



Kadri Kallaste

PRESERVATION OF WALLPAPERS AS PARTS OF INTERIORS

14

Dissertationes Academiae
Artium Estoniae



EESTI
KUNSTIAKADEEMIA

Kadri Kallaste

**Preservation of Wallpapers as Parts of Interiors.
Addressing Issues of Wallpaper Conservation on the Basis of
Projects Carried out in Austria, Estonia and Romania**

**Ajalooliste tapeetide säilitamine interjööris.
Ajalooliste tapeetide konserveerimise
problemaatika käsitus Austrias, Eestis ja Rumeenias
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Doctoral thesis
Doktoritöö

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2013

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PART I

WALLPAPERS IN
HISTORIC INTERIORS
AND HOW TO
APPROACH THEM

INTRODUCTION

Wallpaper has been used for at least four hundred years as a material to decorate walls in public and domestic interiors. Like carpets and textiles, a wallpaper was chosen to make a room fashionable, to complement its architecture and provide a unifying background for its furnishings. Once applied to the wall, however, wallpaper became a part of the structure.¹ Unlike carpets, textiles and other furnishings, wallpaper could seldom be removed and incorporated into another decorative scheme.

Although the first thing a new owner usually did was to personalise by redecorating, removing or covering up the evidence of previous inhabitants,² it is surprising how many examples of historic wallpapers can still be seen *in situ* or in museums. There are multiple reasons why many examples of historic wallpapers have survived, for example they were either preserved consciously, were pasted over and have thus survived under other decorative layers or were collected by individuals or various institutions.

Ideally wallpaper was supposed to form a unified structure with other decorative details of interiors. It can provide the contemporary researcher with information about materials, patterns and different printing methods, but also about the functions of rooms, preferences of previous inhabitants, their social status, financial situation and prevailing fashions. Thus it is essential to handle a wallpaper within the context of its original surroundings, and an interior together with the wall decoration.

Conservation of wallpapers can be roughly divided into two parts: conservation of individual wallpaper samples (fragments and intact objects) stored in museums, and conservation of wallpapers preserved in interiors. Separate samples can be handled as individual objects: they can be transported from one place to another, stored in a relatively small space and exhibited whenever necessary. However, an object that has been

¹ Richard C. Nylander, *Fabrics and Wallpapers for Historic Buildings. A Guide for Selecting Reproduction Fabrics* (New Jersey: Preservation Press, John Wiley & Sons, Inc., 2005), 11.

² Christine Woods, introduction to *Walls Are Talking: Wallpaper, Art and Culture*, by Gill Saunders, Dominique Heyse-Moore, Trevor Keeble (London: KWS Publishers, 2010), XIII.

removed from its original location has lost a part of its identity and power to reveal its original environment. In addition, if an object becomes part of a museum's collection, removing it again is nearly impossible.³

Modern conservation theory emphasizes the importance of preserving historic wallpaper in its original location. Conservation *in situ* has come to be preferred to removal of wallpapers or the use of reproductions, since changing elements to create a unity entails alteration of the whole.⁴ According to the Venice Charter, a monument is inseparable from the setting in which it occurs. The moving of all or a part of a monument cannot be allowed except where the safeguarding of that monument demands it or where it is justified by national or international interest of paramount importance.⁵

Although the contemporary theory of conservation supports the idea of preserving historic wallpaper in its original location, *in situ*, it is not always possible. The wallpaper's condition and changes in the surrounding environment may lead to removing the object from its original location. Depending on several criteria, a wallpaper might be returned to its original location, exhibited elsewhere or preserved in a museum. The most important aim of conservation treatment is to stop further decay and ensure the object's preservation. Besides caring for an object, an important task of a conservator is to inform other parties connected with the conservation process of the relevance of a historic wallpaper and options for preserving it.

In relation to that, removing a historic wallpaper from its original location is justified only if dismantling assures its further existence or makes more thorough conservation treatment possible. Naturally, to ensure the historical continuity of a whole, a wallpaper should be returned to its original location. However,

³ Bruno Ingemann, *Present on Site: Transforming Exhibitions and Museums* (Lejre: Visual Memory Press, 2012), accessed January 14, 2013, http://www.present-on-site.net/21_rubbish.html

⁴ Lilian Hansar, "Linnast muinsuskaitsealaks. Linnaehituslike struktuuride muutused Eesti väikelinnades 13.–20. sajandil" (PhD. diss., Estonian Academy of Arts, 2010), 27.

⁵ International Charter for the Conservation and Restoration of Monuments and Sites – The Venice Charter, Article 7, 1964, http://www.icomos.org/charters/venice_e.pdf.

if this is not possible, mounting a wallpaper in a new location or preserving it in a museum should be considered instead.

Formerly, when period rooms were restored or re-created, a common idea was to make a room look new, with freshly painted woodwork and reproduced wallpapers. During the 1950s, 1960s and 1970s the most popular solution was to paint the walls of an 18th or early 19th century house white.⁶ This approach led to destroying a large amount of original material and conveyed the wrong impression of historic interiors.

The importance of researching and preserving historic wall covers as integral parts of interiors has been increasingly acknowledged during the last forty years. The growth of specialized interest is illustrated, for instance, by numerous case studies and scientific articles published at the end of the 1970s and the beginning of the 1980s in the *Journal of the American Institute for Conservation (JAIC)* and in the *Journal of Paper Conservation*, published by *Internationale Arbeitsgemeinschaft von der -Archiv, Bibliothek und Grafikrestauratoren (IADA)*, an association of paper conservators.

In Estonia, researching and preserving historic wallpapers have become gradually more relevant in recent years. So far, four theses at the bachelor level have been written about wallpapers. The thesis of Sofia Pantelejeva (1997), a student of Tallinn University, focused on the historic paper wall covers in historic interiors of Tallinn during the 19th and early 20th centuries. Her work focused on the historic examples found in the Old Town and the neighbourhood areas of Tallinn. In her work, she has made an attempt at a style-critical analysis and dating of wallpaper samples. The other three theses were written by students of the Tartu Art College: Kristiina Ribelus, Kristel Kevvai and Liis Tamm.

Kristiina Ribelus (2007) researched various options of producing wallpaper. A collection of modern wallpapers was created to accompany the theoretical part of the thesis, providing an overview of the history of wallpapers.

⁶ Nylander, *Fabrics and Wallpapers for Historic Buildings*, 14.

Kristel Kevvai (2008) dealt with the research and preservation issues of wallpaper fragments found in Pikk 23, Tallinn. In addition to the theoretical work, she compiled a folder with all the conserved fragments. It can be seen in the archive of the conservation company Vana Tallinn Ltd. in Tallinn.

Liis Tamm (2012) was also interested in various means of producing wallpaper. Besides researching the history of wallpaper production in Estonia during the late 19th century and 20th centuries, she created a collection of modern wallpapers, and there are plans for it to be published.

Since preserving wallpapers has not been seen as a priority, very few objects have been conserved. A few conservation companies and specialists have collected fragments of wallpapers from various historic buildings, but there is no systematic overview or proper documentation of the finds and their original locations.

In Estonia only a small number of wallpapers have been conserved and presented in interiors, for instance a wallpaper in the foyer of the Viimsi Manor, the dining room and the *chinoiserie* dressing room of the Puurmani Manor and a former salon in the current Estonian Literary Museum. The most extraordinary wall cover discovered in Estonia is a French panoramic paper, "Don Quixote" (printed by Jacquemart & Bénard in Paris), which originally hung in the festive hall of the Lohu Manor. It was removed in the 1960s to uncover an illusionistic fresco carried out by the German etcher and landscape painter Christian Gottlieb Welté (1745/49–1792).⁷ The wallpaper was conserved in Moscow and is now housed in the Estonian History Museum.

The current situation of preserving historic interiors in Estonia is alarmingly one-sided and resembles the one described above. Since the main attention has been on searching for and uncovering painted surfaces, walls are stripped of wall coverings in hope of finding wall paintings. As a result, very few examples of historic wallpapers have been left *in situ*. A large number of historical photographs, numerous finds and frequently uncov-

⁷ Anne Untera. *Maarjamaa rokokoo. Gottlieb Welté (1745/49–1792)*, ed. by Kadi Polli, Renita Raudsepp (Tallinn: Kadrioru Kunstmuuseum, 2007). Exhibition catalog.

ered rough plastered wall finish clearly reveal the extensive use of wall covers. Despite the evidence, walls are still puttied and painted. The sterile modern finish leads to a false interpretation of local historic interiors, as well as limiting any further objective research.

CHOICE OF TOPIC

The choice of the topic grew out of the troubling situation in Estonia and the everyday work of the author as a paper conservator specializing in the preservation of historic wallpapers. If a wallpaper has lost its aesthetic appearance or physical unity, a decision is often made to remove it from a wall and either preserve it in an archive or throw it away. However, museums and archives that store large numbers of fragile textile and wall covering samples are facing various challenges, for instance difficulties in storage and display. Archival objects need to be preserved carefully in controlled environments and they require considerable space if they are to be adequately displayed for the public.⁸ In addition, the fragile nature of the objects make it very difficult to give the public visual access to the items in storage, especially when they are spread over different locations.⁹

In Estonia, there is no museum or archive which houses wallpaper samples removed from their original locations. The Estonian History Museum has only a few examples of modern wallpapers produced in the 20th century and the above-mentioned French panoramic paper. A large number of historic wallpapers have been collected, or rather salvaged, by either conservation companies, conservators or common people. Such collections do not usually have any systematic order or proper storage conditions, and they are not easily accessible. The current situation has led the author to seek solutions to preserve more historic material in original locations, which will permit more detailed research, access for a wider public and appreciation of historic wallpapers as integral parts of interiors.

Scientific articles dealing with the conservation of wallpaper mainly focus on a certain object, preservation concept or conservation method. No comparative approach on various options of preserving historic wallpapers in interiors has been written previously.

⁸ Julian J. Self, "Changing Papers – Saving Options' in *New Discoveries, New Research. Papers from the International Wallpaper Conference at the Nordiska Museet, Stockholm, 2007*, ed. Elisabet Stavenow-Hidemark (Stockholm: Nordiska Museet Förlag, 2009), 175.

⁹ *Ibidem*.

CONSERVATION TASK AND ITS AIMS

This thesis aims to develop methodological guidelines related to better preservation of historic wallpapers in interiors, so that more historic rooms enriched by original wall covers will be preserved for future generations. Due to the variety of conservation concepts, the work cannot offer one universal solution; rather, it presents guidelines which could be expanded to a wider spectrum of objects. Each historic object should be handled individually according to its condition and needs. The proposed guidelines can be applied to solve similar preservation issues or used as a basis to provide conservators with indications for proper conservation treatment. The thesis should lead conservation specialists to acknowledge various options of maintaining historic wall covers in their original locations, instead of breaking the relation with the original environment and turning them into archival documents.

Since the conservation process may alter the appearance of an object, it is important to compile detailed documentation to record all of the object's properties. In addition to the aforementioned aims, the author has attempted to develop a documentation form especially intended for describing historic wallpapers. Detailed documentation has been added to two case studies dealing with the wallpapers from the Puurmani Manor and Estonian Literary Museum.

Two of the chapters dealing with the use and production of wallpapers aim to offer brief pedagogical insight into the theme for conservation students and practitioners working with historic interiors. For this reason, the text is rather general.

OBJECTS OF RESEARCH

Eight historic wallpapers in different stages of decay were chosen as the objects of research for the thesis. The conservation was carried out either independently or under the supervision of one of the tutors, Markus Krön from the *Institut für Papier Restaurierung* in Vienna, during the four last years.

The objects will be mentioned in the order they were dealt with:

- The wallpaper in the Puurmani manor dining room, Estonia
- Three wallpapers in the Freyschlössl in Austria (under the supervision of Markus Krön)
 - the *Zirbenstube* wallpaper
 - the *Wappentapete* wallpaper
 - the *Schablonentapete* wallpaper
- An embossed wallpaper in the Theodor Aman Museum, Romania (under the supervision of Markus Klasz)
- Two *chinoiserie* wall covers from the Esterházy Palace, Austria (under the supervision of Markus Krön)
 - Hand-painted Chinese wallpaper panels
 - Hand-painted silk wall covers
- The wallpaper in the Estonian Literary Museum, Estonia

The objects were chosen for the following reasons. Firstly, each of them represents a different issue concerning the preservation of historic wall covers in interiors. The issues exemplify the four main concepts of contemporary conservation practice: preservation, restoration, conservation and reconstruction. Secondly, the objects were in different stages of decay, which provided the author with the opportunity to describe the basic conservation methods applied to historic wallpapers. Thirdly, the chosen objects not only involved different conceptions of preservation, but also represented various types of historic wallpapers and decorative schemes.

Although the objects differed from each other in several ways, they did have common properties. In contrast to the modern perception of wallpaper as an ephemeral industrial product, the given objects can be considered valuable objects. They were all wall covers that needed to be treated to enable their preservation in interiors. In addition, efforts were made to stress the decorative value of most of them. The most relevant preservation decisions are described in separate case studies and compared to each other in Chapter 5. The objects define the temporal borders and structures of the two chapters that deal with the history and production of wallpapers, as well as methods of mounting.

A thorough case study illustrated with photos has been compiled for each research object. The theoretical part of each case study consists of the history of the object, its condition and an analysis of the decisions made during the conservation process.

To complement the analysis of the objects, a number of other wallpaper conservation projects carried out by other conservators in Estonia, Finland, Croatia and Germany will be briefly discussed as well.

STRUCTURE OF THE THESIS

The introductory chapter presents an explanation of the structure of the thesis, the conservation task, its aims and the choice of research objects. It also gives an overview of the methodology and sources used to compile the work.

In the first chapter, a closer look will be given to different decorative wall schemes specific to particular eras, rooms or wallpaper types. The thesis will not cover the entire history of wallpaper or all possible decorative schemes, but rather the period during which the eight chosen objects were created: from the middle of the 18th century until the beginning of the 20th century. The main focus is on the principles of wall decoration of trend-setting European countries, such as England, France and Germany. They represent fashionable decoration ideas implemented in Estonian interiors, which will also be briefly discussed.

The second chapter addresses various materials and historic methods of wallpaper production. The author will describe both manual and automatic techniques applied to produce wallpapers during the aforementioned period. For a better understanding of applying wallpapers to walls, different historic mounting methods are discussed.

Modern principles of conservation theory are analysed in the third chapter. Various directions of conservation methodology – preservation, conservation, restoration and reconstruction – are discussed in relation to the preservation of historic wallpapers.

The fourth chapter deals with practical issues concerning the preservation of wallpapers in interiors. Firstly, various damages and their causes are discussed. Secondly, different stages of the conservation process are described. The thesis aims to discuss all of the main methods of preserving historic wallpapers in interiors. They include methods applied to wallpapers preserved *in situ* and wallpapers treated in workshops. To address the described conservation techniques, the author consulted with one of her supervisors, Markus Krön, and other experts working in this field.

The fifth chapter focuses on the conservation task. The historical background, condition, aim of the conservation treatment and methodology of each object are analysed in separate case studies. An attempt is made to discuss the conservation procedures in relation to contemporary conservation theory and methodology. The results of the research and decisions made during the conservation processes are analysed in the conclusion. A set of conservation principles related to preserving a larger number of historic wallpapers in interiors is proposed.

The text is illustrated with historical photographs provided by various archives, floor plans, digital visualizations, and images created by the author and one of her supervisors, Markus Krön.

HISTORIOGRAPHY AND SOURCES

Besides the material collected during the practical work, the chosen topic, the preservation of historic wallpapers, is mainly supported by case studies published on the Internet (e.g. by the Journal of the American Institute for Conservation¹⁰ and Journal of Paper Conservation¹¹), specialized magazines, compilations of articles and conference publications.

Articles from *The Papered Wall. The History, Patterns and Techniques of Wallpaper*, edited by Lesley Hoskins¹² and *Wallpaper in Interior Decoration*, by Gill Saunders,¹³ form the basis for the chapter, which focuses on types of wallpaper and decorative schemes. Decoration principles in German-speaking countries are described by Sabine Thümmeler¹⁴ and Jacob von Falke.¹⁵ General ideas of interior decoration in England, France and elsewhere during the 18th and 19th centuries are discussed by Robbie G. Blakemore in his book *History of Interior Design and Furniture. From Ancient Egypt to Nineteenth-Century Europe*.¹⁶ Very little has been written about the use of wallpapers in Estonia. The approach of the thesis is based on surveys by Krista Kodres,¹⁷ Ants Hein,¹⁸ Mart Kalm¹⁹ and Juhan Maiste,²⁰ my personal observations, archival material from the Archive of the National Heritage Board and numerous photo collections (from the Estonian Historical Archives, Estonian History Museum, Estonian National Museum and others).

¹⁰ JAIC Online, accessed January 18, 2013, <http://cool.conservation-us.org/jaic/>

¹¹ Journal of the Paper Conservation, IADA, accessed January 18, 2013, http://cool.conservation-us.org/iada/pr_fra.html

¹² Lesley Hoskins, ed., *The Papered Wall. The History, Patterns and Techniques of Wallpaper*, 2nd Edition (London: Thames & Hudson Ltd., 2005).

¹³ Gill Saunders, *Wallpaper in Interior Decoration* (New York: Watson-Guptill Publications, 2002).

¹⁴ Sabine Thümmeler, *Die Geschichte der Tapete. Französische Raumkunst aus Papier* (Eurasburg: Edition Minerva, 1998).

¹⁵ Jacob von Falke, *Die Kunst im Hause. Geschichtlich und kritisch-ästhetische Studien über die Decoration und Ausstattung der Wohnung*, 5. verm. Aufl. (Vienna: Carl Gerolds Sohn, 1883).

¹⁶ Robbie G. Blakemore, *History of Interior Design and Furniture. From Ancient Egypt to Nineteenth-Century Europe* (New York: Van Nostrand Reinhold, 1997).

¹⁷ Krista Kodres, *Ilus maja, kaunis ruum. Kujundusstiile Vana-Egiptusest tänapäevani* (Tallinn, Prisma Prindi Kirjastus, 2001).

¹⁸ Ants Hein, *Eesti mõisaarhitektuur. Historitsismist juugendini* (Tallinn: Kirjastus Hattorpe, 2003).

