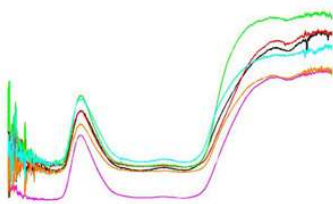


FORS SPECTRAL DATABASE  
OF HISTORICAL PIGMENTS  
IN DIFFERENT BINDERS

Antonino Cosentino



### FORS Spectral Database of Historical Pigments in Different Binders

This paper presents the development of a Fiber Optics Reflectance Spectra (FORS) database of 54 historical pigments commonly used in art works. The database is available on-line and stores a large collection of spectroscopic data that can be freely downloaded....

K. Kallaste, *Preservation of Wallpapers in Historic Interiors: Basic Considerations and Maintenance Options*, e-conservation Journal 1, 2013, pp. 57-69  
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## Preservation of Wallpapers in Historic Interiors: Basic Considerations and Maintenance Options

*Kadri Kallaste*

### Abstract

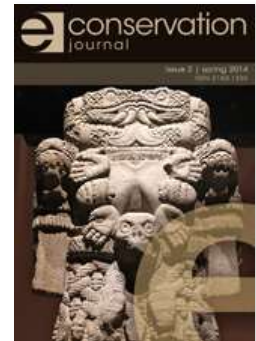
Wallpapers have been used for at least 300 years to decorate various interiors. They form a significant part of a larger unity, an interior. According to modern conservation principles, historic wallpaper should be preserved in its original location, in situ. However, this may not always be possible. Changes in the surrounding environment and aging of wallpaper might lead to its destruction and removal from the original location. To enable the wallpaper's existence as an integral part of a historic interior, other solutions should be sought after. The aim of this article is to propose and discuss a set of methodological preservation guidelines that may help to maintain a larger amount of historic wallpapers, both intact and fragmentary, as a part of an interior. So far, no similar guidelines or a comparative study of various preservation options have been suggested. The guidelines here proposed are based on case studies of objects restored in Estonia although they can be put into use elsewhere.

### 1. Introduction

In Estonia, an alarming trend has emerged where the main focus of conservation of historic interiors has been the search and uncovering of wall paintings, disregarding wallpapers and other wall finishes. Without systematic research and proper documentation, wall covers are simply stripped from the walls in hope of uncovering wall paintings. As a result, fewer and fewer historic wallpapers are preserved in their original location. Despite numerous finds, they are seldom included in research reports. Walls that have always been covered with wallpapers are puttied and coloured instead. Such solution creates a completely faulty perception of our historic interiors.

Since no comparative study of various wallpaper preservation options and guidelines alike have been proposed so far, it was felt necessary to develop a set of methodological guidelines that would help to preserve a larger amount of historic wallpapers in their original location or elsewhere in another proper environment. The guidelines are described and discussed below.

According to the Burra Charter, "contents, fixtures and objects which contribute to the cultural significance of a place should be retained at that place. Their removal is unacceptable unless it is: the sole means of ensuring their security and preservation; on a temporary basis for treatment or exhibition; [...] for health and safety; or to protect the place. Such contents, fixtures and objects should be returned where circumstances permit and it is culturally appropriate" [1, art. 10]. Therefore, wallpapers could be considered a fixture, contributing to the significance of a place, that should be, where possible, preserved in its original location or



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returned after treatment.

The primary function of wallpapers is to decorate. Besides its aesthetic properties, wallpapers can provide researchers with additional data about historic patterns, use of materials and different printing methods, as well as information about the function of a certain room, preferences of previous inhabitants, their social status, financial possibilities and prevailing fashion, among others. If wallpaper is removed from its original location, it loses its primary function. Additionally, the amount of information that it could transmit decreases considerably.

Although contemporary conservation theory emphasizes the importance of preserving historic wallpapers in situ, it is not always feasible. Wallpaper might be removed from its original location for different reasons, such as for its poor condition or changes in its surrounding environment. Depending on its condition, wallpaper could be later returned to its original location, exhibited in a new environment or preserved in an archive.

Besides the principles defined by the Burra Charter [1] and the Venice Charter [2], preservation of wallpaper depends on a number of values attributed to it. The most significant values in preservation of historic wallpapers are described and discussed below.

## **2. Reasons for Preserving Historic Wallpapers**

Values attributed to an object are to a certain extent always relative since they tend to change over time. The most common values attributed to wallpapers are historical and aesthetic value.

To define a conservation object, Alois Riegl used the term *Denkmal* ("monument") [3, p. 37]. A conservation object is an object that conveys a certain meaning for a person or a group of people and which is preserved for that reason. It might have, for example, a social, private or scientific meaning [3, pp. 152-153].

