlier royal portraits were re-modelled. The remodelled portraits, one of which can be found in *Wernigerode Castle*, depict a very youthful emperor Wilhelm I that does not resemble a 75-year old. Under UV, we can see how it was reworked. This small story illustrates a nonchalant attitude to

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³² e.g. Große Goldene Madonna, Hildesheim. Endemann, 2012, p. 421.

artworks and shows that reinterpretations and deletions of previous states of being were not given a second thought.

The topic of restoration of art and cultural heritage is closely linked with architecture, which is why in this article there are also examples of renovated buildings. There have also been instances of intervention in architecture that are not appropriate to the authenticity of an aged object. An example of an intended, but fortunately halted reinterpretation is provided to us by the *Acropolis* in Athens: in 1832, Otto, son of Ludwig I of Bavaria, became King of Greece. Two years later, Schinkel, who had never been to Greece, received a contract to design a royal palace situated on the site of the *Acropolis* itself in Athens. The palace was to occupy roughly the eastern third of the *Acropolis* plateau. In front of it, the antique *Erechtheion* and the *Parthenon*, preserved as ruins, would lie between a hippodrome. Dominating the overall plan was a colossal statue of *Athena Promachos*, the warrior goddess "fighting on the front line". This was challenged with criticism from Leo von Klenze.

Karl Friedrich Schinkel and Leo von Klenze were colleagues and presumably also friends; Klenze had studied from 1800 to 1803 at the Academy of Architecture in Berlin with David Gilly. They were competing with each other for new Athenian orders, so it was certainly a disadvantage for Schinkel that Klenze travelled to a presentation in Athens in July 1832 with Schinkel's drafts as well as his own plans. While Klenze was thrilled with Schinkel's designs, he did not want to recommend him for the project. He had carefully considered his counter-arguments during the long trip. From today's perspective, these arguments are understandable: Schinkel had, due to a lack of space, attached the stables and mews block directly to the Propylaea and thus defaced an ancient building. Additionally, the cottage-like, low-rise buildings were not suitable for a European monarch. Schinkel's plan was based on outdated, incomplete scale drawings of the Acropolis by Stuart and Revett from 1753. As a result, the access path ran directly over the Temple of Nike. Schinkel saw this mistake later. He had revised his plans shortly before his death for the print version of his "Werke der höheren Baukunst". Here, on the foundations of the plans by Leake, he led the access path in a wide arc around the Temple of Nike. He apologized to Klenze for the error and wrote that he had never intended to commit such a sin as to destroy

anything from antiquity, no matter how small.³³ Fortunately, none of these plans was realized.³⁴

The situation is different in the case of *Sveti Stefan* in Montenegro, where a small, picturesque fishing village with houses from the 15th century was pulled down in the 1950s and 1960s. It was then completely reconstructed as a hotel island with about 250 bedrooms. The streets, roofs and façades were not based on the dimensions of the demolished houses. The village's original character was not preserved.³⁵

Similar cases are the colourful houses on the river Inn in *Innsbruck* or the coloured houses on the marketplace of *Schärding* near *Passau* which purport to carry their original colours. Such changes under the premise of necessary renovations deceive most people's perceptions of authenticity. Today the reconstruction of the *La Fenice* Opera House in Venice and the *Gran Teatre del Liceu* in Barcelona shock us, as do the houses destroyed in and after the war and then newly constructed on the *Römer* in *Frankfurt*, the *Knochenhauer-Amtshaus* in *Hildesheim*, the palaces of *Braunschweig*, and *Potsdam*, and *Berlin*. Although the Great Hall at Windsor Castle was rebuilt with faithfully reconstructed tools from the time of its original construction, it is a new building with a different age to the one it seems to be – a dichotomy that is familiar to us in the use of modern scenes in Baroque opera, or in the performing of historical music with modern instruments which we usually hear in modern houses.

The same is true of any parts of a building completed after the original construction. The exterior of the *Goetheanum* in *Dornach* was finished in 1928, the interior great hall only in 1998. Additions do not always fit. The figures in the *Creation of Mankind* in Washington Cathedral appear as somewhat plasticized nudes from a modern magazine. Architecture and design imitating earlier styles are always different from the original. A different example is the *Catedral de Sta Maria la Real de la Almudena* in *Madrid*, which was finished in 1993, after construction had begun in the 18th century. Differing from the *Sagrada Familia* in Barcelona, the features are not in the true Neo-gothic style. In a particularly harrowing

³³ Hans Eyber: Schinkel's Dream Royal Palace on the Acropolis. http://www.schinkel-galerie.de/Download/Koenigspalast Text.pdf (visited 14.2.2011).