¹⁹ Mart Kalm, *Eesti 20. sajandi arhitektuur* (Tallinn: Prisma Prindi Kirjastus, 2001).

²⁰ Juhan Maiste, *Eestimaa mõisad* (Tallinn: Kirjastus "Kunst", 1996).

Methods of wallpaper production have been described in *Werkbuch des Dekorateurs. Eine Darstellung der gesamten Innendekoration und des Festschmuckes in Theorie und Praxis*, by Ferdinand Luthmer,²¹ and in *Wallpapers in France. 1800–1850*, by Odile Nouvel.²² Historic mounting methods used from the 18th century to the present have been described by Robert M. Kelly.²³ Intriguing material on the use of papers and pigments in wallpaper production has been compiled from historical sources by Catherine Lynn.²⁴

The discussion of conservation terminology is based on two charters, the Venice Charter (1964)²⁵ and the Burra Charter (1999).²⁶ Philosophical and theoretical issues related to interior and architectural preservation are discussed in *History of Architectural Conservation*, by Jukka Jokilehto,²⁷ and *Conservation of Historic Buildings and their Contents*, edited by David Watt and Belinda Colston.²⁸ Deeper insight into the principles of wallpaper preservation is provided by articles written by Andrea M. Gilmore,²⁹ Catherine L. Frangiamore³⁰ and Richard C. Nylander.³¹ Various principles of wallpaper reconstruction are discussed in detail by Jean-Baptiste Martin.³²

²¹ Ferdinand Luthmer, *Werkbuch des Dekorateurs. Eine Darstellung der gesamten Innendekoration und des Festschmuckes in Theorie und Praxis* (Stuttgart: Union Deutsche Verlagsgesellschaft, 1897).

²² Odile Nouvel, *Wallpapers in France, 1800–1850* (New York: Rizzoli, 1981).

²³ Robert M. Kelly, “Historic Paper-hanging Techniques: A Bibliographic Essay”, *The Wallpaper Scholar Blog*, accessed January 18, 2013, <http://www.wallpaperscholar.com/docs/HistoricPaperhangingTechniques.pdf>.

²⁴ Catherine Lynn, “Colors and Other Materials of Historic Wallpaper” in *JAIC Online* Volume 20, Number 2, Article 3 (1981), accessed January 18, 2013, http://cool.conservation-us.org/jaic/articles/jaic20-02-003_indx.html.

²⁵ International Charter for the Conservation and Restoration of Monuments and Sites – The Venice Charter 1964.

²⁶ The Australia ICOMOS Charter for Places of Cultural Significance – The Burra Charter 1999, http://www.heritagecouncil.ie/fileadmin/user_upload/IWTN_2012/BURRA_CHARTER_1999.pdf.

²⁷ Jukka Jokilehto, *Arhitektuuri konserveerimise ajalugu* (Tallinn: Eesti Kunstiakadeemia, 2010).

²⁸ David Watt and Belinda Colston, ed., *Conservation of Historic Buildings and Their Contents. Addressing the Conflicts* (Shaftesbury: Donhead Publishing Ltd., 2010).

²⁹ Andrea M. Gilmore, “Wallpaper and Its Conservation – An Architectural Conservator’s Perspective” *JAIC Online* (1981), accessed January 18, 2013, http://cool.conservation-us.org/jaic/articles/jaic20-02-005_indx.html

³⁰ Catherine L. Frangiamore, *Wallpapers in Historic Preservation* (Washington D.C.: Technical Preservation Services Division, Office of Archeology and Historic Preservation, National Park Service, U.S. Department of the Interior, 1977).

³¹ Richard C. Nylander, *Wallpapers For Historic Buildings.*, 1992.

³² Jean-Baptiste Martin, “Wallpaper Reconstructions in Historic Interiors: Balancing the

The material dealing with various conservation processes has been compiled on the basis of observations made during numerous wallpaper conservation projects. It is complemented by material provided by various specialized articles. For instance, principles of documentation are discussed by Michelle Moore.³³ Various conservation methods and materials used in wallpaper conservation are discussed in detail by Amy Collier.³⁴ Japanese mounting systems and their interpretations are described by Karin Troschke,³⁵ Philip Meredith, Mark Sandiford and Philippa Mapes,³⁶ and Andreja Dragojevic.³⁷ Four basic methods of traditional retouching are summarized by Knut Nicolaus.³⁸ In addition, Thomas McClintock³⁹ analyses various methods of infilling and retouching wallpapers *in situ*.

Historical overviews of the seven research objects are compiled on the basis of material provided by Margit Kopp,⁴⁰ a researcher from the Esterházy Palace in Austria, and Simona Predescu,⁴¹ a painting conservator from the Theodor Aman Museum in Bucharest. Mari Nõmmemaa,⁴² an architect responsible for the conception of interior decoration at the Estonian Literary Museum, provided me with a thorough historical overview

Aesthetic with Authenticity” in *Art, Conservation and Authenticities. Material, Concept, Context. Proceedings of the International Conference held at the University of Glasgow*, 12–14, ed. E. Hermens and T. Fiske. (London: Archetype Publications Ltd., 2004), 88–95.

³³ Michelle Moore, “Conservation Documentation and the Implications of Digitisation” in *Journal of Conservation and Museum Studies*, Issue 7, November (2001), accessed January 18, 2013, <http://cool.conservation-us.org/jcms/issue7/0111Moore.pdf>.

³⁴ Amy Collier, “Wallpaper – in and out of Context” in *The Conservation of Decorative Arts*, ed. Velson Horie (London: Archetype Publications, 1999), 53–62.

³⁵ Karin Troschke, “Der Blaue Salon im Schloss Schönbrunn – zur Restaurierung und klimagerechten Montage chinesischer Tapeten” in *Malerei auf Papier und Pergament in den Prunkräumen des Schlosses Schönbrunn*, Band 3, ed. Karin K. Troschke, (Vienna: Wissenschaftliche Reihe Schönbrunn, 1997), 56–77.

³⁶ Philip Meredith, Mark Sandiford and Philippa Mapes, “A New Conservation Lining for Historic Wallpapers” in *Preprint from the 9th International Congress of IADA, Copenhagen, August 15–21, 1999* (1999), accessed January 18, 2013, http://cool.conservation-us.org/iada/ta99_041.pdf.

³⁷ Andreja Dragojevic, “Croatia: the Story Continues” in *The Wallpaper History Review* (2008), 60–63.

³⁸ Knut Nicolaus, *Handbuch der Gemälderestaurierung* (Köln: Könemann Verlagsgesellschaft mbH, 2001), 290–295.

³⁹ Thomas K. McClintock, “Compensating for Losses in Historic Wallpapers” in *Architectural Finishes in the Built Environment*, ed. Mary A. Jablonski, Catherine R. Matsen (London: Archetype Publications, 2009), 146–156.

⁴⁰ Margit Kopp, e-mail message to author, October 25, 2011 and 15. January, 2013.

⁴¹ Simona Predescu, e-mail message to author, December 23, 2012.

⁴² Mari Nõmmemaa, e-mail message to author, December 20, 2012.

Introduction

of Vanemuise 42 and its interiors. Additional information has been provided by sources found on the Internet and in archives. Conservation methods analysed in the case studies have been described on the basis of previously presented sources and the author's personal observations.

1

HISTORIC TYPES
OF WALLPAPER AND
DECORATIVE SCHEMES
OF INTERIORS

This chapter will focus on the principles of historic wall decoration, with an emphasis on the use of wallpapers from the middle of the 18th century until the beginning of the 20th century. However, since there is no need to retell the whole history of wallpaper, only the types of wallpaper represented among the objects of research are examined comprehensively. As the material preserved in Estonia is rather scarce, it is necessary to centre the chapter on the wall decoration principles used in three trend-setting European countries: England, France and Germany.

To fill the gaps left by the chapter, there is a plan to compile didactic material on the history of wallpaper for students as well as professionals working with historic interiors in Estonia. Besides providing a better understanding of the history of wallpapers in Europe, it will offer deeper insight into the use of wallpapers in local interiors. The information will provide a basis for the comparison of analogues and help to develop conceptions for preserving historic wallpapers.

The decision to choose the given period of time was dictated by numerous factors, primarily by the ages and types of the wallpapers conserved, either independently or under the supervision of Markus Krõn, during the four last years. Since the oldest objects, the hand-coloured Chinese wallpapers from the Esterházy Palace, date back to the middle of the 18th century, the chapter begins by describing the use of wallpapers in Rococo interiors. In addition, special attention is given to *chinoiserie* wall covers. Subsequently, an overview of paper wall covers and decorative schemes of the 19th century is given, as most of the conserved objects date back to that particular century. The chapter ends with a short overview of the use of paper wall covers at the beginning of the 20th century. Additionally, a short description of wall covers before the 18th century is given.

1.1. EARLY WALLPAPERS

After parchment had been gradually replaced by paper at the beginning of the 15th century, the first patterned papers, known as *Buntpapiere*, were printed. The term refers to all kinds of coloured, printed and embossed papers or to paper products imitating a certain material, such as leather wall covers,⁴³ wood, printed cotton and embroidery. Most of the examples of these paper wall covers have been found in Germany, northern Italy and the Netherlands. This is due to the fact that in these countries the graphic arts were most prominent.⁴⁴ Papers depicting wood grain, wooden inlays and heraldic symbols were printed with black ink on separate sheets of rag-paper. **(Fig. 1)** Although block-printing (for more, see pp. 114–116) was already known in Europe as a means for decorating textiles, the first attempts to use wooden blocks to print on paper were made in the last third of the 14th century. Most of the preserved examples of early papers have been found on ceilings or inside various pieces of furniture (cupboards, drawers, boxes etc.), since their use was limited by the fragility of the material and imperfect wall finishing. **(Fig. 2)**

The first type of paper with continuous designs was made by producers of popular prints and cards.⁴⁵ They were called *dominos* and most frequently depicted small diaper patterns printed in black and coloured with stencils.

Starting in the 17th century, templates cut of leather or parchment were used to add colour to black-and-white ornaments. The most frequently used colours were blue, orange, pink and green.⁴⁶ By the end of the century, separate paper sheets were glued together to form a roll of paper, which was easier to store, print and sell. The length of a "piece" or roll of wallpaper was

⁴³ Albert Haemmerle, Olga Hirsch, *Buntpapier. Herkommen, Geschichte, Techniken, Beziehungen zur Kunst* (München: Verlag Georg D.W. Callvey, 1961), 11.

⁴⁴ Geert Wisse, "Manifold Beginnings: Single-Sheet Papers" in *The Papered Wall. The History, Patterns and Techniques of Wallpaper*, ed., Lesley Hoskins (London: Thames and Hudson Ltd., 2005), 8.

⁴⁵ *Ibid.*, 13.

⁴⁶ Wells-Cole, "Flocks, Florals and Fancies: English Manufacture 1680–1830" in *The Papered Wall. The History, Patterns and Techniques of Wallpaper*, ed. Lesley Hoskins (London: Thames and Hudson Ltd., 2005), 22.

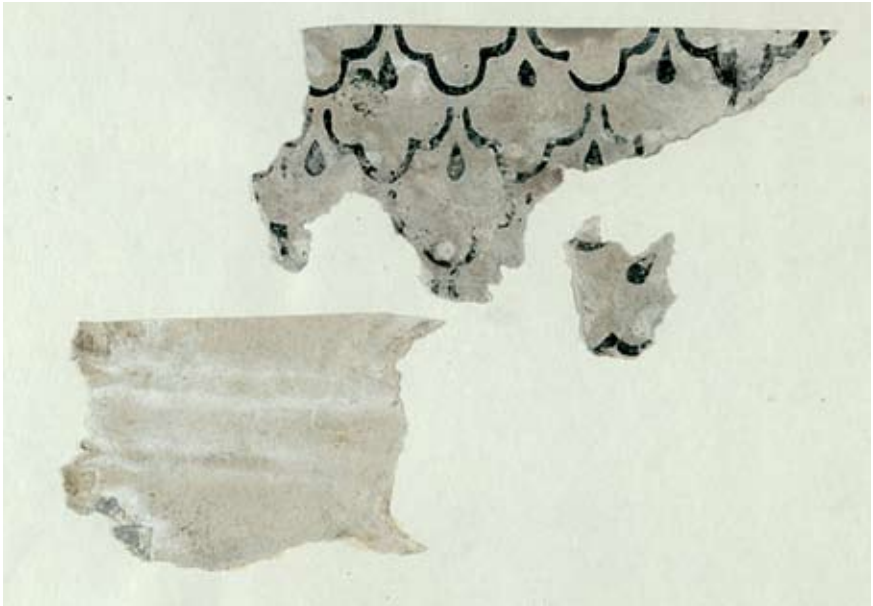


Figure 1. Fragment of an early 18th-century monochrome wallpaper found in Uus 21, Tallinn. ERA.T-76.1.10712.



Figure 2. Wallpapers could be frequently found behind closets, mirrors and inside drawers. Reproduction from *The Book of Wallpaper. A History and an Appreciation*, E. A. Entwisle, Arthur Barker, London, 1954, Plate 5.

approximately 10 metres, whilst the most common width, 56.5 cm, was that of the silks they aped.⁴⁷ The given measures of a wallpaper roll have remained almost the same up to the present.

By the end of the 15th century a method of flocking had started to develop in Germany. It reached its peak in England by the middle of the 18th century. Flocked wallpapers imitated luxurious textiles and were highly valued for their durability in comparison to contemporary textile wall covers.⁴⁸ The value of wallpaper patterns was characterized by a simple rule: the larger the pattern, the more luxurious and expensive it was. Large-scale Baroque designs symmetrical around a vertical axis may have been appropriate in salons and galleries but would have overpowered more intimate interiors. **(Fig. 3)** For these rooms, a number of more informal patterns were available, relying not on symmetry but on movement and colour for their appeal.⁴⁹

⁴⁷ *Ibid.*, 24.

⁴⁸ *Ibid.*, 27.

⁴⁹ *Ibidem.*



Figure 3. Flocked wallpapers with symmetrical design were commonly used in large representative rooms.

Speaker's Parlor at Clandon Park, Surrey, ca. 1735. Reproduction from *The Papered Wall. The History, Patterns and Techniques of Wallpaper*, ed. by Lesley Hoskins, Thames and Hudson, London, 2005, p. 28–29.

1.2. WALLPAPER IN 18TH-CENTURY INTERIORS

The **Rococo** period brought with it an increased need for intimacy and personal comfort, which is why the decorative objects and furniture became lighter in scale and weight, and sumptuous enfilades were replaced by small, intimate apartments. The decoration of the era was characterized by the use of *rocaille* and exotic *chinoiserie* and *singeries* motifs, and an interest in exotic and foreign cultures and ornaments, such as Chinese, Persian and Turkish.

Although there was only a loose hierarchy of rooms, the rooms descended in importance and size, from public rooms to informal ones. The function of each room was not only designated by its location in the *appartement* and its size, but also by the ambience created by decoration. For example, a parlour for dinner guests to assemble in after leaving the dining room had to have cheerful decoration, to offer a pleasant background for conversation and table games.⁵⁰

According to the classical order, the walls of a Rococo room were divided into three parts: the dado, field and entablature, a space for a frieze or a cornice. The filling area was split into sections by symmetrically arranged panels, which were framed by thin and low mouldings. **(Fig. 4)** A prominent role in the decoration scheme was played by the over-door or over-mantel panels, called *trumeaux*.⁵¹ Since asymmetry was represented by the use of abundant ornaments, balance needed to be maintained in the total composition. To create symmetry, the decoration of opposing walls reflected each other, i.e. elements that could break the symmetry, such as doors and closets, needed to be hidden in the setting. Besides wood, the centres of the panels could be filled with mirrors, textiles (e.g. silks, damasks and velvets), tapestries, painted canvas or wallpaper.⁵² **(Fig. 5)**

⁵⁰ Richard A. Etlin, *Symbolic Space: French Enlightenment Architecture and Its Legacy* (Chicago: University of Chicago Press, 1996), 132.

⁵¹ Blakemore, *History of Interior Design and Furniture*, 214.

⁵² *Ibidem*.

Historic types of wallpaper and decorative schemes of interiors



Figure 4. A wall of a *chinoiserie* salon, which has been segmented typically to the principles of Rococo design. Schloss Charlottenburg, Berlin.



Figure 5. In the bathroom of Empress Elisabeth, the panels above dado are filled with a printed textile. Hofburg Palace, Vienna.

Due to advances in printing techniques and joining-up patterns, the faster development of paper wall covers started in France during the 1760s and 1770s,⁵³ when the majority of walls were still covered with silk decorations. The first public examples of the production and use of *papiers de tapisserie* were the illustrations of Jean-Michel Papillon in the d’Alembert & Diderot’s *Encyclopédie* in 1755.⁵⁴ According to Jean-Pierre Seguin, there was no house in Paris, however magnificent, that did not have some spot, whether a dressing room or some more private place, which was not papered and therefore rather pleasantly decorated.⁵⁵ At the same time, *dominos* were still used in country houses and small towns. By the middle of the 18th century, wallpapers had reached such a level of quality that no-one needed to be persuaded to use them even in state rooms.

In 1774 the verb “to paper” appeared for the first time in a text in England, referring to the use of decorative paper hangings.⁵⁶ The appearance of this term reveals that the use of paper wall covers must have become a common means of decorating rooms by then.

By the end of the 18th century, papering walls had become so common in Europe and in North America that a large number of wallpaper manufactories had been established. There were many of them in several European capitals, such as Paris, London, Berlin and Vienna.⁵⁷

The variety of wallpaper patterns at the end of the 18th century is surprising. Besides flock and Chinese wallpapers, one could purchase paper wall coverings imitating various materials, for example wainscot, leather hangings, marble, stripes, embroidery and chintzes.

Wallpapers were usually combined with a variety of matching borders, swags and festoons, and finished with multi-

⁵³ Bernard Jacqué, “Why Use Borders?” in *The Wallpaper History Review* (2008), 21.

⁵⁴ Wisse, “Manifold Beginnings...”, 14.

⁵⁵ Odile Nouvel, *Wallpapers of France, 1800–1850*, 9.

⁵⁶ Online Ethymology Dictionary, accessed January 3, 2013, www.etymonline.com.