Riegl distinguished between two types of monuments: deliberate and unintentional monuments. The first are meant to commemorate certain events and the latter are relevant because of values attributed to them. Unintentional monuments are usually characterized by historical and/or aesthetic value.

Everything that has been created by human beings or that carries information about human activity could acquire historical value. Aesthetic value could be attributed to any visible artistic work of man. However, aesthetic value cannot be completely defined since the requirements of a visible artistic work are subjective and might change in time. Therefore, since wallpaper is a tangible evidence of human activity, which creation has been initiated by artistic volition, it should be considered both historically and aesthetically valuable.

Other values attributed to wallpaper are not as common as the historical or aesthetic values. Since they depend on certain properties of an object and subjective criteria, they tend to be relative and change over time.

According to Salvador Muñoz-Viñas, value attributed to an object is in direct correlation to its ability to perform certain function [3, p. 180]. If wallpaper is supposed to fulfil a decorative function, then it has aesthetic value, and vice-versa. In this relation, it could be said that the better an object can fulfil its function, the more valuable it is. Besides the aforementioned values, others such as monetary and educational value and value of unity could be attributed to historic wallpaper.

Monetary value may be expressed in various ways, for example, if historic wallpaper is sold at auction or by selling tickets for examining historic wallpapers in a historic interior or an exhibition. Besides that, a valuable historic wallpaper may increase the monetary value of a historical building.

An educational value is expressed the best by the panoramic wallpapers, which offered a cultural programme for people in different ages in the form of a comic strip on a mural scale. They stimulated the imagination, they were instructive, and they were consistent with bourgeois morality [4]. Among others, they depicted stories of morality (e.g. Paul et Virgine), well-known literary works (e.g. Orlando Furioso), views of exotic places and cultures (e.g. Les Sauvages de la Mer Pacifique) and historical events (e.g. The Battle of Austerlitz).

On the other hand, any historic wallpaper could be considered educational. Any historic wallpaper or decorative scheme can inform its observer of the historical means of wall decoration, the quality of materials and printing methods and the history of pattern design.

Value of unity has been best explained by Cesare Brandi, according to whom "an unity is composed of various parts, that are each works of art in themselves, in reality, either those parts are not as individually autonomous as would appear, and the division into parts acts as a rhythmic device, or that, in the context in which they appear, they lose that individual value and are absorbed into the work of which they are part" [5]. Thus, it could be said that wallpaper forms a unity with other decorative details and is an integral part of an interior. After wallpaper has been removed from its original location it cannot function as an autonomous object. It will provide its observer with limited amount of information, which does not give a complete understanding of its original setting.

Most of the mentioned values are best performed if wallpapers could be freely accessed and observed in an appropriate environment. The issue of accessibility leads us to more pragmatic aspects of wall-paper preservation.

## **3. Preservation of Wallpapers**

Samples of historic wallpapers that have been removed from their original location are often preserved as archival documents. Due to budget and space limitations, museums collecting historic wallpapers face a number of challenges: firstly, wallpaper fragments could use a large amount of space if they are supposed to be stored and exhibited properly; and secondly, it is complicated to get an access to fragile wallpaper samples that are maintained in different locations [6]. If wallpaper is removed from its original location important data about the object will be lost such as its original mounting system and the combination of different applications and details forming one unity, among others. Besides, only a few museums collect and preserve historic wallpapers. This implies that a large amount of wallpapers are lost or preserved in private collections, which are complicated to access. Due to these reasons, it is necessary to seek for a fitting solution to preserve a larger amount of historic wallpapers in their original location.

Since there is no universal recipe for preserving historic wallpapers, a set of methodological preservation guidelines, which could be applied to a wider spectrum of objects, needed to be developed. The guidelines will be discussed in the following sections.

Since aesthetics of a historic object could be perceived differently, several conservation scenarios might be developed. To create the most appropriate concept and to avoid possible mistakes caused by personal preferences, all parties related to wallpaper conservation should be included to the discussion throughout the project. The subjectivity of specialists working with historic wallpapers could be reduced by an interdisciplinary education, which would help them to understand the properties of historic interiors and various decorative mediums.

Conservation of wallpaper has two basic aims: to consolidate the object's physical condition and to emphasize its decorative appearance. Treating historic wallpaper as a part of an interior contributes not only to its aesthetic appearance, but also to the material and historical integrity of a whole.

For preserving historic wallpaper in an interior, three basic solutions could be considered: preservation in situ; returning the wallpaper to its original location after conservation; and mounting the wallpaper in a new location. The two first options could be applied to both intact and objects preserved in fragments.