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Judith Wiesauer: Inszenierung der Griechischen Antike am Beispiel des Neuen Akropolis Museums. Diplomarbeit, University of Vienna 2010, p. 9f.; http://othes.univie.ac.at/11645/1/2010-10-12 0502939.pdf.

http://imageenvision.com/photochrome/19628-photo-of-the-island-village-of-sveti-stefannear-budva-montenegro-dalmatia-by-jvpd.

way, in an eruption of chaos, features from all periods are present within the space. The glaring "kitsch-potpourri" is dazzling, an abstract-pop window, which is simply unrelated to the space, the gaudy coloured paintings in the choir and on the ceiling literally jump out at the viewer. Entirely newly gilded Baroque altars with new figures of recently canonized saints leave the viewer confused and disoriented. Completely new overgilded frames do not match the paintings from the 15th and 16th centuries. The resulting space is most unfortunate. Here one may also, as is often the case, blame the Catholic Church, because the insensitive brutality of some of its representatives is hard to beat. Their disrespect for historic buildings is compounded by a strident arrogance that simply relies on the logic of buildings remodelled in a timely manner. The decor management of the post-war period illustrates this failure abundantly. The sentence ascribed to Charles V when he saw the Cathedral in Cordoba which was converted from a mosque remains timeless: "I did not know what it had been all about beforehand. For if I had known, I would not have allowed anyone to lay a hand on the old building. They have taken something unique in all the world and destroyed it to build something you can find in any city." (Translation)

A suitable example of restoration history is provided by the prominent Strettweg chariot (7th century BC).³⁶ This ritual vehicle comes from an unusually richly decorated royal grave (6th century BC) near the town of Strettweg in the vicinity of Judenburg in Styria. This masterpiece of Iron Age craftsmanship is unique. Although countless scholars have discoursed on the appearance and meaning of the "Kultwagen von Strettweg", its actual function is still unknown. Possibly, it represents a ritual or a sacrificial procession. The object, with its height of 46.2 cm, depicts a procession of two riding warriors, a man and a woman as well as two people leading a deer by the horns. In the centre of the chariot stands a naked female figure (a goddess?) holding a dish in her hands raised over her head. The many different elements of the artefact, found individually, were re-assembled after its discovery in 1851. At the World Exhibition in Vienna in 1873, it was again presented, but in a different assemblage; to do this, several indents were cut into the prehistoric metal in order to stabilize the chariot with wire. After further restorations in 1881 and 1901/02, several screw threads were drilled in and a large bowl from the same find was mounted on top. It stayed there until 2006 when it was removed during a further restoration which was finished in 2009.³⁷ An

³⁶ Displayed in the Archaeology Museum, Universalmuseum Joanneum, Graz. ³⁷ Egg. Lehnert: Lehnert. 2010. pp. 1–25.

indifferent viewer might expect to see the "Kultwagen" in its "true" reconstruction or mounting. Of course, wires, screws and even the bowl had nothing to do with the original object. These non-original aspects obscure the object and leave the less informed viewer out in the cold with incorrect conclusions. During the last treatment, carried out in 2009 at the Römisch-Germanischen Zentralmuseum in Mainz, earlier restorations, for example a late 19th century extension, were reversed, the figures correctly arranged, the surface cleaned and the partially missing structure of the wagon reconstructed with carbon fibre.³⁸

With his provocative article entitled "Das Erhalten von kulturellem Erbe ... ist eine Form es zu verändern" ["Any conservation of cultural heritage ... is a form of modification"], Andreas Spiegl³⁹ piqued the attention of today's conservators-restorers. As long as a work of art is perceived subjectively as no longer well-maintained, people are tempted to turn back the clock. We want to undo the ageing. The question has to be asked as to how far "restoration" should actually be allowed at all, especially as it always represents an act of imposing artifice and specifically an "interpretation" of an earlier state.

Aspects of cleaning: adequate cleanliness

When a conservator-restorer has decided to clean a work of art, the question arises: how do they know how much cleaning must be carried out? How do we deal with different perceptions of authenticity held by our clientele? Should they be ignored? How do we deal with our own feelings? How much do our own or others' ideas influence us in this decision? Do we "simply" transfer our own interpretations onto the artwork? And what do we actually do – in any case – to the artwork? Are both, in the end, lost – the object and the conservator? We face this dilemma every day, decisions have to be made one way or the other, aged originals serving as stages for conservational acting.

William Hogarth's *Time Smoking a Picture* (fig. 1) has for a long time been a symbol of what "time" does to our works of art. Georg Christoph

³⁹ Spiegl, 2012, pp. 29–32.

³⁸ Daniel Modl; Robert Fürhacker in their presentation "Restaurierungs-und Rezeptionsgeschichte des, Kultwagens' von Strettweg", at the "Tag der Restaurierung", March 24, 2014, Universalmuseum Joanneum, Graz and IIC Austria; Modl; Fürhacker, 2013, p. 17f; http://www.museum-joanneum.at/de/archaeologiemuseum/sammlungen-1/der-kultwagen-von-strettweg.