⁵⁷ Josef Leiss, *Papiers panoramiques. Klassische französische Bildtapeten aus dem Deutschen Tapetenmuseum Kassel*. Sonderausstellung 26.3.–28.6.1970 (Hamburg: Museum für Kunst und Kulturgeschichte Dortmund, Schloss Cappenberg, Westfalendruck Dortmund, Broschek-Verlag, 1970), XXV. Exhibition catalog.



Figure 6. The Chinese wallpapers in Hellbrunn Palace in Salzburg depict exotic birds and blooming trees.



Figure 7. A detail of a Chinese wallpaper from the Schlossmuseum in Weesenstein Palace in Germany. Reproduction from *Schlösser und Gärten um Dresden*, Lothar Kempe, Renate and Rofer Rössing, VEB E. A. Seemann Buch- und Kunstverlag, Leipzig, 1979, p. 111.

coloured flock or gold and bronze. Most commonly they were used to outline interruptions in a wall: windows, doors, fireplaces, cabinets and pilasters.⁵⁸ Borders with widths of 10.16–12.7 cm were combined with narrower ones, especially on the horizontal level, along chair rails and cornices. This type of decoration stayed in fashion until the beginning of the 19th century.

A large and easily distinguishable group of wallpapers used in multiple Rococo rooms were exotic **Chinese wall covers**, which were painted or printed on either paper or silk. Such wall covers were produced for the foreign, especially European, market.

The idea of covering large surfaces with paper is a European conception; for the Chinese such a means of wall decoration was unknown.⁵⁹ In fact, paper coverings on the wall were

⁵⁸ Frangiamore, *Wallpapers in Historic Preservation*, 36.

⁵⁹ Reepen et al., *Chinoiserie – Möbel und Wandverkleidungen*. 5. Bestandskatalog der Verwaltung der Staatlichen Schlösser und Gärten Hessen (Bad Homburg und Leipzig, Verlag Ausbildung + Wissen, 1996), 18.

considered “vulgar” in China. The Chinese adorned their walls with painted scrolls of landscape, flowers and birds instead.⁶⁰

The English historian Eric A. Entwisle has grouped Chinese wall covers, according to their designs, into three types.⁶¹ The oldest and most frequent type depicts exotic birds, giant flowers and blooming trees. (Fig. 6, Fig. 7) The second type shows scenes of Chinese everyday life, for example peasants or artisans working on various local handicraft objects.⁶² (Fig. 8) The third, and also the newest and rarest, group is made up of figurative scenes among trees and giant plant roots.

According to Gill Saunders, the first Chinese papers appeared for sale in London in the late 17th century. Chinese wallpapers could be purchased to fit sets of 25 or 40 different lengths,⁶³ with guidelines on how to arrange them on walls.⁶⁴ However, if a European trader couldn't purchase a complete set of wall covers for his customer, he improvised a composition of individual wallpaper panels that were sold as separate pictures,⁶⁵ Chinese graphic sheets, wood-cuts and/or silk paintings. Such a mixed collection of authentic Chinese papers was most obviously modified on the site. For a smaller number of Chinese wallpaper pieces, separate segments were sided with marbled paper and framed with borders or wooden mouldings, each separately or as small ensembles. (Fig. 9) This type of room was called a “print room” in England (for more, see pp. 54–55) and was considered highly fashionable at the beginning of the reign of George III (1738–1820), in the 1760s. Wallpapers with figural scenes were preferred for decorating such rooms.⁶⁶

Chinese wall covers were particularly admired for their hand-painted qualities and non-repeating patterns. However,

⁶⁰ Yueh-Siang Chang, “Imperial Designs and Enlightened Tastes: Motifs from Nature on Chinese Export Wallpapers” in *The Wallpaper History Review* (2008), 23.

⁶¹ Clare Taylor, “Chinese Papers and English Imitations in 18th Century Britain” in *New Discoveries. New Research. Papers From The International Wallpaper Conference at the Nordiska Museet*, ed. Elisabet Stavenow-Hidemark (Stockholm: Nordiska Museet Vörlag, 2009), 37.

⁶² Reepen et al., *Chinoiserie...*, 19.

⁶³ Saunders, *Wallpaper in Interior Decoration*, 63.

⁶⁴ Taylor, *Chinese Papers and English Imitations...*, 45.

⁶⁵ *Ibidem*.

⁶⁶ Reepen et al., *Chinoiserie...*, 19.



Figure 8. Scenes of Chinese everyday life in a small *chinoiserie* salon in Esterházy Palace, Eisenstadt.



Figure 9. Japanese Room, Eggenberg Palace in Graz, Austria. Reproduction from http://www.museum-joanneum.at/en/schloss_eggenberg/state_rooms/interiors/indian-rooms.

some earlier examples showed extensive use of wood-block printing for outlines, and a few later examples had carved outlines,⁶⁷ which were filled in by hand. One could find several wallpaper panels with the same scene, but with a slightly different in-painting. Rooms mounted with silk and paper wall covers were decorated with Asian and *chinoiserie* furniture and porcelain objects to emphasize their oriental ambience.⁶⁸

Chinoiserie rooms, where Chinese wall covers were used, were often set up in summer residences of European aristocracy.⁶⁹ The inspiration for such rooms didn't come directly from original Chinese interiors, but rather from European descriptions and interpretations of Chinese culture, architecture and everyday life.⁷⁰

Chinese papers appear to have been used particularly in the apartments of aristocratic women, especially in private rooms. They were most commonly used in intimate rooms, such as dressing rooms, bedrooms and salons. However, a dressing room was seldom decorated separately. It formed a part of a suite of rooms, including the bedchamber. These rooms were much less private in 18th-century houses than they are today, and the use of Chinese papers in such situations does not indicate that they were solely for private pleasure rather than for a display of fashionable taste.⁷¹ Such wallpapers were not used only by women; they could also be used by men, whose motivations for using the exotic wall covers might have been different.⁷²

Because of their high cost, the use of Chinese wall covers had a special meaning. They were commonly acquired for a special family event and marked certain key points in life, for example marriage, a rise in social status or the visit of an important person.⁷³ Thus Chinese wallpapers can be seen as reflecting a certain attitude or message the owners wanted to transmit to

⁶⁷ Saunders, *Wallpaper in Interior Decoration*, 63.

⁶⁸ Gunther Berger, *Chinoiseries in Österreich-Ungarn*. (Frankfurt am Main: Peter Lang GmbH Europäischer Verlag der Wissenschaften, 1995), 164.

⁶⁹ Astrid Wehser, *Anna Wilhelmine von Anhalt und Ihr Schloss in Mosigkau. Idee und Gestaltung eines Gesamtkunstwerks* (Kiel: Verlag Ludwig, Peter-Hirschfeld-Stiftung, 2010), 142.

⁷⁰ *Ibid.*, 144.

⁷¹ Saunders, *Wallpaper in Interior Decoration*, 65.

⁷² Taylor, *Chinese Papers and English Imitations...*, 39.

⁷³ *Ibid.*, 49.



Figure 10. A princess' bedroom with restored *chinoiserie* wallpapers in Esterházy Palace, Eisenstadt.

emphasise the room's significance. However, in terms of patterns of Chinese wallpapers, there is no correlation between a room's function and the pattern choice.⁷⁴

In the case of the Esterházy Palace in Eisenstadt, Austria (for more, see pp. 256–271), the most probable reason for arranging several *chinoiserie* rooms were the two documented visits of Empress Maria Theresia in 1742 and 1779.⁷⁵ Such interiors were at the height of their popularity during her reign, between the 1740s and 1790s. (Fig. 10) The same period marked a new stage in British interest in China, which brought the imported hangings into vogue in both England and France.

Starting in the 1750s there was a gradual increase in interest in antiquity. By the 1760s Rococo had been replaced by the more serious and orderly **Neo-Classicism**, which spread throughout Europe and started to replace the beloved *Rocaille* and *chinoiserie* decorations.⁷⁶

⁷⁴ Ibidem.

⁷⁵ Berger, *Chinoiserien in Österreich-Ungarn*, 166.

⁷⁶ Thümmler, *Die Geschichte der Tapete*, 63.

The new style was mainly influenced by the discovery and excavation of two ancient cities: Pompeii and Herculaneum. Various specialists, such as antiquarians, architects and art historians, took part in the excavations and documented the finds. As a result, several publications containing engraved designs, patterns and reproductions of classical masterpieces were published. One of the most celebrated of them, *Recueil des Antiquités Egyptiennes, Etrusques, Grecques et Gauloises* (1752), was a periodical series compiled by the Comte de Caylus.⁷⁷ These and similar publications, such as *Fragments et principes du dessin* (1778)⁷⁸ and *Oeuvre de différents genres*,⁷⁹ with multiple illustrations, served as role models for many architects and contemporary decorative artists.

Reproductions of the Greek and Roman archaeological finds were put to use by several artists and architects who dominated the development of Neo-Classicism. The most outstanding of them were the ceramicist Josiah Wedgwood, the cabinet-maker Thomas Chippendale, the architect Robert Adam⁸⁰ and his two brothers, James and John.

The principal reason for the success of the three Adam brothers was their frequent collaboration on architectural projects.⁸¹ A synthesis of fashions, old and new, which could be applied to all types of buildings and everyday objects, was provided by Robert Adam,⁸² who is the most celebrated of the three. In Adam's interiors, as well as those directly or indirectly inspired by Adam, major architectural features were less pronounced than formerly. The rooms had an overall treatment in which the surfaces were treated with decorative schemes of low relief, and all the details, even the furniture, were included in the overall treatment of the room.⁸³

Since the aesthetic essence of Neo-Classicism was clarity and truthfulness, the inherent illusionistic character of Rococo was

⁷⁷ Blakemore, *History of Interior Design and Furniture*, 207.

⁷⁸ Peter Jessen, *Der Ornamentstich. Geschichte der Vorlagen des Kunsthandwerks seit dem Mittelalter* (Berlin: Verlag für Kunstwissenschaft GmbH, 1920), 345.

⁷⁹ *Ibidem*.

⁸⁰ Steven Parissien, *Adam Style* (Hong Kong: Phaidon Press Limited, 1996) 14.

⁸¹ *Ibid.*, 41.

⁸² *Ibid.*, 44.

⁸³ *Ibid.*, 51.

abandoned for simpler interior decoration. The main focus was on the walls, which gave rooms a more intimate appearance. In the wall decoration, features typical of Rococo, such as continuous panelling, a vertical emphasis and low relief, remained in use. Walls were divided horizontally by low dados and classic cornices or entablatures as transitions to ceilings. Wider and narrower panels, filled with textile, tapestry or wallpaper, divided the wall above the dado and emphasised the vertical character of the wall. Since it was believed that the art of antiquity was white, the colour scheme used in Neo-Classical rooms was rather pale, employing mainly pastel tones, such as light yellow, blue, green and of course white. **(Fig. 11)**

It was common to treat walls with plain colours: to paint or cover them with monochromatic wallpapers or “plain papers”. Such decoration helped to create a peaceful atmosphere and was frequently used as a background for framed drawings and graphic works. The most common and desired tones on the market were verditer blue⁸⁴ and greens, but a wide range of other colours was available as well.⁸⁵ The cleanliness and intensity of the tones depended on the printing methods and materials used: dyes and inks, which varied depending on the time and location of production. Highly valued blue plain papers were produced using distinct pigments: azurite, its synthetic replacement toxic blue verditer, copper carbonate⁸⁶ and Prussian blue.⁸⁷ In comparison to azurite, blue verditer was a readily available and cheap pigment.

The primary aim of plain papers was to bring colour into a room, especially to picture galleries and living rooms, to provide a complementary background for architectural fittings, furniture,⁸⁸ art works and other mobilia. **(Fig. 12)**

⁸⁴ In French *vert de terre*, which literally means green of earth. Verditer is one of two pigments, called blue verditer and green verditer. They are made by treating copper nitrate with calcium carbonate, in the form of lime, whiting or chalk. They consist of hydrated copper carbonates analogous to the minerals azurite and malachite. Verditer, seadict.com, accessed June 1, 2013, <http://www.seadict.com/en/en/verditer>.

⁸⁵ Frangiamore, *Wallpapers in Historic Preservation*, 21.

⁸⁶ Tatyana Bayerova, “*Farbenchemie für Restauratoren*”, Conservation Department, University of Applied Arts Vienna, Unpublished manuscript, 2010.

⁸⁷ Elsbeth Geldhof, “Hope in Haarlem: the Welgelegen Pavilion” in *The Wallpaper History Review* (2008), 7.

⁸⁸ Judith Miller, *The Style Sourcebook : The Definitive Illustrated Directory of Fabrics, Paints, Wallpaper, Tiles, Flooring* (New York: Abrams, 1998), 198.

As an additional embellishment, borders with dominant designs were used to stress the outlines, edges and corners of rooms, as well as mark the frames of doors and over-doors. Such paper borders were also used to line painted walls, although wallpapers were preferred for the covered cracks and other faults of the wall finish. Wide festoon borders were used at the cornice level, and narrow edgings at the chair rail level and around the door were commonly papered.

The fashion of using plain papers out-lived several other types and styles of wallpapers. Besides being used alone or as a background for complicated decorative settings during the second half of the 18th century, papers in crimson and magenta were seen as the most fitting background for the warm glow of gilded, ebony or black-lacquered picture-frames in Victorian interiors.⁸⁹ Besides red papers, dark blue wall covers were very widely used. They served most commonly as complementary backgrounds for displays of silverware, grey marble and granite artefacts.⁹⁰

Plain papers were frequently used as backgrounds for **French arabesque panel** and ***papier en feuille*** settings and for English **print rooms**. This is a good example of wall decoration employing the symbology of ancient cultures.

Papier en feuille were ornaments produced in a sheet form (*en feuille*) applied to a layer of plain paper or painted wall. According to the Swedish wallpaper researcher Elisabeth Hidemark-Stawenow, such wall decorations were made up of two layers: the walls were covered with a green or blue plain paper, which was pasted over with separate pieces of *papier en feuille* cut to size. The latter came in various shapes, e.g. separate architectural elements (columns, pilasters and rosettes), over-doors, corner pieces, statues, trellising, brick- and stonework, and rectangular, circular and octagonal “cameos”⁹¹ with allegorical Etruscan or Roman scenes. **(Fig. 13)** In addition to the

⁸⁹ Ibidem.

⁹⁰ Ibid., 199.

⁹¹ Bernard Jacqué, “From ‘papier en feuille’ to ‘decór’: the Industrialisation of Decoration” in *New Discoveries, New Research. Papers from the International Wallpaper Conference at the Nordiska Museet, Stockholm 2007*, ed. by Elisabet Stawenow-Hidemark (Stockholm: Nordiska Museet Vörlag, 2009), 13.

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Figure 11. A fine Neo-Classical interior in the house of Sir John Soane in London. Reproduction from *Antique Collector's Directory of Period Detail*, Paul Davidson, Aurum Press Limited, London, 2000, p. 105.



Figure 12. The Dutton Family in the Drawing Room of Sherborne Park, Gloucestershire, 1771, by Johann Zoffany (1733–1810). Reproduction from *Wallpaper in Interior Decoration*, Gill Saunders, Watson-Guption Publications, New York, 2002, p. 41.



Figure 13. Two *papier en feuille* elements with Roman motifs for pasting onto wall produces by Arthur & Robert, Paris, ca. 1790. Collection of *Musée du papier peint*, Rixheim, France. Reproduction from *New Discoveries, New Research. Papers from the International Wallpaper Conference at the Nordiska Museet, Stockholm, 2007*, ed. Elisabet Stavenow-Hidemark, Nordiska Museet Förlag, Stockholm, 2009, p. 9–10.



Figure 14. Interior of an unknown location in Austrian Empire. Private collection, London.



Figure 15. Salon of the family Buquoy, 1837, Terezino Udoli, Austrian Empire. Collection of Castle Nové Hradý, Czech Republic. Reproduction from *New Discoveries, New Research. Papers from the International Wallpaper Conference at the Nordiska Museet, Stockholm, 2007*, ed. Elisabet Stavenow-Hidemark, Nordiska Museet Förlag, Stockholm, 2009, p. 11–12.



Figure 16. An arabesque panneau by Réveillon of Paris, ca. 1780. Reproduction from *The Papered Wall. The History, Patterns and Techniques of Wallpaper*, ed. by Lesley Hoskins, Thames and Hudson, London, 2005, p. 78.

decorative elements, manufacturers produced dados, uprights, borders and friezes in roll form.⁹² The main sources of inspiration were the depictions of Roman monuments and wall paintings found in Pompeii and Herculaneum. A customer who was not too keen on Etruscan terracotta colouring could choose the same figures in white on a black background, combined with a verdigris frame.⁹³

Similarly to rooms decorated with plain paper, *papier en feuille* settings were complemented by vibrant and richly decorated borders, which framed the panels and the cut-out decorations. (Fig. 14, Fig. 15)

The period of using *papier en feuille* was from the 1750s until approximately 1800. From the lack of later invoices and depictions of interiors, it is clear that the fashion was no longer in vogue after the turn of the century. One of the reasons that *papier en feuille* lost its popularity was a new type of product, *décor-complets*, which similarly to the former one, employed various architectural ornaments.

The vogue of *papier en feuille* was replaced by a certain type of decoration known as **arabesque wallpapers**. The main influence for arabesque patterns came from the vast choice of published graphic works and drawings depicting antique Roman ornaments, seen first in the fantastic wall paintings preserved, for example, in the Golden House of Nero, Hadrian's Villa and the paintings in the Loggia of the Vatican painted by Raffael.

The wallpapers were produced as separate *panneaux*, which were commonly about two meters high, but had different widths. The decoration of arabesque panels was developed symmetrically around a central axis, and was comprised of scrolling leaves, flowers, branches and palm-fronds, lambrequins, animals, human figures, vases, fragments of architecture,

⁹² Bernard Jacqué, "Luxury Perfected: The Ascendancy of French Wallpaper 1770–1870" in *The Papered Wall. The History, Patterns and Techniques of Wallpaper*, ed. Lesley Hoskins (London: Thames and Hudson Ltd., 2005), 72.

⁹³ Ursula Sjöberg, "Adam Petter Holmberg and the Etruscan Style" in *New Discoveries. New Research. Papers From The International Wallpaper Conference at the Nordiska Museet*, ed. Elisabet Stavenow-Hidemark. Nordiska Museet Förlag (2009), 31.