### **3.1. Preservation in Situ**

The rarest of all cases are historic wallpapers that have been preserved intact in their original location and are not superimposed by other decorative layers. Panoramic and hand-coloured Chinese wallpapers, arabesque panels, settings of décor-complets and other extraordinary wall covers are usually the ones that have been best preserved until today since they have often been appreciated for their aesthetic and monetary value. Several of them have been preserved due to the elaborate mounting systems which have prolonged their life-span and enabled their preservation even after they had gone out of fashion.

If the supporting structure of well-preserved and stable wallpaper is in good condition, it should be preserved in situ. Such objects could be, however, seldom found. A very good example of this kind could be seen in the Estonian Literary Museum in Tartu, where the first historic layer dating back to the end of the 19<sup>th</sup> century, was preserved uncovered and almost intact (Figure 1).

In addition to the aesthetic value, well-preserved papered rooms are valued for the intact original mounting system. Namely, "the way that the wall-paper seams were butted originally together, wrinkles that were put into the paper when it was first hung, and the type of paste used to hang the wallpaper are considered relevant elements directly related to the historical integrity of the wallpaper. The elements will be changed or destroyed if in situ conservation treatments are deemed impracticable" [7].

Furthermore, besides destroying the original mounting method, dismounting might cause further mechanical damage to the object and, thus, increase the extent and cost of the whole conservation project.

### **3.2. Preservation of Fragments**

Preservation of wallpaper fragments in situ usually raises the most questions. According to Cesare Brandi, "fragmentarily preserved object is a ruin and cannot be restored because its unity is impossible to recover" [8] (Figure 2). However, the extent and character of conservation treatment of a ruin does depend on the amount of original material and evidence of its primary appearance.

To restore a historic wallpaper, the preserved material should include a whole pattern repeat, its original colours, method of printing, additional applications and their location on the wall, type and extent of decorative-scheme and method of mounting. If there is enough information to dwell upon, reconstruction should not be feared, since it would help to restore the legibility and visual integrity of a wall decoration and a whole interior (Figure 3). Since contemporary conservation theory emphasizes the importance of preserving as much original material as possible, existing material should be combined with reconstruction to enable the object's historic and aesthetic continuity. To avoid falsification of the artistic or historic evidence of wallpaper, "replacements of missing parts must integrate harmoniously with the whole, but at the same time must be distinguishable from the original [...]" [2, art. 12].

*From left to right:*

*Figure 1. 19<sup>th</sup> century wallpaper after its discovery in 2011 at the Estonian Literary Museum in Tartu.*

*Figure 2. A fragmentarily preserved corner with extensive biological damage in Puurmani Manor in Puurmani, Estonia.*

*Figure 3. Damaged corner after reconstruction, Puurmani Manor in Puurmani, Estonia.*

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*<http://e-conservation.org/issue-1/19-preservation-of-wallpapers-in-historic-interiors#sigFreeId4b658d4b1e>*

As mentioned before, the extent of conservation treatment depends on the amount of existing original material. Since preserving large wallpaper fragments in museums could be complicated, an effort should be made to preserve a larger amount of wallpapers in their original location.

Although it is a rarely occurring practice, wallpaper fragments could also be returned to their original location after conservation treatment (Figure 4). In principle, remounting fragmentarily preserved wallpaper to its original location restores the historic unity between an object and its primary environment. The decision should depend on the size of the fragment and the stage of its decay. Otherwise, the unity would be terminally broken if the fragments would be preserved as archival documents. Furthermore, the fragments would not be as informative for the future generations as they are in their original environment (Figure 5). If the fragments have lost their aesthetic appearance, it should be decided if they could be exhibited or not.

Small fragments that cannot provide information about a whole decorative scheme could be either preserved in their original location or removed. Such fragments are usually found underneath other decorative details, such as floor moldings, window- and door-frames, overdoors and else. Their removal and preservation as archival documents is justified if they were going to be covered up by the decorative details again (Figure 6). When accompanied by a thorough documentation, they might be more informative and easier accessible for the wider public than when they are preserved in situ.

*From left to right:*

*Figure 4. Fragments of wallpaper before remounting at Frey Schlösschen in Salzburg, Austria. The wallpaper conservation project was managed by Markus Klasz from the Institut für Papier Restaurierung (IPR) in Schönbrunn Palace, Austria.*

*Figure 5. Wallpaper fragments after remounting at Frey Schlösschen in Salzburg, Austria.*

*Figure 6. Consolidated wallpaper fragments in their original location, Frey Schlösschen in Salzburg, Austria.*

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### **3.3. Preservation after Dismounting**

Wallpapers are dismounted for various reasons: the structure supporting the wallpaper is damaged and it needs to be consolidated; if wallpaper is in a poor state and more thorough conservation treatment would improve its physical condition and aesthetic appearance or it would enable development of an improved mounting method, which could prolong the object's life-span.