Historic types of wallpaper and decorative schemes of interiors

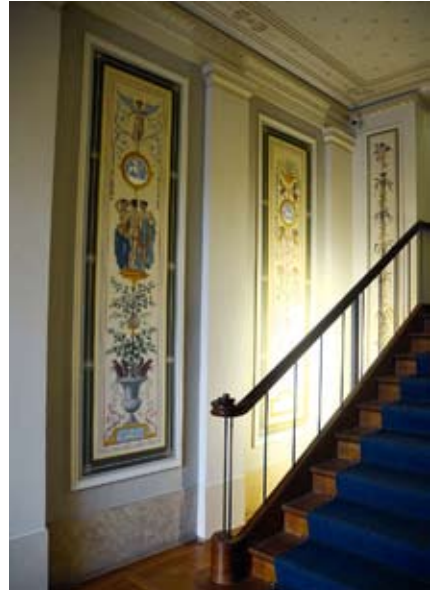


Figure 17. Wallpaintings depicting arabesque panels in the entrance of the *Neue Pavilion* in Berlin.



Figure 18. Castletown Print Room, 1773. Reproduction from *The Wallpaper History Review*, 2008, p.14.



Figure 19. The Print Room, Woodhall Park, Hertfordshire. Reproduction from *The Book of Wallpaper. A History and an Appreciation*, E. A. Entwisle, Arthur Barker, London, 1954, Plate 32.

landscapes and ornamental cartouches.⁹⁴ (Fig. 16)

As the panels were produced separately, this allowed a decorator to create a setting according to the size of a room or personal taste. Arabesque wallpapers were commonly fixed on a monochromatic wallpaper above a dado. If the wallpapers were presented as separate panels, they might have been sided by pilasters and framed by cornices, borders or mouldings. Besides symmetrical arabesque designs, full- or half-drop patterns, integrating symmetrically arranged motifs, were used to embellish walls as separate panels. (Fig. 17) Besides decorating walls, arabesque panels were frequently used to cover folding screens, which were very popular during the 18th century.

A type of decoration that was considered characteristic to English Neo-Classical interiors was the **print room**, which combined graphic prints and *trompe-l'oeil* frames, festoons and other decorative details into a finely arranged setting. The fashion started in the middle of the 18th century and employed various graphic prints, which were pasted over monochromatic painted or papered walls. By the 1770s this fashion had reached the continent.⁹⁵

Although the print rooms that have survived are found in aristocratic houses, it is not certain that such decorations were not also used in interiors of lower social class homes.⁹⁶ Simpler print rooms featured black-and-white prints pasted in rows next to each other. In more extravagant cases, the prints were integrated into a harmonic decoration with *trompe l'oeil* paper cut-outs depicting frames, garlands, swags, bows and chains. (Fig. 18, Fig. 19)

Print rooms usually featured a selection of prints: engravings, etchings, mezzotints, aquatints and, later, lithographs pasted onto coloured paper backgrounds in symmetrical arrangements.⁹⁷

⁹⁴ Véronique de Bruignac – La Hogue, “Arabesques and Allegories: French Decorative Panels” in *The Papered Wall. The History, Patterns and Techniques of Wallpaper*, ed. by Lesley Hoskins (London: Thames and Hudson Ltd., 2005), 78.

⁹⁵ Alfred P. Hagemann, *Wilhelmine von Lichtenau (1753–1820). Von der Mätresse zur Mäzenin* (Weimar: Böhlau Verlag, 2007), 282.

⁹⁶ Julie Fitzgerald, “The Georgian Print Room Explored” in *The Wallpaper History Review*, 2008, 16.

⁹⁷ *Ibid.*, 14.

The theme of the prints referred to the function and importance of the room. It is interesting to note, however, that the use of such decoration was not restricted by the function of the room: it was used in bedrooms, dressing rooms, dining rooms, billiard rooms, halls and corridors, galleries and cabinets. The prints reflected the personal taste of the patron, or his or her political, social and religious interests. The fashion of visiting classical architectural sites in Rome and Greece was expressed in a series of graphic prints, which could readily be displayed on the walls. Since the rooms represented very individual taste, each room told a rich story.⁹⁸

Interestingly, the room's function did not dictate the choice of wall colour. This decorative fashion continued well into the 19th century and experienced a rebirth in the late 20th century, with books of prints and borders designed for this purpose.⁹⁹

In Germany, Rococo decoration was replaced by the new ideal of simplicity, the style of Neo-Classicism. This meant no magnificent palaces with festive gardens in the French style, but rather simple estates connected with side buildings and landscape parks that could be partially used for agriculture.¹⁰⁰

According to Caspar Voghts (1752–1839), a contemporary house should have prettier interiors than one would expect from the facade.¹⁰¹

Starting in 1760 German interiors became gradually influenced by the works of the brothers Adam and their circle. The practical and functional were mixed with modest elegance, which occurred most commonly in furniture design, but also in interiors.¹⁰²

An article published in the *Journal des Luxus und der Moden* in 1787 described a decorative scheme made up of plain one-coloured fields framed by contrasting borders. It referred

⁹⁸ Ibidem.

⁹⁹ Miller, *The Style Sourcebook*, 239.

¹⁰⁰ Thümmeler, *Die Geschichte der Tapete*, 85.

¹⁰¹ Günther, Grundmann, Renata Klée-Gobert, *The architectural and art monuments of the Free and Hanseatic City of Hamburg*. Vol 2: Altona and Elbvororte (Hamburg: Ed Gunther of Grundmann, Hamburg, 1959), 210.

¹⁰² Bärbel Hedinger and Julia Berger, *Karl Friedrich Schinkel: Möbel und Interieur* (München: Deutscher Kunstverlag, 2002), 32.

to the strong influence of the English fashion of print rooms. Fields, such as over-mantles, over-doors and panels framed by borders, were embellished with motifs and figures derived from antiquity, such as festoons, garlands, medallions and various scenes from Pompeian wall paintings. **(Fig. 20)**

Another wide-spread fashion was to divide the field above the dado into regular panels treated with pastel tones of basic colours: red, yellow, blue, green or grey. After 1789 the greens, pinks and yellows became more intense. Until the first quarter of the 19th century, such colours as apple-green, rose-red and paille-yellow were in vogue.¹⁰³ The colours chosen for interiors were most commonly influenced by French Rococo. According to the French theoretician and architect Nicola La Camus de Mézières (1721–1789), the tone of a room needed to be chosen according to the complexion and hair colour of its inhabitant.

¹⁰³ Thümmeler, *Die Geschichte der Tapete*, 89.

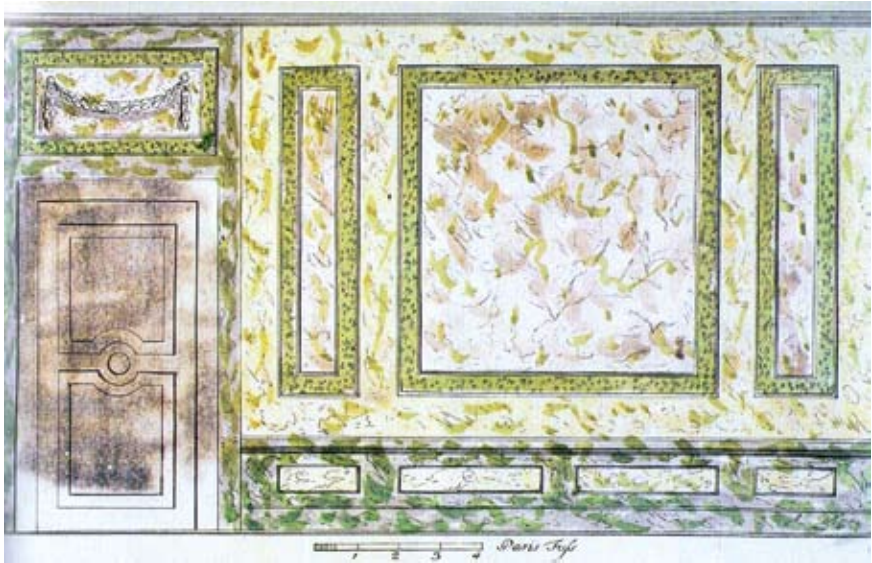


Figure 20. A model for a walldecoration in the *Journal des Luxus und der Modern*, 1787. Reproduction from *Papiertapeten. Bestände, Erhaltung und Restaurierung*, Staatliche Schlösser, Burgen und Gärten Sachsen in Zusammenarbeit mit dem Landesamt für Denkmalpflege Sachsen, Tagungsband, Michel Sandstein Verlag GmbH, Dresden, 2005, p. 193.

1.3. WALLPAPER IN 19TH-CENTURY INTERIORS

With the growth of the middle class at the beginning of the 19th century, a large group of new customers emerged, who yearned to express their social and economic status with fitting decorations and furnishings. The first half of the 19th century was characterized by a demand for new living spaces and a larger number of products at cheaper prices. This meant that new industrial methods needed to be developed to supply the vast group of customers. Besides large public buildings, housing complexes with small and practical flats were erected, forming new districts around the town centres. Modest family houses were built in suburban areas offering lower land values and calmer living environments.

By the middle of the century, printing machines were starting to be used in most of the industrial centres of Europe. General trends that influenced the design of applied arts and architecture were not so much related to the change in aristocratic taste as to the economy and financial growth on a larger social scale.

At the beginning of the century, interior decoration in **France** was dominated by the principles of the Empire style. Its most characteristic feature was its festive appearance, which was achieved through strict symmetry and the use of columns and pilasters. Besides using architectural details, the Empire style included the use of plain walls, wall paintings, stretched fabrics and wallpaper. In contrast to the mild pastel tones used in Rococo or Neo-Classicist interiors, Empire styles used intense tones, such as Pompeian red, dark blue, dark yellow, white, mahogany brown and gold. **(Fig. 21)**

In contrast to high-class interiors designed according to the principles of the Empire style, rooms in middle-class homes were rather delicately decorated. It was common to segment a wall with elaborate panel arrangements or give the field above the dado a simple finish. Plain walls were painted or decorated either with wall paintings, stretched fabrics or wallpapers printed with simple patterns. Since covering walls with textiles was rather expensive, it was possible to use wallpapers which imitated various textiles: shimmering silk, layers of lace and drapes. **(Fig. 22)**



Figure 21. Salle de Conseil (Council Chamber), *Château de la Malmaison* ca. 1800 near Paris. Reproduction from *Architecture and Interior Design from the 19th Century. An Integrated History. Volume 2*, Buie Harwood, Briget May and Curt Sherman, Pearson Prentice Hall, Upper Saddle River, New Jersey, Columbus, Ohio, 2009, p. 43.



Figure 22. Wallpapers used to imitate different effects of textiles. Wallpaper designer by Wagner for Zuber, 1856. Reproduction from *The Papered Wall. The History, Patterns and Techniques of Wallpaper*, ed. by Lesley Hoskins, Thames and Hudson, London, 2005, p. 71.



Figure 23. Wallpapers imitating hung textiles in the Loodi Manor near Viljandi, Estonia.

Spectacularly illusionistic papers imitating drapery expressed a taste which emerged at the end of the 18th century and lasted until the 1830s.¹⁰⁴ (Fig. 23) The architectural features continued to include semi-detached columns. The dado persisted, although it gradually dropped from fashion.¹⁰⁵

Since the interiors of new flats were left rather plain, wallpaper manufacturers had a great opportunity to provide the market with a large number of decorations, such as patterned wallpapers, architectural borders and ornaments, **panoramic wallpapers** and *decór-complets*, which aimed to replace actual wall paintings, stucco and wood-carving.

By the end of the 18th century travel had become an important part of young people's education. Now not only young noblemen undertook the Grand Tour, but also scholars, artists, writers and the middle class generally. The intensified emphasis on travel, in turn, increased the sales of landscape paintings, drawings and especially engravings. A type of landscape painting, panorama, brought a new quality to the creation and demonstration of views. (Fig. 24) In addition, it offered a perfect alternative to visiting unreachable distant places and extreme situations; it also enabled people to escape from their everyday routines, at a time when only very few people could afford real travel.¹⁰⁶ At the beginning of the 19th century the term "panorama" had acquired a wider meaning and had become a fashionable word of sorts, denoting not only a circular painting, but also a general view, an overview in a broader sense¹⁰⁷ or even a type of wallpaper.

Panoramic wallpapers depict a continuous landscape without any repetition of scenes or of motifs, printed on a series of paper pieces that join up one with another. They were designed to cover all the walls of a room in a house, at a price that was not prohibitive, with the aim of creating "a distinctive atmosphere".¹⁰⁸

¹⁰⁴ Jacqué, "Luxury Perfected:...", 66.

¹⁰⁵ Blakemore, *History of Interior Design and Furniture*, 315.

¹⁰⁶ Moonika Teemus, *Reisides toas : pano-, kosmo- ja dioraamadest Tallinnas ja Tartus (1826–1850)* (Tartu: Tartu Ülikooli Kirjastus / Greif, 2005), 104–105.

¹⁰⁷ *Ibid.*, 105.

¹⁰⁸ Odile Nouvel-Kammerer, "Wide Horizons: French Scenic Papers" in *The Papered Wall. The History, Patterns and Techniques of Wallpaper*, ed. Lesley Hoskins (London: Thames and Hudson Ltd., 2005), 95.



Figure 24. Panorama of Salzburg in 1829 by Johann Michael Sattler (1786–1847) in the Panorama Museum, Salzburg.

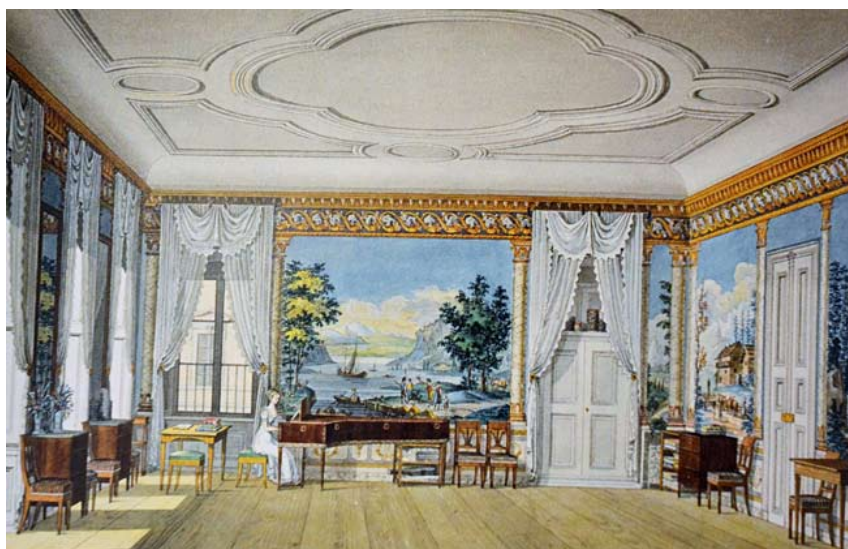


Figure 25. Billiard hall, Zofin Palace, Czech Republic, anonymous, 1852–1855. Reproduction from *Papiertapeten. Bestände, Erhaltung und Restaurierung*, Staatliche Schlösser, Burgen und Gärten Sachsen in Zusammenarbeit mit dem Landesamt für Denkmalpflege Sachsen, Tagungsband, Michel Sandstein Verlag GmbH, Dresden, 2005, p. 20.

Similarly to common wallpapers, panoramic wallpapers were printed by using woodblocks. Since multiple colours needed to be used and no motifs were repeated, the number of blocks could reach hundreds or even thousands.

Depending on the expectation of the owners and the properties of a room, panoramic wallpapers could be hung in various ways. First of all, if it was important to emphasize the narrative property of the wallpaper, an attempt was made to hang it continuously, as much as the windows and doors allowed. Secondly, a wallpaper was split into separate scenes. Manufacturers created such features as rocks and trees, which were used to separate various episodes of the story. (Fig. 25) If only certain scenes were to be hung, such compositions could be sacrificed. And, finally, only separate lengths of the whole wallpaper might be hung as paintings. In the case of the latter two options, the separate scenes were framed and emphasized by additional friezes, borders, pilasters and dados. If these weren't already present, wallpaper manufacturers offered a large variety of architectural elements printed on paper.

Besides depictions of exotic lands and cultures, inspired by the drawings of travelling artists, panoramic wallpapers presented such themes as cities and parks, mythological subjects, scenes from contemporary literature¹⁰⁹ and historic events, for example Napoleonic campaigns, which were recommended for public interiors. (Fig. 26) Among higher educated social classes, such wallpapers were seen as ways to entertain, educate and stimulate the imagination.

In contrast to the aforementioned sophisticated settings of *papier en feuille* and print rooms, a type of industrial decoration known as **decór-complets** was developed to meet the expectations of the growing middle class. After Neo-Classicism had passed out of fashion at the beginning of the 1830s, manufacturers were inspired by the rich vocabulary of ornaments and historic decoration. Fashionable wall covers of the 1840s were strongly influenced by the Rococo, Renaissance and Moorish

¹⁰⁹ Saunders, *Wallpaper in Interior Decoration*, 89.



Figure 26. *L'Amérique du Nord* in the Diplomatic Reception Room at the White House, Washington D.C. Reproduction from *Wallpaper in Interior Decoration*, Gill Saunders, Watson-Guption Publications, New York, 2002, p. 95.

styles, and during the Second Empire, in the 1850s and 1860s, the interest shifted to the styles of Louis XIV and Louis XVI.

A *decór* composition was made up of various modules. According to lithographs of the time, such wall decorations were arranged in the manner of wooden panelling: a panel, a narrower intermediate panel, a pilaster, a border, corners, a frieze and a cornice, and for the lower part of the wall, a dado.¹¹⁰ Panels set in the middle of decoration were treated as isolated pictures, which were embellished with bronze or grisaille figures, medallions and allegorical scenes. The latter were extremely popular until the middle of the 19th century. (Fig. 27) Smaller details, such as cartouches, could be used near walls and elsewhere, e.g. on fire screens. Since *decórs* functioned as vast galleries, they were commonly used to decorate reception rooms and replaced paintings hung on walls.

For a short period of time, between 1815 and 1848, a style known as Biedermeier spread throughout the **German-speaking countries and Scandinavia**. It never developed into a separate architectural style, but was connected with bourgeois domestic life and interior design. A middle-class family usually lived in a flat, whose size depended on the inhabitants' wealth. A flat of a prosperous family consisted of the following rooms: a guest- or living room, a *Gute Stube* or clean room for festive events, a dining room, a study, a salon, bedrooms, a children's room, a kitchen and a servant's room. As the Biedermeier style was strongly influenced by the principles of Neo-Classical architecture, the walls of a bourgeois flat were treated with light colours: white, yellow, pink, light blue or light green. Besides pale-coloured paint and wall covers, papers in the French style covered with a diamond pattern, rose bouquets¹¹¹, vertical stripes or textile imitation were widely used. (Fig. 28) In the 1820s print rooms, *Kupferstichzimmer*, were still common. Such decoration served as private museums and as representations of their owner's views, education and taste, and reflected a deep interest in Italian Renaissance art and architecture.¹¹²

¹¹⁰ Ibid., 74.

¹¹¹ Hagemann, *Wilhelmine von Lichtenau (1753–1820)*..., 282.

¹¹² Hedinger and Berger, *Karl Friedrich Schinkel*..., 124.



Figure 27. Décor historique, Maison d'Alt, Fribourg, Switzerland. Reproduction from New Discoveries, New Research. Papers from the International Wallpaper Conference at the Nordiska Museet, Stockholm, 2007, ed. Elisabet Stavenow-Hidemark, Nordiska Museet Förlag, Stockhol, 2009, p. 17.

The era known as the Age of Enlightenment brought with it a need to consolidate the nation and state. An effort was made to define them through local history and traditions. In social practice, this led to idealizing and adapting historic architectural styles to currently prevailing tastes.

In the discourse of the history of interior design, the decades after the 1830s are called **historicist**. The origins of architectural historicism lie in romanticism, in which an interest in the Middle Ages and the Antique was prominent. However, historicist solutions did not copy historic styles; rather, they attempted to give a certain meaning and function to each style.

People who had gained sudden wealth had a chance to “collect” a style of their own, which had previously been the privilege of the elite of society. Modern rooms, whether created in one certain historic style or several styles, were mixed together in an eclectic composition. Although the history of historicist interiors can be divided into periods according to the dominance of certain design principles or historical styles, stylistic preferences were different in various countries.

For example, a deepened interest in Neo-Gothic patterns in England was brought about by books written by Walter Scott. **(Fig. 29)** The design of modern patterns was mostly influenced by romantic depictions of ruins and picturesque landscapes. Renaissance patterns, on the other hand, were influenced by authentic motifs from tapestries and textiles of the Renaissance style. The former were favoured within traditionally masculine settings, such as libraries and dining rooms, while the latter – which included complex pilaster-and-panel decorations – were reserved for more formal areas, such as drawing rooms.¹¹³

Another masculine room that gained importance by the end of the 19th century was the smoking room. It was used by gentlemen who retired after dinner from the company of women to a drawing room or salon. The decoration of smoking rooms was most commonly influenced by the Orient and the use of

¹¹³ Joanna Banham, “The English Response: Mechanization and Design Reform” in *The Papered Wall. The History, Patterns and Techniques of Wallpaper*, ed. Lesley Hoskins (London: Thames and Hudson Ltd., 2005), 138.



Figure 28. Wallpapers imitating textiles in the study of the countess in the Hoch-Berg Suite, Schwetzingen Palace. Reproduction from *Papiertapeten. Bestände, Erhaltung und Restaurierung*, Staatliche Schlösser, Burgen und Gärten Sachsen in Zusammenarbeit mit dem Landesamt für Denkmalpflege Sachsen, Tagungsband, Michel Sandstein Verlag GmbH, Dresden, 2005, p. 141.



Figure 29. A neo-Gothic pattern, Nowton Court. With the kind permission by Cole & Son (Wallpapers) Ltd.

textiles. Oriental rugs were imported, copied and interpreted. Walls were covered with patterns inspired by Kelim carpets and camels bags, or their European imitations, which were used as cushions or upholstery. The amount of daylight was controlled with the aid of curtains or carpets, creating the dim atmosphere of desert tents.

In **Germany**, on the other hand, three style groups that existed simultaneously can be distinguished: Neo-Rococo, Neo-Gothic and Neo-Renaissance. Besides architecture, the design of wallpapers and different kinds of *mobilia* was most influenced by the historicist styles. If one needed to decorate several rooms, particularly in manors or city residences, each room could be furnished in a different style. The choice of style depended on the function of a room. Thus, similarly to in England, a smoking room was decorated with Oriental or Moorish furnishings, textiles and wallpapers, a parlour in Empire or Neo-Classical style, a study in Neo-Renaissance or Gothic, a lady's boudoir, drawing room and ballroom in Rococo, and a dining room and library in Renaissance style.

In **the second half of the 19th century** multiple styles existed simultaneously. Faster production, together with the transportation of goods by train, made many products affordable for a bigger group of consumers. It was the beginning of the era of mass consumption. Designers felt they had something to offer and could enhance earlier styles.¹¹⁴ Technically, they felt that modern methods were better because machines led to greater precision for fine designs.

In the middle of the century the tripartite division of the wall became standard. In all of the trend-setting countries, England, France and Germany, walls were segmented differently. The tripartite wall division was a means of dividing and ordering the space of the wall, as well as breaking up its stiffness.¹¹⁵ In this case, a dado served as the horizontal carrier of architectural decoration that stretched upwards towards the frieze

¹¹⁴ Blakemore, *History of Interior Design and Furniture*, 345.

¹¹⁵ Heinrich Olligs, ed., *Tapeten : Ihre Geschichte bis zur Gegenwart. Fortsetzung Tapeten-Geschichte*, Band II (Braunschweig : Klinkhardt u. Biermann, 1970), 12–13.

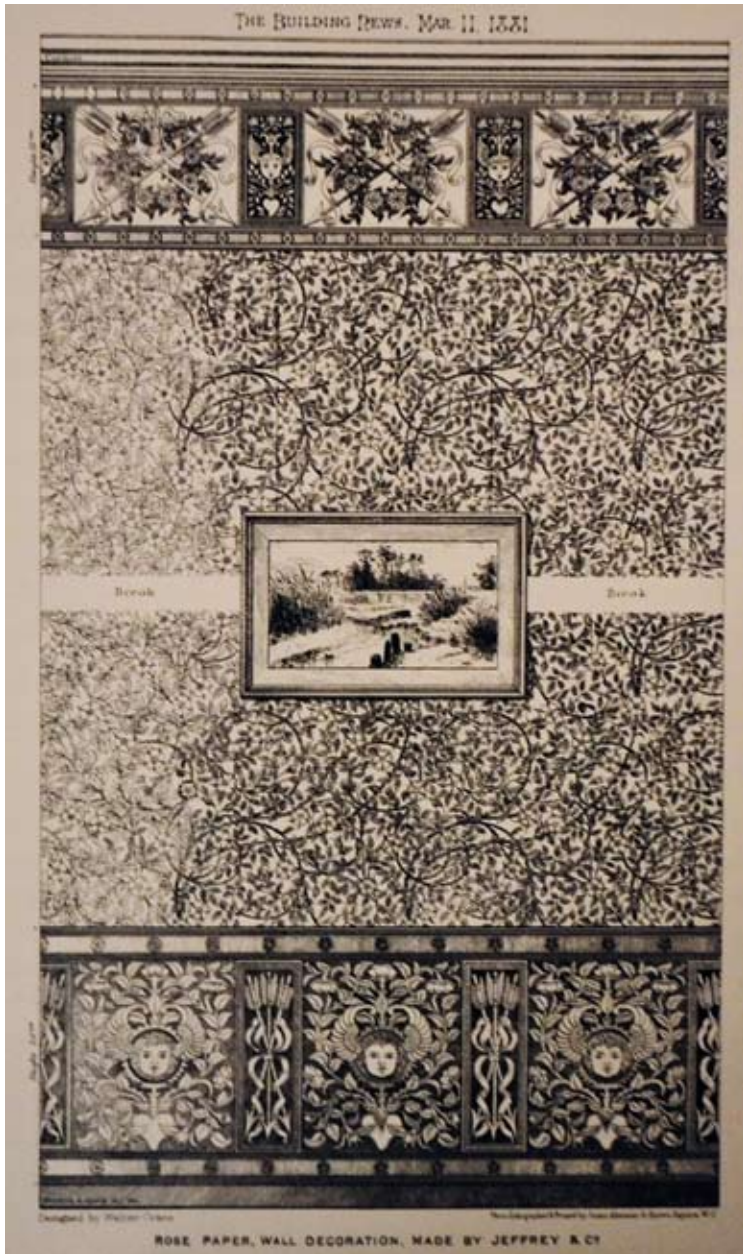


Figure 30. Illustration from *The Building News*, March 1879, showing horizontally segmented wallscheme. Reproduction from *Wallpaper in Interior Decoration*, Gill Saunders, Watson-Guption Publications, New York, 2002, p. 117.

and ceiling. In **England**, walls started to be divided into three horizontally separated sections: a dado below the chair rail, filling above it and a frieze at the top. (**Fig. 30**) By the end of the 19th century, the friezes became gradually broader and started to dominate the whole wallpaper scheme. Wide borders were used up to the beginning of the 20th century, when they were called “Crown Hangings”, in which vertically oriented designs, usually flowers, rose in widely spaced stripes up the wall to join a dominant design that ran horizontally across the top of the wall.¹¹⁶ In **France**, walls were divided into vertical panels, which were framed by borders or by wallpaper “pilasters”. In **Germany**, large fields between the dado and frieze were used for elaborate decorations and were framed on all four sides by a border and a strip of plain paper. The corners formed by borders were frequently covered by matching decorative corner-pieces. Above a door, the field of supraporte was commonly treated as an individual segment and framed by a border and plain paper. (**Fig. 31**) This kind of division became especially popular in the 1880s. It was believed that a framing border would help to separate the walls from the floor and ceiling, and present the pattern of a wallpaper more clearly.¹¹⁷ By the end of the 19th century, the tripartite wall division was recommended only for public or semi-public spaces,¹¹⁸ such as halls, dining-rooms and parlours.¹¹⁹

The materials at the end of the 19th century were generally the same as at the beginning of the century. However, just using a combination of border and wallpaper was no longer sufficient; creating lush and complicated decoration schemes was in vogue. Glowing colours, and balanced and rounded forms were prestigious qualities, while harsh light, white surfaces, hard forms and

¹¹⁶ Frangiamore, *Wallpapers in Historic Preservation*, 36.

¹¹⁷ von Falke, *Die Kunst im Hause*, 230.

¹¹⁸ Christine Woods, Joanne Kosuda Warner and Bernard Jacqué, “Proliferation: Late 19th Century Papers, Markets and Manufacturers” in *The Papered Wall. The History, Patterns and Techniques of Wallpaper*, ed. Lesley Hoskins (London: Thames and Hudson Ltd., 2005), 152.

¹¹⁹ Brigitte von Savigny, “Tapeten und Dekorationsstoffe” in *Jugendstil in Freiburg. Begleitbuch zur Ausstellung “Jugendstil in Freiburg” 2. März – 13. Mai 2001 im Augustiner-museum Freiburg*, ed. Saskia Durian-Ress (Freiburg: Rombach Verlag, 2001), CXCIX. Exhibition catalog.



Figure 31. The billiard room in the Schloss Paretz, Germany.

emptiness were to be avoided. Due to the mechanized production of wallpapers, different price categories developed. Luxurious wallpapers meant for wealthy customers were still produced by hand, while cheaper wallpapers were printed mechanically. Besides printing methods, another important feature in price development was the material.

Collecting historical objects and “curiosities” became popular in the middle of the century. A considerable influence on this fashion came from various artists and their studios. Good examples are the paintings and atelier of Hans Makart in Vienna, which became a kind of symbol of historicist interiors.¹²⁰ Such interiors were considered to be suitable settings for collections of antiques and curiosities. Fashionable rooms were decorated with richly decorated wallpapers in dusky colours. In addition to the aforementioned *decór-complets*, there was abundant production of repetitive ornaments. One of the most popular patterns contained naturalistic plants and flowers, especially cabbage roses.

A strong influence on pattern design came from exposure, through conquest or exploration, to foreign countries. For example, during the 1860s Japan ended its nearly complete exclusion of foreigners, which meant a livelier exchange of goods. One result was the crystallization of the Aesthetic Movement in Europe, which was expressed in Western textiles through the adoption of entire patterns or individual motifs, and “sad” tones of yellow and olive green.¹²¹ The design principles of the Aesthetic Movement formed the basis for the later Art Nouveau style.

Common colour combinations of the majority of 19th century patterns tended to have very strong contrasts, for example a combination of vivid green with grey, strong harsh red with brown, or a brilliant shade of blue paired with brown. However, besides stylish wallpapers, manufacturers produced papers with small and plain patterns, which could be combined with matching borders and fit a more classical setting.

¹²⁰ Isabella Ackerl, *Vienna Modernism 1890–1910*, accessed January 3, 2013, <http://www.bka.gv.at/DocView.axd?CobId=5035>.

¹²¹ Mary Schoeser, *World Textiles. A Concise History* (London: Thames & Hudson, World of Art, 2003), 133.

In the late 19th century there was a revival of interest in **leather wall coverings**. Demand prompted the development of cheaper alternatives: “leather papers” and imitations in other materials.¹²² Besides European manufacturers, many convincing imitations of leather wall coverings were produced by Japanese companies for European clients, starting in the 1870s. Imitation leathers, and other kinds of embossed and relief decoration, were thought to be most suitable for halls, stairways, dining rooms, studies and libraries.¹²³ **(Fig. 32)**

Modern ideas of interior design were introduced in the book *Die Kunst im Hause* (1871), written by Jacob von Falke, a director of the *Österreichisches Museum für Kunst und Industrie* in Vienna. His ideas about the combination of form and function spread throughout the German-speaking countries and Scandinavia. Von Falke believed that a person who loved beauty should be a collector, preferably of antiques. Since antiques tended to be covered with patina and lost their fresh appearance, the resulting colours of wallpaper were muted. Wine red, golden brown and bottle green became the favourite colours of the era.

The same book describes fashionable and tasteful ways of decorating a contemporary flat. The chapter *Fussboden und Wand* focused on the ways of decorating a wall to best present paintings and other artworks. Von Falke explained that a wall was a background for life, movable objects and decorations. If one imagined a room as an artistically arranged setting, it was important that its effect not be too dominant, but rather peaceful and shaded. In most cases, the patterns of wallpapers or other wall covers needed to offer a peaceful background for the eyes. They needed to have a lively and pleasant design in harmony with the decoration, furniture and artworks in the room.¹²⁴

According to von Falke, it was not recommended to use light wall covers as a background for decorative objects, such as sculptures, paintings and vases, since this would produce a

¹²² Saunders, *Wallpaper in Interior Decoration*, 123.

¹²³ *Ibid.*, 124.

¹²⁴ von Falke, *Die Kunst im Hause*, 223; 227.

very restless outcome. Dark objects on a light background would look like holes or spots, and light objects could not be properly distinguished against such a background. In addition, he recommended separating walls visually from the ceiling and floor, to let them act independently.

The end of the 19th century was characterized by a very confusing mixture of ornaments from various periods. Those who could afford it ordered interior design in various historic styles, e.g. a gentleman's bedroom in the style of Flemish Baroque, or a white and gold salon in the Louis XV or XVI style for the lady. However, most interiors remained chastely classical.¹²⁵ Since wall covers needed to fit the design of *mobilia*, a type of style wallpaper developed. Inspiration for the style wallpapers came from Rococo silk fabrics and patterns, Renaissance textiles and Gothic architecture and wall paintings.

Technical innovations at the end of the 19th century made it possible to produce fine imitations of textile, wood and stone. From the 1880s onwards patterns imitating ceramic tiles were used to cover the walls of bathrooms in more humble homes. Such wallpapers were most commonly washable. **(Fig. 33)**

Although washable wallpapers were introduced as early as 1835, they became popular only at the end of the century. They were highly varnished, stiff glossy papers that imitated old paintings, painted wooden boards, various stones and ceramic tiles.¹²⁶ In most cases, they were produced as separated pieces that needed to be pasted on the wall piece by piece.

Although at first glance it might seem that the second half of the 19th century was a confusing mishmash of different styles, each style had its own reason for appearing. New inventions, the growth of towns, books written about the theory of design and changes in the political scene all played a role in the development of applied arts, including wallpapers. By the end of the 19th century opulently decorated historicist interiors were gradually pushed aside by clear and rational Neo-Classical decoration.

¹²⁵ Frangiamore, *Wallpapers in Historic Preservation*, 27.

¹²⁶ Gustav E. Pazaurek, *Die Tapete. Beiträge zu ihrer Geschichte und ästhetischen Wertung* (Stuttgart: Schöne Reihe, Walter Hädecke, 1922), 17.



Figure 32. A drawing room decorated with embossed wallcovers, *Journal of Decorative Art*, 1884. Reproduction from *The Papered Wall. The History, Patterns and Techniques of Wallpaper*, ed. by Lesley Hoskins, Thames and Hudson, London, 2005, p. 159.



Figure 33. Wallpapers imitating ceramic tiles found in Tallinn, Estonia. Collection of Robert Nerman.

1.4. WALLPAPER AT THE BEGINNING OF THE 20TH CENTURY

By the late nineteenth century wallpaper had become a standard element of interior design in Europe and the United States of America. White walls were considered barbaric and papering walls was incorporated into building contracts.¹²⁷ By the 1920s wall decoration became one of the main concerns of interior architects and was frequently discussed in specialized literature. This marked the beginning of wallpaper stagnation. The end of the 1930s is symbolically marked by the sentence *Der moderne Mensch hat weisse Wände*, written by the Austrian architect Josef Frank in 1927. In addition, representatives of the *Neue Sachlichkeit* movement in Germany were opposed to ornamental decoration and promoted painted, monochromatic walls.

In the functionalist discourse, generally wallpapers were considered a romantic relic of the bourgeois lifestyle, while painted surfaces were seen as a genuine way of presenting a wall as an architectural structure. In the 1930s wallpaper was considered to be a surrogate and was seen as pretentious.¹²⁸

¹²⁷ Saunders, *Wallpaper in Interior Decoration*, 15.

¹²⁸ Thümmler, *Die Geschichte der Tapete*, 185.