Depending on a case, wallpapers that have preserved their aesthetic appearance and physical unity could be returned to their original location. If they are remounted, they continue to fulfil the primary decorative function and restore the unity with other decorative details in interior.

One of the most complicated tasks conservators may need to face is to choose a certain layer of wallpaper among several superimposed layers. Prior to any large-scale treatment, it is recommended to open only a small area to reveal the underlying layers and their condition. If no further preservation process will follow, the opening could be exhibited to show all the historic layers. On the other hand, if one of the layers proves to be significant, other superimposing layers could be removed completely. According to the Venice Charter, such a process could only "be justified in exceptional circumstances and when what is removed is of little interest and the material which is brought to light is of great historical, archaeological or aesthetic value, and its state of preservation is good enough to justify the action. Evaluation of the importance of the elements involved and the decision as to what may be destroyed cannot rest solely on the individual in charge of the work" [2, art. 11].

A corresponding situation occurred in the dining-room of the Puurmani manor, where two historic layers had preserved more or less intact. The upper decorative layer consisted of a wallpaper, a border with matching corner pieces and a monochrome paper (Figure 7). The older layer consisted of a varnished wallpaper depicting a luxurious composition of hunting trophies (Figure 8). Since the upper layer was relatively intact and well-preserved, it was decided it would be restored and exhibited. However, to exhibit the older wallpaper with an interesting design, it was decided to open a small area showing two repeats of the pattern. The rest of the older wallpaper has survived under the newer layer and may be researched and uncovered later, when necessary.

Wallpaper layers that have been considered less significant can be removed from a more significant layer. Due to the physical properties of wallpaper, the removed layers could be conserved and preserved as separate objects. Although the solution breaks the unity of superimposed layers, they could be observed, researched and, if possible and desired, reused in a new location. However, since loose segments of earlier wallpapers have commonly been stripped from the wall prior to applying a new layer, it is highly possible that many of the older layers have been preserved more or less in fragments.

On the other hand, if possible, all the superimposed historic layers could be preserved intact in their original location and covered by a reconstruction of the most significant historic layer (Figure 9). The significant layer could be revealed by archaeological research in situ and needs to be chosen by a group of experts working with historic interiors. For a reconstruction of the setting, it is necessary to reveal the whole pattern repeat and all additional applications. The historic wallpaper layers will be permanently covered by Japanese paper and acid-free lining-paper, which would provide the original with a protective layer. This solution helps to recreate an appearance of the most significant layer by preserving all historic layers in their original location.

From left to right:

Figure 7. The upper decorative layer consisting of a wallpaper, a border with matching corner pieces and a monochrome paper in the dining-room of Puurmani manor in Estonia.

Figure 8. The older wallpaper in the dining-room of the Puurmani manor depicted a luxurious composition of hunting trophies.

Figure 9. Käsmu Church in Estonia. Four historic layers exposed in their original location. The conservation project was managed by Kristiina Ribelus. Photo credit: Kristiina Ribelus.

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A similar conservation conception was chosen in the Käsmu Church, where three layers of historic wallpaper were preserved in situ. The layers dated back to the 1860s, the 1890s and to the early 20<sup>th</sup> century. Since the second layer had formed a stylistic unity with the rest of the interior, it was decided to reconstruct the original decoration of the room dating back to the 1890s. As the original layer was covered up and had lost its aesthetic appearance, it was decided to preserve all the historic layers by covering them up and creating a reconstruction of the chosen historic setting (Figure 10).

### 3.4. Preservation in a Secondary Location

The Burra Charter says that if any historic component of a historic building has to be removed, it should be relocated to an appropriate location and given a fitting use [2, art. 9.3]. The most common reason for reusing historic wallpaper is its significance and values attributed to it. Wallpaper could be considered significant, for example, for its aesthetic appearance, rarity, type, history or origin, which could be emphasized by its reuse (Figure 11).

If significant and well-preserved wallpapers have been removed and cannot be returned to their original location, it could be either preserved in a new appropriate location or in a museum. In case the latter option needs to be chosen, removed wallpaper should be thoroughly documented and preserved accordingly to its properties and importance [2, art. 33].