1.5. WALLPAPERS IN ESTONIAN INTERIORS

Although very few papered interiors in Estonia have been preserved and thoroughly researched, a rather good overview of 19th-century room decoration can be gained from the photo collections kept in the archives and museums of Tallinn, Tartu and elsewhere.

Exemplary photo collections depicting local interiors can be found, for example, in the Estonian National Museum (*Eesti Rahvamuuseum*), the Estonian Historical Archives (*Eesti Ajalooarhiiv*), the Photo Museum of the Tallinn City Museum (*Tallinna Linnamuuseum*) and in the Photo Archive in Marburg, Germany (*Deutsches Dokumentationszentrum Bildarchiv Foto Marburg*). According to the available photographic material, local interiors were mainly formed by influences from German-speaking countries and Russia.

Almost all **Estonian** towns and rural areas were extensively damaged during the Great Northern War (1700–1721). As Boriss Šeremetjevil, a marshal of the Russian imperial army in 1702, wrote, “there was nothing else to be destroyed; everything is broken and demolished”.¹²⁹ As a result, no intact interior, especially not with original wall covers, preceding the war has survived.

Although as a rule the construction of city residences did not recover until the 1740s and 1750s,¹³⁰ there were a small number of imperial buildings that were erected at the beginning of the 18th century. The best example is the Palace of Kadriorg in Tallinn, erected by the Italian architect Niccolò Michetti. Although no original wall covers have survived *in situ*, it is known that the walls were covered with green, striped and patterned textiles in honour of Catherine II, who visited Kadriorg in 1764.¹³¹ (**Fig. 34**) According to a description, the textiles were mounted on the walls with carved and gilded cornices and decorative corner pieces.

Since hardly any **Rococo** interiors have survived intact in Estonia, it is hard to give an overview of the spread of the style,

¹²⁹ Ants Hein, “Mõisaarhitektuur 18. sajandi algul ja keskpaigas” in *Eesti Kunsti Ajalugu II 1520–1770*, ed. by Krista Kodres (Tallinn: Eesti Kunstiakadeemia, 2005), 230.

¹³⁰ Ants Hein, *Eesti mõisaarhitektuur. Historitsismist juugendini*, 15.

¹³¹ Kodres, *Ilus maja, kaunis ruum*, 110.

much less of the extent to which paper wall covers were used. However, a few hints can be found of the use of wall covers in a few manors and in the Old Town of Tallinn.

The interior decoration of the family Zoege von Manteuffel's residence in Rahukohtu 1 in Tallinn has been mentioned as a good example of fashionable taste. The walls and ceiling of the festive hall were decorated with stucco in the Rococo style, and white panelling with gilded mouldings covered the walls. Other rooms in the Manteuffel house were at that time covered with very expensive wall covers with canvas and paper bases.¹³²

A few fragments of early wallpapers have been found in the Albu manor.¹³³ According to the research on historic decorative layers, the first layers may date back to just after 1742, when the building was erected. The largest fragment was printed on a thick rag-paper, which had been pasted together using separate sheets. This was a common method of producing a continuous roll of paper before it was possible to make it industrially. The pattern shows an imitation of a strip of white lace with intertwining blossoms on a pink background. **(Fig. 35)** This type of pattern was widely used in Rococo interiors all over Europe. Such patterns imitated a common design of woven and embroidered textiles, which were widely used as wall covers. Several reconstructions of such textiles can be seen in the interiors of the Rundale Palace in Latvia. **(Fig. 36)**

Additional examples found in the Albu manor are two tiny fragments: a hand-painted wallpaper and a piece of painted canvas. The former depicts hastily painted leaves and flower petals on a light blue background. **(Fig. 37)** Since the latter, the fragment of canvas, is very small (ca 5 × 6 cm), it is impossible to say what kind of design it used to have. However, although the decoration on the fragment is not informative, a small rusted hole at its edge reveals a distinct mounting method. Painted canvas wall covers were usually either nailed directly on a wall

¹³² Juhan Maiste, "Toompea aadlilinn" in *Eesti kunsti ajalugu. II osa, 1520–1770*, ed. by Krista Kodres (Tallinn: Eesti Kunstiakadeemia, 2005), 263.

¹³³ Albu mõisa peahoone. Arhitektuur-ajaloolised uurimused. A-4596. Estonian State Archives (hereafter ERA), coll. 5025, inv. 2., no. 5624. ERA.5025.2.5624, Main building of Albu Manor reg. nr. 14948. Architectural research, 2000. ERA stands for Eesti Riigi-archiiv (State Archives).

Historic types of wallpaper and decorative schemes of interiors



Figure 34. The best example of baroque architecture in Tallinn, Kadriorg Palace.



Figure 35. A fragment of a 18th-century wallpaper found in the Albu manor. ERA. 5025.2.5624.



Figure 36. Reconstruction of a Rococo wallcover in Rundale Palace, Latvia.



or on wooden battens attached to its perimeters. Such wall covers might have been painted *in situ* after mounting or in a workshop. Well-preserved examples of painted canvas wall covers are still found in German-speaking countries. One of the most magnificent objects of its kind is situated in the small guest-house Stadt Mannheim in Kaub, Germany.

Other examples from the second half of the 18th century show the tonality and patterns characteristic to Rococo. Fragments of four Rococo wallpapers were found in Uus 21 in Tallinn under a baseboard in 1980. All the examples were block-printed with distemper. Although it is not possible to reconstruct the patterns completely, it is clear that two of the patterns are made up of linear stripes intertwined with laurel leaves and berries on light blue and orange backgrounds. (**Fig. 38**) Fragments of another wallpaper show dark green leaves, flower petals and *rocaille* motifs on a light green background.

So far no evidence of **Chinese wallpapers**, which were popular in Central European Rococo interiors, has been found in Estonian interiors. It is probable that the high cost of the wall covers prohibited their extensive spread to the peripheral areas of Europe. The fashion of *chinoiserie* seems to have reached Estonia during the 19th century, when it was used to decorate small intimate rooms. The *chinoiserie* salon of the Aaspere manor has been mentioned as one of the best examples of its kind in Estonia. It was created in 1893¹³⁴ and was used as a billiard room of the house owner, Baron Nikolai von Dellingshausen (1827–1896). Except for the fact that the walls of the room used to be covered with the portraits of the family's ancestors,¹³⁵ nothing else is known. Nowadays only the painted ceiling and polychromatic doors have survived of the original decorative setting.

The best example of *chinoiserie* wall covers of European origin was found during a conservation project in the Puurmani manor in 2010. The wallpaper has a repeating pattern made up

¹³⁴ Kultuurimälestiste Riiklik Register, Aaspere mõisa peahoone, accessed June 1, 2013, <http://register.muinast.ee/?menuID=monument&action=view&id=15626>.

¹³⁵ Eduard von Dellingshausen, *Kodumaa teenistuses: Eestimaa rüütelkonna peamehe mälestused* (Tallinn: Eesti Päevaleht, 2011), 24.

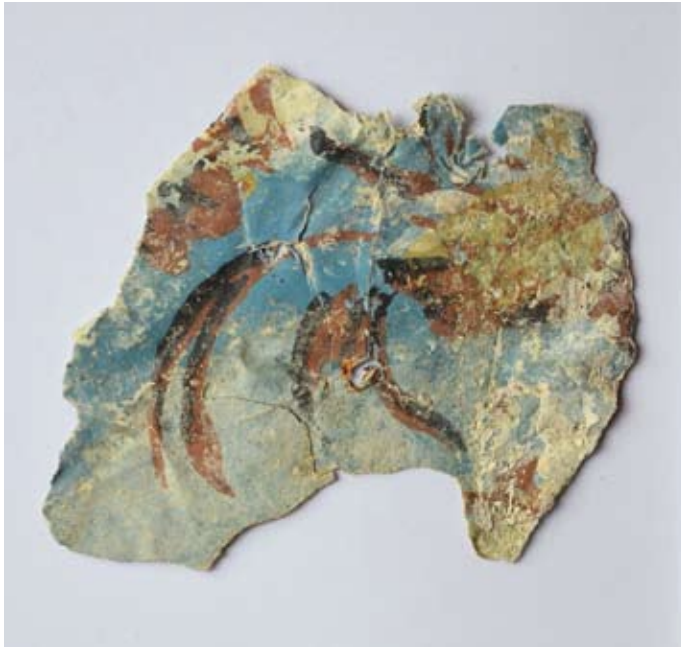


Figure 37. A fragment of a hand-painted wallcover found in the Albu manor.
ERA. 5025.2.5624.



Figure 38. Fragments of two Rococo wallpapers found in Uus 21, Tallinn.
ERA.T-76.1.10712.



Figure 39. Chinoiserie wallpaper found in the dressing-room of Countess Manteuffel in the Puurmani manor.

of four idyllic scenes of Chinese everyday life. **(Fig. 39)** Similarly to its Chinese counterparts, the wallpaper was used to decorate a private room in a lady's apartment. This wallpaper used to cover the walls of the dressing room of Countess Manteuffel in the 1880s, before the walls were covered with a Neo-Rococo panelling. Since the wallpaper had not been removed before the new decorative layer was applied, it has survived almost intact. To make it easier to observe the wallpaper, one of the panels has been removed and replaced with glass.

The opening of the Russian market at the end of the 18th century led to the rapid enrichment of landlords. As a result, gradually more attention was paid to architecture and living environments. Estonian manor owners frequently employed the services of foreign building masters, who brought with them new construction techniques, principles and solutions for interior decoration. It became common to build manors with large festive halls, vestibules and separate rooms meant for family members.¹³⁶

¹³⁶ Maiste, *Eestimaa mõisad*, 63.

In comparison to the modest premises most commonly formed by regional traditions, manors were often influenced by diverse and far-reaching ideas. There is no reason to believe that residential architecture in Estonia was less fashionable than in Western Europe¹³⁷ or in Russia. Most of the representative interiors were acquired by the Russian-speaking or German-speaking nobility, who had strong family and business connections in the Russian Empire as well as in German-speaking countries. It was also common to order architecture magazines or to travel and study abroad. Thus it can be assumed that fashionable interiors seen abroad shaped the understanding of modern materials and interior design, which were implemented at home.

The surviving interiors from the last three decades of the 18th century and the beginning of the 19th century present the aesthetic principles of the German **Neo-Classical** style. Rooms created during that time have a soft and intimate atmosphere. The most carefully decorated rooms of a Neo-Classical house were commonly the vestibule and rooms on the *piano nobile*. The walls were usually segmented by low dados and upper areas, which were either divided into symmetrically arranged panels or covered with fabric or wallpaper. Similar principles were implemented in Russian interiors where, besides using plain papers, wallpapers imitating drapes and printed cotton fabrics were widely used.¹³⁸ They either covered a whole wall above a dado or separate panels. The wallpapers were either attached directly to a wall or pasted onto a layer of canvas attached to a wooden frame.¹³⁹

Besides a few finds of plain papers, the best example of Neo-Classical wallpaper was discovered in Nunne 2 in Tallinn. Its pattern is similar to a French *papier en feuille* or an English print room decoration, combined with symmetrically arranged framed images on a blue background. Two images can be detected: orange griffins with a lyre on a black background,

¹³⁷ Hein, *Eesti mõisaarhitektuur. Historitsismist juugendini*, 16.

¹³⁸ Игорь Андреевич Киселев, *Архитектурные детали в русском зодчестве XVIII–XIX веков : справочник архитектора-реставратора* (Москва: Academia, 2005), 203.

¹³⁹ *Ibid.*, 204.

and laurel wreaths with a butterfly in the middle. The orange ornaments on a black background show a strong influence of ancient Greek or Roman ceramics. The blue background of the wallpaper reflects the prevailing Neo-Classical fashion of introducing blue in interior design. **(Fig. 40)**

In the same room, a few fragments of a grey ceiling paper were found. They depict a stylized plant ornament arranged in a geometric pattern. A very similar pattern, known as Mistletoe, is now produced by Classic Revivals Inc. (US). It has been dated to 1780–1790,¹⁴⁰ which may also be the age of the wallpapers found in Tallinn.

To what extent **plain papers** were used in 18th-century Estonian interiors is not known. However, multiple historical photos dating back to the second half of the 19th century depict rooms with monochromatic walls. Plain coloured walls can be seen in images showing enfilade in the Valkla manor **(Fig. 41)**, the main hall of the Muraste manor **(Fig. 42)**, the Ohtu manor **(Fig. 43)** and in a study in the Kose-Uuemõisa manor **(Fig. 44)**. As shown in the photos, plain surfaces often served as backgrounds for paintings, graphic works and framed family photos. Despite detailed photographic material, it is not possible to confirm that the walls were papered rather than painted. It can be assumed that the walls of more frequently used private and family rooms were covered with either textiles or wallpapers, since they create a warmer and cosier atmosphere than painted or stuccoed surfaces. The latter were more appropriate to public rooms, which were used for only special occasions. In fact, wallpapers were not recommended for large festive rooms, because the amount of dust brought in by numerous guests and spread by dancing were considered harmful to paper wall covers.¹⁴¹

The available fragments of plain papers reveal two ways they might have been integrated into decorative wall schemes. First of all, plain paper may have covered the lower half of a wall, imitating a dado. This possibility is illustrated by a fragment found in the Kabala manor. A dark-brown paper covered

¹⁴⁰ Nylander, *Fabrics and Wallpapers for Historic Buildings*, 61; 63.

¹⁴¹ Krista Kodres, "Mis saab interjöörist?" in *Sirp ja Vasar*, 22. February 1985, 8.



Figure 40. A fragment of a Neo-Classical wallpaper found in Nunne 2, Tallinn.



Figure 42. Main hall of the Muraste manor. ERM 887 : 289.



Figure 43. Interior of the Ohtu manor. ERM 887 : 706.



Figure 41. Enfilade of the Valkla manor. ERM 887 : 3.



Figure 44. Study of the Kose-Uuemõisa manor. Reproduction from *Harjumaa mõisad*, Valdo Praust, Tänapäev, Tartu, 2005, p. 98.

the lower half of the wall, and the upper half was covered with a light wallpaper depicting luxuriant acanthus leaves, pearl necklaces and bouquets. **(Fig. 45)** Secondly, plain papers were integrated into tripartite schemes, in which they were used to frame a wallpaper segment on all four sides. **(Fig. 46)**

The **Empire style** reached Estonia and the other Baltic states probably via Berlin at the beginning of the 19th century.¹⁴² Several Neo-Classical architectural elements, such as porticos, portals, pillars and frontons, were introduced into the local architecture and interior design. The strict hierarchy of the rooms started to change bit by bit: private rooms were separated from public areas and the enfilade system was used only in public areas. The tones used in Empire-style rooms were rather pale, combinations of pink, yellow, grey and white.¹⁴³

Although as mentioned above it was not recommended to paper big festive rooms, a certain type of wallpaper, the **panoramic wallpaper**, was especially meant to embellish large spaces. Thus these wallpapers were used to decorate the walls of conservatories, dining rooms, billiard rooms and other large public rooms in wealthy households. In Estonia, only two panoramic wallpapers have been found so far.

A panoramic wallpaper called “Don Quixote” (produced by Jacquemart & Bénard, first drafts in 1819¹⁴⁴) was found in the festive hall of the Lohu manor. **(Fig. 47)** It had been purchased at an auction in 1825, when the manor was owned by Lieutenant Gotthard August von Helffreich.

Before the wallpaper was applied, the walls had been covered by an allegorical wall painting by the German etcher and landscape painter Christian Gottlieb Welté. It seems that the wallpaper was used as an easy and fast means of redecorating the room.

The wallpapers were removed and conserved in Moscow in the 1960s by J. A. Kossikova, M. P. Filatova and J. M. Tarassova.¹⁴⁵

¹⁴² Kodres, *Ilus maja, kaunis ruum*, 137.

¹⁴³ Maiste, *Eestima mõisad*, 237.

¹⁴⁴ Odile Nouvel-Kammerer, *French Scenic Wallpapers 1795–1865* (Paris: Flammarion, 2000), 266–267.

¹⁴⁵ “Lohu Manor”, Wikipedia, accessed June 21, 2013, http://et.wikipedia.org/wiki/Lohu_m%C3%B5is.



Figure 45. A wallpaper fragment from the Kabala manor showing monochromic dado, a narrow border and a wallpaper.



Figure 46. Plain paper integrated into tripartite decorative scheme in the dining-room of Puurmani manor.



Figure 47. Interior of the Lohu manor after plundering in 1905.
ERM 887 : 639.

During the conservation, the object was divided into smaller and larger panels and pasted onto a layer of canvas stretched on wooden frames. It is housed in the Estonian History Museum in Tallinn.

The panoramic wallpaper “Renaud et Armide”, produced by the French manufacturer Dufour starting in 1831,¹⁴⁶ used to cover the walls of a room in the Meeri manor. It was detected in a historical photo. (Fig. 48) Since the same design was reissued by Desfossé and Karth in the second half of the 19th century, it is not possible to say how old the panoramic wallpaper of the Meeri manor is exactly. Unfortunately, no physical evidence of the wallpaper has survived. It is possible that the wallpapers and other decorative details were damaged during major construction work in the 1950s.

As mentioned above, fashionable interior decoration in Estonia was influenced by trends from Central Europe and Russia. One of the most celebrated wallpaper manufacturers in the Russian Empire at the beginning of the 19th century was the Tsarskoje Selo wallpaper factory. Previously, it had been the Imperial Wallpaper Factory and was located in Ropsha.¹⁴⁷ Its wallpapers have been characterized as abundant and stylish. Since the quality of its products fulfilled the high expectations of architects, the wallpapers were often used in public and private rooms. Besides the Tsarskoje Selo Wallpaper Factory, there were a number of smaller wallpaper workshops. The Russian wallpapers reached Estonia, especially Tallinn, at the beginning of the 19th century.¹⁴⁸

In the first half of the 19th century, the number of different styles within which **historicism** operated varied. In comparison to other historicist styles, Neo-Gothic was the most directly connected to the formation of new principles of room¹⁴⁹ and interior decoration in Estonia.

¹⁴⁶ Nouvel-Kammerer, *French Scenic Wallpapers 1795–1865*, 268.

¹⁴⁷ “The Banknotes Factory”, Saint Petersburg Encyclopaedia, accessed June 21, 2013, <http://www.encspb.ru/object/2855743646?lc=en>.

¹⁴⁸ София Пантелева, *Исторические бумажные обои – начала века в интерьере старого Таллинна*. бакалавская работа. (Таллинн, Таллинский Педагогический Университет, 1997), 14–15.

¹⁴⁹ Hein, *Eesti mõisaarhitektuur. Historisismist juugendini*, 28.

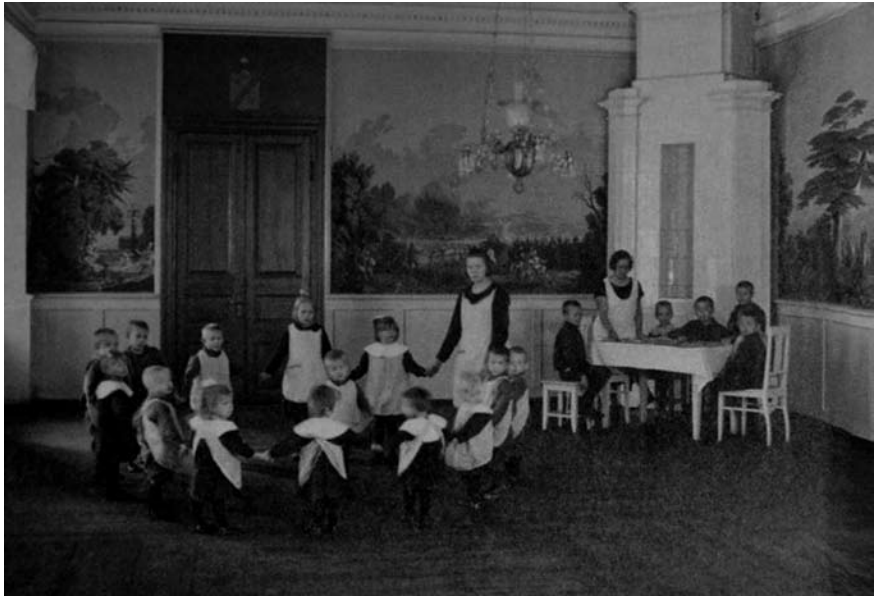


Figure 48. Main hall of the Meeri manor with the panoramic wallpaper “*Renaud et Armide*”. Reproduction from *Tartumaa mõisad*, Valdo Praust, Tänapäev, Tartu, 2008, p. 196.



Figure 49. Lavish decoration of the gentlemen's smoking room in the Lustivere manor. Photocollection of the Põltsamaa Museum, photo nr. 3891.

In relation to Estonian manorial architecture, there were two basic directions of development: architecture inspired by the classical antique (Neo-Classicism, Neo-Renaissance and Neo-Baroque),¹⁵⁰ and forms derived from non-classical sources, such as Gothic architecture and romantic ornaments of ethnic background.¹⁵¹

Implementing fashionable styles in exteriors was as relevant as the location of rooms and the use of fitting colours. In accordance with the construction handbook, *Bau-Handbuch für Landwirthe in Ehstland- und Liefland* (1851), compiled by Carl von Rosen, it was essential to orient rooms according to the cardinal directions. The western side of a building would be the warmest in summer, and thus it was recommended to locate living rooms to the south, bedrooms to the east, dining rooms, kitchens, serving rooms and pantries to the north, and large, airy rooms should be located on the west side.¹⁵²

In contrast to the Neo-Classical light and transparent colours, historicism loved dull and saturated colours. The choice of colour depended, however, on the complexion of the room's inhabitants. Although bright red could create a luxurious result, it might not match the natural complexion of a lady.¹⁵³ Instead, Carl von Rosen recommended combinations of various colours: yellow with reddish-brown ornaments, light green or blue with yellow or gold. Also white with gold and bronze, as well as green, blue or yellow tones with broken grey tones were considered desirable. Various works of art could be highlighted with the help of colour, for example oil paintings on dark grey or greenish backgrounds, landscapes on yellowish, and copper engravings and lithographs on light grey backgrounds.¹⁵⁴

To protect the walls against cold and humidity or damage caused by furniture, it was recommended to cover them with

¹⁵⁰ Ibid., 94.

¹⁵¹ Ibidem.

¹⁵² Carl von Rosen, *Bau-Handbuch für Landwirthe in Ehst- und Liefland* (Reval: Kluge & Ströhm, 1851), 87.

¹⁵³ Ibid., 96.

¹⁵⁴ Ibidem.

a panelling at the height of the chair-rail.¹⁵⁵ The rest of the wall should be either painted, stuccoed or covered by a wallpaper.

With very few exceptions, the public rooms were either painted or covered with stucco or marble. Similarly to in Central European countries, in Estonia, decorators implemented the principal of “wise choice”, apparently determined by international trends. This meant that every room could be decorated in a different style, for example a study in “old English” style or as a workshop of Faust, a lady’s boudoir *à la* Marquis Pompadour, a bathroom influenced by the Venetian or Turkish style, and a dining room in Renaissance style or *Zopf*-style.¹⁵⁶ For example, according to the available photo material, the walls of numerous masculine rooms, such as studies and smoking rooms, were covered with wallpapers depicting ethnographic patterns. The gentlemen’s smoking- room of the Lustivere manor (**Fig. 49**), as well as the salon of the Paunküla manor (**Fig. 50**), were covered with busy Moroccan patterns. The fragments found in the study of Count von Manteuffel in the Puurmani manor depict segments of colourful American Indian textiles.

Not much information about the production of wallpapers in Estonia has been found. However, according to an archival document dating back to 7 April 1878, the enterprise “Thomas Clayhills and Sons” was given permission to open a wallpaper factory in a villa belonging to Baron Arthur Girard de Soucanton in Pärnu Road in Tallinn.¹⁵⁷ (**Fig. 51**)

Despite thorough research, not much has been discovered about the products of the wallpaper factory. However it is certain that two methods, printing with manually controlled machines and block-printing,¹⁵⁸ were used to produce wallpapers.

In documents dating back to 1880–1883, the name of the factory *Revaler Tapeten Fabrik* appears for the first time. The

¹⁵⁵ Ibidem.

¹⁵⁶ Hein, *Eesti mõisaarhitektuur. Historitsismist juugendini*, 117.

¹⁵⁷ Eestimaa kubermanguvalitsuse luba 7. aprillil 1877. a. Tallinna kaubamajale “Thomas Clayhills & Sons” avada Pärnu mnt. Artur Girardi villas tapeedivabrik, Estonian Historical Archives (thereafter EAA), coll. 4924, inv. 1, no. 5499.

¹⁵⁸ Eestimaa kubermanguvalitsuse luba 7. aprillil 1877. a. Tallinna kaubamajale “Thomas Clayhills & Sons” avada Pärnu mnt. Artur Girardi villas tapeedivabrik, EAA coll. 4924, in v. 1, no. 5499.



Figure 50. A salon of the Paunküla manor with an ethnographic wallpaper.
ERM 887 : 758.

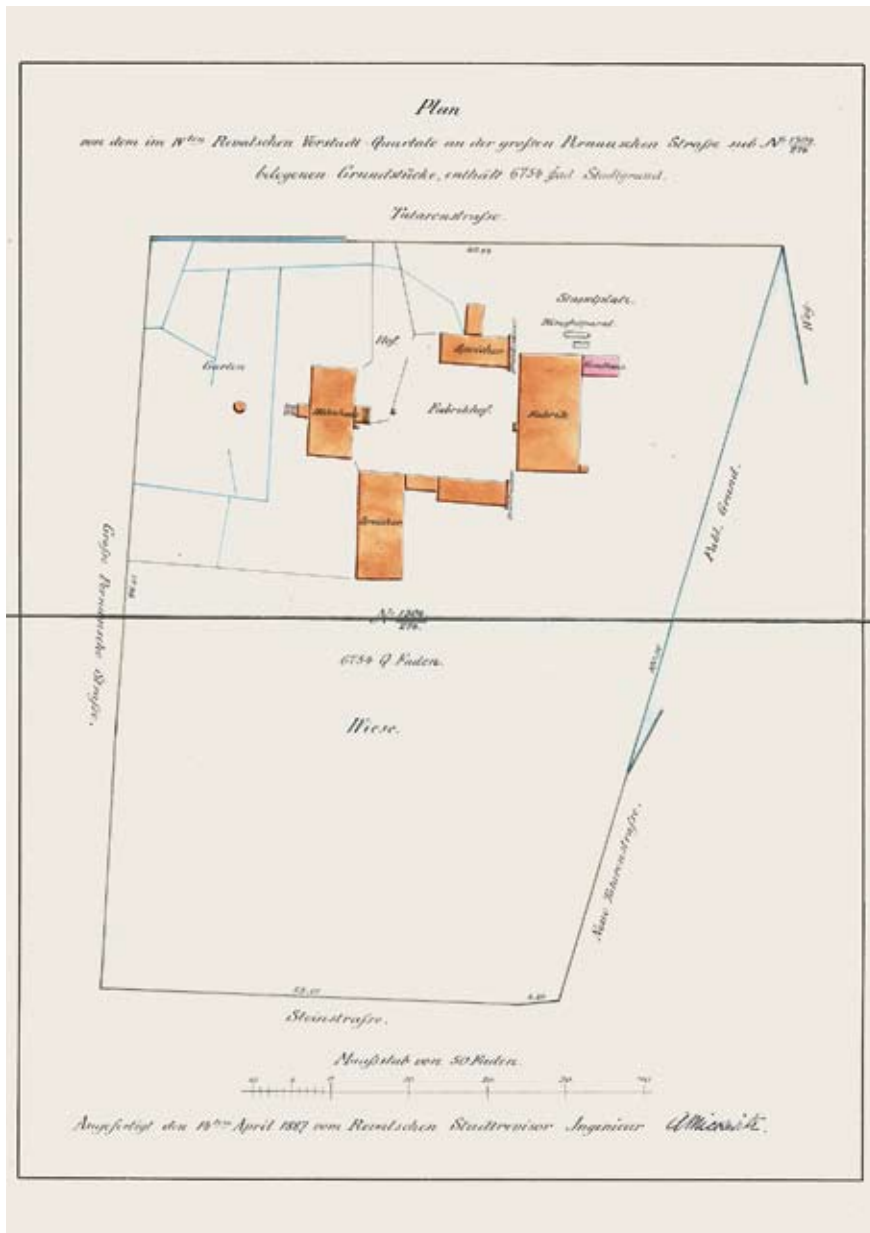


Figure 51. A groundplan of a wallpaper factory in a villa belonging to Baron Arthur Girard de Soucanton. EAA 4924.1.4124.

documents describing the assets and liabilities of the factory refer to the location of the main suppliers. For example, paper was bought from Helsinki and Lübeck, paint and pigments from Amsterdam, Lübeck, Hull in the UK, Szczecin in Poland and Baltiysk in the current Kaliningrad Oblast, and templates for surface printing from Lübeck and Amsterdam.¹⁵⁹ Some of the factory's clients were verified through the correspondence between the customers and *Revaler Tapeten Fabrik*. According to the letters, most of the products seemed to have been sold in Estonia (at the department store of C. V. Haupt in Pärnu) and neighbouring countries, such as Lithuania (in Liepāja) and the Russian Empire (in Moscow and St. Petersburg).¹⁶⁰

Although no examples of wallpapers produced in the *Revaler Tapeten Fabrik* have been definitely identified, it is highly probable that a few fragments found in Olevimägi 14 were produced in that factory.

An exemplary folder¹⁶¹ of historic wallpapers found in Olevimägi 14 was compiled at the end of the 1970s. It includes several fragments which reveal the tripartite scheme recommended by Jacob von Falke in the second half of the 19th century. They consist of a wallpaper, border and plain paper. The most extraordinary details of the settings were the borders, many of which were flocked and partly gilded. **(Fig. 52)** The samples were dated to the 1880s, when the wallpaper factory seems to have been actively running. Olevimägi 14 used to belong to the founder of the *Revaler Tapeten Fabrik*, Baron Arthur Girard de Soucanton. Although it cannot be proved, it is highly possible that the baron decorated his private interiors with wallpapers produced in his own factory.

The available wallpaper fragments and photographic material from the second half of the 19th century reveal three types of decorative schemes which were widely used in local interi-

¹⁵⁹ Tapeedivabriku arved ja kirjavahetus kaubatellijatega tapeedi realiseerimiseks, EAA coll. 4924, inv. 1, no. 5510.

¹⁶⁰ Tapeedivabriku arved ja kirjavahetus kaubatellijatega tapeedi realiseerimiseks, EAA coll. 4924, inv. 1, no. 5510.

¹⁶¹ Olevimägi 12, 14 varasemate tapeetide näidised hoonest, Tallinn City Archives (hereafter TLA), coll. 347, no. 2, inv. 618.

Historic types of wallpaper and decorative schemes of interiors



Figure 52. Wallpaper fragments found in three rooms in Olevimägi 14, Tallinn.
ERA.T-76.1.10286.

ors. The use of a certain scheme seemed to be dependant on the function of a room.

The tripartite scheme recommended by Jacob von Falke was frequently used in public rooms. The tripartite scheme can be seen in photos depicting a boudoir of the Vääna manor (**Fig. 53**), the study-parlor of the Uuemõisa manor (**see Fig. 112**) and in a larger hall of the Vorbuse manor (**Fig. 54**). Moreover, such a scheme was used in galleries, where the walls were divided into separate segments by plain papers. They served as a fitting background for paintings, graphic works and photos. Two good examples are shown in photos of an enfilade in the Valkla manor and a view of a festive hall in the Ohtu manor.

Another frequently used scheme consisted of a number of horizontal segments: dado, filling, border and/or cornice. Such schemes were widely used in English historicist rooms during the second half of the 19th century. A fine example can be seen in the gallery of ancestor portraits of the Alatskivi manor, where the wall is covered by a high wooden dado, and a filling finished by a wooden cornice and ceiling. In Alatskivi, the wallpaper was replaced by a textile depicting cloves, the symbol of the builder and owner of the manor, Arved Georg von Nolcken. A similar setting is shown in a historical photo showing the dining room of the Avanduse manor (**Fig. 55**).

The wooden dados may have been imitated by printed dados. A fragment of a printed dado has been found in the foyer of the Vääna manor, where it was discovered under a wooden panelling. The dado was topped by a light brown paper imitating a wood grain. A horizontally divided scheme with a printed dado is also shown in a photo depicting the dining room of the Pagari manor (**Fig. 56**) and in the “carpet-room” of the Päänurme manor (**Fig. 57**).

In simpler and private interiors from the second half of the 19th century, walls were usually covered with a combination of a wallpaper and a border, which was attached under the ceiling cornice. Commonly, the wallpaper was printed mechanically and the borders were block-printed. This kind of scheme may have been used in various interiors and it seems to have become the



Figure 53. Boudoir of the Vääna manor. Collection of Viljar Axel Vissel.



Figure 54. Large hall of the Vorbuse manor. EAA 1451.1.203.1.



Figure 55. A horizontally segmented wallscheme in the Avanduse manor. ERM 887 : 49.

most dominant type by the turn of the century. Historical photos show interiors of manors, rectories, middle-class interiors and public rooms of student corporations. In finer interiors, wallpapers were attached to the ceiling-cornice and combined with a painted ceiling, as in the Sagadi manor, a parlour in the Estonian Literary Museum, a hall of the student corporation “Estonia”, the Noarootsi rectory, a hall of the Padise manor (**Fig. 58**), an enfilade of the Koluvere manor (**Fig. 59**) and elsewhere. At the beginning of the 20th century, the borders became gradually narrower and were attached considerably lower than before, making the ceilings appear higher.

At the beginning of the 20th century more attention was paid to the design of domestic environments and common products in Estonia. At that time historicism and eclecticism were still dominant in local architecture.¹⁶² Art Nouveau, which reached Estonia after 1904, was most commonly used in progressive, fashion-conscious manorial and rich bourgeois interiors. The Art Nouveau wallpapers can be divided into two categories. They have either large floral patterns in light colours or sparse, slightly geometric patterns resembling the designs of Charles Rennie Mackintosh. Wallpapers with Art Nouveau designs have been found in both manors and middle class residences in towns. A large number of Art Nouveau wallpapers have been found, for example, in the Juuru rectory, and in wooden middle-class residences in Kadriorg, Kesklinn, Põhja-Tallinn and the Old Town of Tallinn.

Among the German-speaking community, gradually more attention was paid to dwellings; more precisely, private residences, neighbourhood villas and country houses became the focus of attention.¹⁶³ Tallinn experienced rapid growth at the end of the 19th century with the increase in industry and the opening of a railway connection between St. Petersburg and Tallinn. By 1914 the population of Tallinn had doubled. The Estonian-speaking

¹⁶² Sirje Helme and Jaak Kangilaski, *Lühike eesti kunsti ajalugu* (Tallinn: Kirjastus Kunst, 1999), 79.

¹⁶³ Ants Hein, “Mõisate vananaistesuvi” in *Eesti kunsti ajalugu, 5 1900–1940*, ed. by Krista Kodres, Mart Kalm and Elo Lutsepp (Tallinn: Eesti Kunstiakadeemia, Kultuurileht, 2010), 51.

Historic types of wallpaper and decorative schemes of interiors



Figure 56. Horizontally divided wall-scheme with a printed dado used in the dining-room of the Pagari manor. EAA 1414.2.97.18.



Figure 57. A so-called 'carpet-room' of the Päänurme manor. ERM 887 : 180.

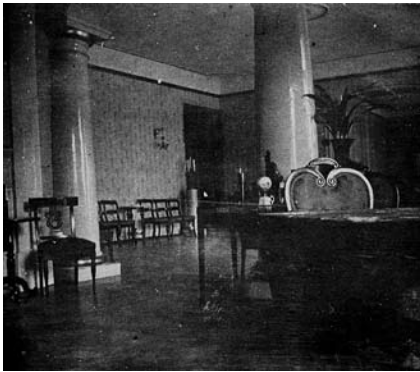


Figure 58. Hall of the Padise manor. ERM 887 : 305.