These so-called reused wallpapers create an unprecedented unity with other decorative details. The result cannot be considered an original historic setting, but rather a historicizing solution which aims to imitate and transmit certain information. Since the new result should not create a stylistic conflict between the existing decorative details and wallpaper, the conception should be based on research of analogue wall covers and their use in interior. The given solution helps to restore the original function of a significant object and emphasize its decorative properties (Figure 12). However, such a solution cannot be considered completely stable. Wallpaper that already has a history of relocation does not have significant links with its present location [2, art. 9.2] and, thus, could be removed again.

From left to right:

Figure 10. Reconstruction of the most significant wallpaper covers rest of the preserved material at Käsmu Church, Estonia. Photo credit: Kristiina Ribelus.

Figure 11. Hand-painted silk wall cover at Esterhazy Palace in Eisenstadt, Austria restored by Hilde Neugebauer, textile conservator in Schönbrunn Palace.

Figure 12. A chinoiserie study with remounted silk wall covers from Esterhazy Palace in Eisenstadt, Austria. The conservation project was managed by Markus Klasz (IPR).

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## 4. Conclusions

Wallpapers have played a significant role in interior design for several centuries. Today, they could inform us about the prevailing fashion, the materials and methods used for their production, but also about the function of a room, the social background and even the financial state of its inhabitants. According to the contemporary preservation principles, historic fixtures, such as wallpapers should be preserved in their original location. However, due to different reasons it is not always possible.

The article aimed to suggest a set of methodological guidelines, which would help to protect and preserve a larger amount of historic wallpapers in their original location or in another appropriate environment. Similar guidelines and their comparative study have not been suggested so far.

The main motivation to write the article was the disturbing situation in Estonia, where very few wallpapers are researched, documented and preserved in their original location. Instead of that, they are often stripped from the walls in hope of uncovering painted surfaces. Therefore, in order to preserve a larger variety of historic wallpapers, their maintenance in their original location was seen as a good and sustainable alternative to complete destruction.

Since each and every object is different, there is no universal recipe for preserving historic wallpapers. Instead of that, different concepts could be implemented. Wallpaper could be preserved either in situ, returned to its original location after conservation or exhibited in a new context by imitating the ideas of the original historic setting. Moreover, they could be preserved in an interior either in fragments or intact. Each option naturally has its own advantages and disadvantages.

The rarest occurring case is the maintenance of well-preserved historic wallpapers in their original location. If both, a wallpaper and its supporting structure are stable, it is reasonable to preserve the object in situ. Moreover, besides the aesthetic value, a wallpaper should be valued for its intact original mounting method.

In case of the maintenance of wallpaper fragments, the character and extent of the treatment depends largely on the amount of existing material. Wallpaper fragments could be either preserved in situ, returned to their original location after conservation treatment or in a museum.

Wallpapers need to be sometimes removed from their original location. Although it breaks their historic unity with the supporting structure, they could be more thoroughly restored. Treated wallpapers could be either returned to their original location, exhibited in a new room or in a museum. If there are numerous superimposed historic layers, it could be necessary to decide for one. The choice depends on the values attributed to the objects. Due to the physical properties of wallpaper, each and every removed layer could act as a separate object. On the other hand, all historic layers could be preserved intact in situ and covered by a new decorative layer, such as a reconstruction of the most significant layer.

If well-preserved and valuable wallpapers cannot be returned to their original location, they could be as well preserved in a museum or exhibited in a new fitting environment. In cases like that, unprecedented unity with other decorative details is created. Although the result is not authentic, wallpapers continue to fulfil the primary decorative function.

The suggested methodology is not limited to Estonia; it could also be put to use elsewhere. It aims to preserve a larger variety of historic wallpapers, help to make them aesthetically consumable and maintain them for future generations in their original location.

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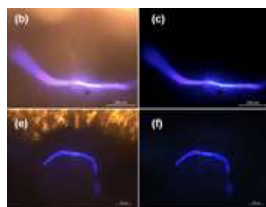
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Kadri Kallaste trained as paper conservator at the Estonian Academy of the Arts. She has also studied in the Restoration Department of the University of Ljubljana and the Institute for Conservation and Restoration of the University of Applied Arts in Vienna. During her studies, she had several internships in various institutions, including the Conservation Center Kanut and Estonian Art Museum in Tallinn, the National Archive of Slovenia in Ljubljana and Cole & Son Ltd., a manufacturer of hand-printed wallpapers in London. Her main area of study is the research and preservation of historic wallpapers in situ. She participated on numerous wallpaper preservation projects in Estonia and abroad, including objects in Austria and at the German Wallpaper Museum in Kassel, Germany.

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