Figure 59. Enfilade of the Koluvere manor. ERM 887 : 275.

community lived most commonly in wooden blocks of flats in neighbourhood areas surrounding the city centre.¹⁶⁴

With the creation of the independent Estonian Republic in 1918, architecture started playing a considerably more varied role than before.¹⁶⁵ The main architectural trend in the 1920s was Traditionalism, which derived from German *Heimatkunst* and was closely related to Nordic Classicism. This was also true for interior design. For example, the historical photo of the interior of the Oru Castle, used by the Estonian head of state Konstantin Päts in the 1930s, shows a luxurious tripartite scheme commonly used in German-speaking countries at the end of the 19th century. **(Fig. 60)** A similar setting, which almost completely survived under a layer of cardboard, was found in Roopa 11 in Tallinn. **(Fig. 61)** A newspaper used as lining paper dated back to 1929. Although such finds are scarce, they reveal a long-lasting tradition of using a tripartite decorative scheme in important public and middle-class interiors.

By the beginning of the 1930s, a new style, Functionalism, became popular with a wide range of people, from top architects to builders.¹⁶⁶ While Functionalism was considered too cold and raw, it was frequently combined with classical decorative elements. Thus typical Functionalist rooms in Estonia were decorated in a manner resembling *art deco* interiors.¹⁶⁷ An important feature of 1930s interiors was the rational arrangement of furniture and simplified decoration, which also meant that walls were covered with modest lightly patterned wallpapers.¹⁶⁸ Wallpapers in Functionalist interiors were commonly combined with narrow borders, which lined the upper edge of wallpaper. The borders usually had geometric patterns in strong contrasting tones. Since samples of historic wallpapers have so far been taken from random parts of walls, not many early borders have been found. However, the interior architect Tiiu Lõhmus has a fine collection of wallpapers and borders dating to the 1930s. The wallpapers

¹⁶⁴ Helme and Kangilaski, *Lühike eesti kunsti ajalugu*, 79.

¹⁶⁵ Kalm, *Eesti 20. sajandi arhitektuur*, 262.

¹⁶⁶ *Ibid.*, 156.

¹⁶⁷ Kodres, *Ilus maja, kaunis ruum*, 218.

¹⁶⁸ Kalm, *Eesti 20. sajandi arhitektuur*, 143.



Figure 60. Luxurious three part wallscheme in the Toila-Oru Palace in the 1930s. Collection of Viljar Axel Vissel.



Figure 61. Three part wallscheme found in a wealthy middle-class apartment in Roopa 11, Tallinn.

are a “dead-stock” from a store in Rapla, Estonia. (Fig. 62)

As the wallpapers have never been used, they offer good examples of popular patterns and original tones used during the 1930s. From the collection one could conclude that the backgrounds of Functionalist wallpapers were usually in clear tones (e.g. red, yellow, blue, green and pink) and were accompanied by geometric or fine abstract patterns.

A similar Functionalist wallpaper is shown in two photos of a room in the residence of the Ungern-Sternberg family on the Toompea in Tallinn (Fig. 63). As is typical of a Functionalist room, the walls are not segmented, but rather covered by a single wallpaper from the baseboard up to a narrow border. Since such wallpapers provided a rather plain background, various objects, such as paintings and pieces of antique furniture, could be exhibited in front of them.

Since Estonians did not have long experience with decorating their homes, inspiration was drawn from England and countries with similar climates, such as Finland.¹⁶⁹ An interior of the 1930s was supposed to be spacious, clean, comfortable and peaceful.¹⁷⁰ Walls were covered with either oil or distemper paint, or with a colourful wallpaper.¹⁷¹ Besides colour, other important aspects for choosing a wallpaper were its pattern, and the function and location of a room. Neutral colours, such as blue, silver-grey and dark green, were recommended for well-lit rooms situated in the south and west. Warm tones helped to minimize the cold appearance of northern rooms. All red tones and dark shades of brown were considered suitable for sunny rooms in the east. Ivory-white wallpapers were a good choice for any room.¹⁷² Since wallpaper played an essential role in room decoration, it was chosen very carefully. Fashionable wallpapers did not commonly have extraordinary patterns, but rather had areas of colours that melted into each other.¹⁷³

¹⁶⁹ A. Soodla, “Ideaalsema kodu poole!” in *Oma Kodu*, February 1938, 52.

¹⁷⁰ *Ibid.*, 51.

¹⁷¹ Aleksander Klein, *Moodne elamu ja ruumide sisustamine* (Tallinn: Vaba Maa, 1932), 101.

¹⁷² Elli Aaslava, “Moodsad tapetid ja nende mõte” in *Moodne kodu sisustus. Juhiseid ja pilte* (Tallinn: Eesti Naise Kirjastus, 1932), 83.

¹⁷³ Klein, *Moodne elamu ja ruumide sisustamine*, 101.

Historic types of wallpaper and decorative schemes of interiors



Figure 62. Borders from the 1930s. Collection of Tiuu Lõhmus.



Figure 63. Interiors of the residence of the Ungern-Sternberg family on the Toompea in Tallinn. ERM 887:120 / ERM 887:811.

CONCLUSION

As a conclusion to the historical survey, although the long prevailing modernist discourse considered wallpaper to be an imitative material aping more luxurious materials, there are numerous independent patterns and decorative schemes characteristic only to paper wall covers. Wallpapers were either integrated into a certain scheme made up of additional details, such as dados, cornices and mouldings, or covered the whole surface of walls. The development of various decorative schemes was strongly connected to cultural and technical factors. It was influenced by archaeological finds, wars, the exploration of exotic countries and cultures, the discovery of new pigments, urbanization, industrial means of production and changes in social standards.

England, France and, starting in the second half of the 18th century, Germany played a leading role in the technological and artistic development of wallpaper. Although paper wall covers were produced in various other countries, England and France generated the main influential ideas, which spread throughout the world. Due to close political, educational, cultural and family relations to Germany and especially Prussia and its surrounding area, ideas of interior decoration were familiar to Baltic-German and Russian families living in Estonia. Since German decorators sought to follow the ideas of English Neo-Classical architects at the end of the 18th century and French fashion of the Empire style during the early 19th century, fashions and means of decorating walls from Central Europe also reached Estonia.

As revealed by the previous chapter, the use of wallpaper was connected to the functions of rooms and to gender, education, religious beliefs and social class. Due to the fast development of and improvement in printing techniques, wallpaper gradually became a more significant means of decoration. Although very few early wallpapers have survived intact, numerous fragments found *in situ*, memoirs and advertisements reveal that a wide range of decorative papers were used in the 18th century. Fast advances in industrialization and growing public demand for cheaper products in the 19th century made wallpaper a popular

commodity. Interiors of the late 19th century were unthinkable without wallpaper. By the beginning of the 20th century decorating rooms with wallpaper had become common. However, by the 1920s and 1930s the necessity of using wallpapers was questioned widely by architects and interior designers. Although wallpaper was still being used, its importance in fashionable interiors started to decrease.

Knowledge of decorative schemes, including wallpapers, is crucial for anyone working with historic interiors. Numerous conservation projects in Estonia have shown that the main attention is focused on painted and stuccoed surfaces, which results in neglecting historic paper decorations. A lack of thorough research on historic wallpapers may lead to misinterpretations of historic interiors, inappropriate conservation approaches or even the destruction of valuable wall covers.

2

METHODS OF
WALLPAPER
PRODUCTION AND
MOUNTING

Besides its decorative properties, wallpaper has several additional features that need to be taken into account during the development of a conservation approach. Knowledge of the methods of manufacture and use of materials is necessary for an accurate interpretation of the surviving physical evidence of a historic object.

The identification of pigments and fibres involves a straightforward scientific process, but putting them into historical context requires both understanding and experience.¹⁷⁴ Furthermore, proper knowledge helps in choosing the right conservation methodology and in predicting possible further damage.

Distinguishing a hand-made paper from a machine-made paper, or a sign left by traditional block-printing from mechanical surface printing, are essential factors in dating a historic wallpaper. Moreover, the age of a wallpaper can help to establish the date of a wall or of architectural changes within a building.¹⁷⁵

A mounting method might reveal properties of a room, the monetary value of a wall cover or certain regional peculiarities. Moreover, if a wallpaper is planned to be remounted after conservation treatment, a conservator could either use the original mounting method or implement an improved version of it.

¹⁷⁴ Allyson McDermott, "Investigating wallpapers: the potential of integrated research within historic interiors" in *Paint Research in Building Conservation*, ed. Line Bregnhøi et al., (London: Archetype Publications, 2006), 63.

¹⁷⁵ Frangiamore, *Wallpapers in Historic Preservation*, 3.

2.1. PREPARING THE PAPER BASE

One common factor in all the earliest decorated papers is that they were produced as small single sheets, which were prepared of linen or cotton fibres. Patterns were printed on either separate sheets or rolls formed after several sheets had been joined together. Since the width of a wallpaper strip was not standardized until the 1770s, its size was dictated by the measurements of a pattern repeat.

By the middle of the 18th century, individual sheets of paper started to be pasted together to form a roll. A method called *rab-outure* (“joining end to end”)¹⁷⁶ meant joining 20–24 sheets of 42 × 50–54 cm to form one “piece”, meaning a roll. The method was used up to the second quarter of the 19th century. Therefore, when dating a paper, one of the first things to look for are horizontal seams, which show that a wallpaper could have been printed before 1835.¹⁷⁷

After forming a roll of paper, its surface needed to be covered with a homogeneous ground that would hide the joints and any discolouration in the paper stock itself.¹⁷⁸ Before an industrial method of grounding was developed, this was carried out manually. Machines for rotating long cylindrical brushes that applied an even coating of ground colour were introduced to the trade by the early 19th century. The uniformity of vertical streaking is sometimes apparent in grounds applied by this mechanical process.¹⁷⁹ One-coloured wallpapers are also known as plain papers.

¹⁷⁶ Nouvel, *Wallpapers of France*, 20.

¹⁷⁷ Frangiamore, *Wallpapers in Historic Preservation*, 3.

¹⁷⁸ *Ibid.*, 7.

¹⁷⁹ *Ibidem*.

2.2. METHODS OF PRINTING

The subtlety and quality of an image or pattern were influenced by methods of printing. Throughout history, various techniques have been developed in an attempt to get a finer result. Although there have been a large variety of techniques used to produce wallpapers, the author will focus on the historical methods of wallpaper production mentioned in the text. Such techniques as stencilling, block printing, flocking, surface-printing and embossing will be dealt with.

The value of a wallpaper depended on the way it was produced. Usually its price depended on the material and method of production. In terms of production, it can be said that the more labour-intensive the production of a wallpaper is, the more costly it is. Thus, hand-printed wallpapers are costlier than their machine-printed counterparts. Even after it was possible to produce wallpapers by machine, large manufacturers had a block-printing workshop to produce more luxurious wall covers.

2.2.1. Stencilling

During the early 18th century outlines of wallpaper patterns were printed with woodblocks using black ink. The inner fields of the elements were filled in either by hand or with a stencil. Although the latter was gradually abandoned around 1780, when block-printing had reached its peak, it is still possible to find marks of stencilling on cheaper wallpapers from the late 18th century and early 19th century.

Templates were most commonly cut from a resistant material, such as leather, card or thin metal.¹⁸⁰ Paint was either sprayed or brushed on the cut-away parts. **(Fig. 64)** If stencilling was carried out by brushing, this can be recognized by the presence of multi-directional brush strokes ending abruptly at the edges of solid-coloured pattern shapes, where outlines of colour often collected and streaked.¹⁸¹ **(Fig. 65)**

¹⁸⁰ Lesley Hoskins, ed., Glossary. *The Papered Wall. The History, Patterns and Techniques of Wallpaper*, 267.

¹⁸¹ Frangiamore, *Wallpapers in Historic Preservation*, 6.



Figure 64. Stencilling is one of the most archaic methods of printings wallpapers. It is seldom used nowadays. Reproduction from *Handbuch der Tapete*, Franz Rullmann, Verlagsanstalt Alexander Koch GmbH, Stuttgart, 1958, p. 23.



Figure 65. A stencilled wallpaper produced in the 1860s found in the Freyschlösschen in Salzburg, Austria.



Figure 66. A number of blocks to print different colours of one design. Reproduction from *Wallpapers in Historic Preservation*, Catherine Lynn Frangiamore, Technical Preservation Services Division, Office of Archaeology and Historic Preservation, National Park Service, U.S. Department of the Interior, Washington D.C., 1977, p. 8.

2.2.2. Block-printing

The technique of printing with engraved wooden blocks was known for decorating textiles before it was used to print on paper. The method of block-printing reached its peak during the mid-18th century in France and is still in use today despite the development of many alternative methods for mass producing wallpaper.¹⁸²

The blocks were made of three or four layers of wood and measured approximately 45.72 × 50.8 cm,¹⁸³ and they were glued together against the grain. (Fig. 66) The relief for printing a pattern was engraved of durable fine-grained wood, most commonly of pear, apple or sycamore wood.

After the design had been traced on the block, it was gouged out of the wood. A separate block needed to be engraved for each colour. This means that if a pattern had five colours, five blocks needed to be prepared. Generally, every block bore an engraving that had the same height as the design.

Very fine lines, dots and parts of a complicated design were printed with brass elements embedded in the block. (Fig. 67) At the beginning of the 19th century, the relief for printing was formed, instead of with wood, by brass sections filled with felt, flock or old hat material. Such printing blocks were called *chapeaudées*. The term derives from the French word *chapeau*, meaning “hat”.¹⁸⁴

The printing was done in an exact order, with larger and darker areas being printed first, while smaller surfaces, details and light colours were added later. Producing a roll of wallpaper with a colourful design could take days, since every layer of paint needed to dry before the next one could be applied. Distemper paint was most commonly used for printing with wooden blocks. Traditional distemper is a water medium paint using a mixture of whiting (chalk or calcium carbonate), pigment, sometimes china clay, water and a binder of rabbit skin or hide glue.¹⁸⁵

¹⁸² Ibidem.

¹⁸³ *A Decorative Art. 19th Century Wallpapers in the Whitworth Art Gallery* (Manchester: Whitworth Art Gallery, 1985), 6.

¹⁸⁴ Nouvel, *Wallpapers in France*, 21.

¹⁸⁵ Distemper on Wallpaper – Case Study, Adelphi Papaer Hangings, Heritage Stewardship, accessed June 5, 2013, http://philipmarshall.net/hs/techniques/systems/finishes/media/distemper_wallpaper.htm.



Figure 67. Fine details were printed with brass elements embedded in the block.



Figure 68. A block-printer producing a dado at John Perry's. Reproduction from *The Wallpaper Review* 1993/94, p. 24.



Figure 69. A block-printed wallpaper found in Tallinn, Estonia. Collection of Robert Nerman.

Before printing, the block was pressed against a pad made of calf-skin and cloth, coated with paint. It was then lifted and placed on a strip of paper lying on a table. Extra pressure could be added by tapping the block with a mallet. Before printing another copy of the pattern, the block needed to be tipped into the paint once more. **(Fig. 68)**

In order to hide the joins between two prints made by the same block, the artisan used “register marks”, little brass points placed on the sides of the block¹⁸⁶ or hidden in the pattern. Defects, such as gaps in a paint layer or pattern, were touched up by hand after the printing was done.

To recognize a block-printed design, one needs to take a closer look at the relief of a pattern. Since the block was pressed against the paper in a straight motion from top to bottom, this created multi-directional “veining” within separate pattern shapes, which had sharply defined outlines¹⁸⁷ known as a “lip”. **(Fig. 69)** Furthermore, in the surface of paint one can notice tiny holes left by bubbles created during the process of printing.

Some of the finest examples of block-printing are imitations of lavish textiles and panoramic wallpapers, most of which were printed between 1800 and 1860. Since their design was frequently made up of dozens or even hundreds of colours, the number of blocks was extremely high. The process of producing a scene could be very time-consuming and costly. The designing, printing and engraving required a great deal of careful planning, and considerable experience and skill on the part of those involved.¹⁸⁸

2.2.3. Flocking

A method of flocking first appeared in the late 15th century, but reached its peak in the middle of the 18th century. The basic technology of producing a flocked wallpaper resembles the method of block-printing, only in this case the paint has been replaced by an adhesive and powdered and coloured textile fibres.

¹⁸⁶ Nouvel, *Wallpapers in France*, 21.

¹⁸⁷ Frangiamore, *Wallpapers in Historic Preservation*, 7.

¹⁸⁸ A Decorative Art. 19th Century Wallpapers in the Whitworth Art Gallery, 6.



Figure 70. Flocking in process in the workshop of Cole & Son, Manufacturers of Handprinted Wallpapers from 1875.

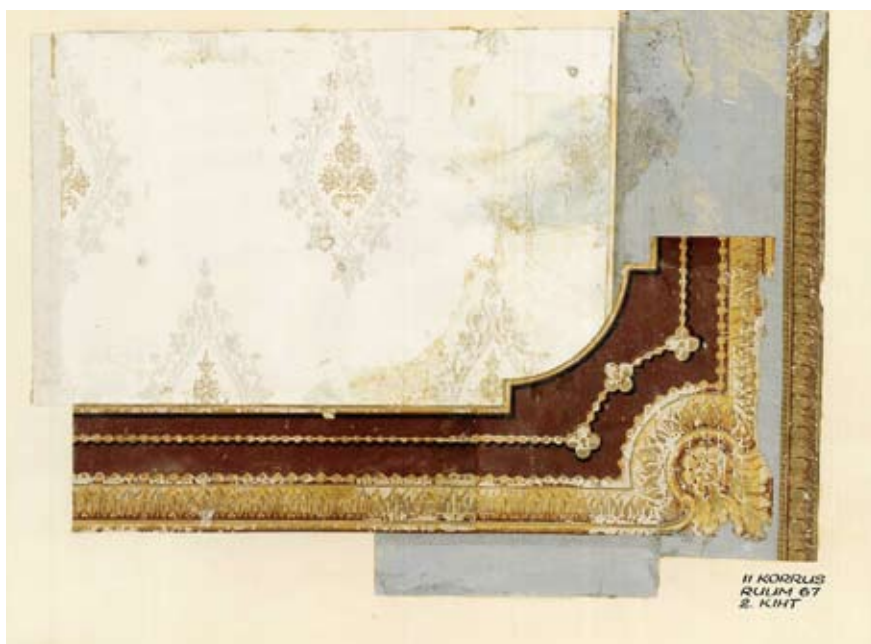


Figure 71. Fragment of a three part decorative-scheme integrating a partially gilded flock border found in Olevimägi 14, Tallinn. ERA.T-76.1.10286

Prior to printing, a strip of paper was rolled onto a 10-meter-long table. Engraved printing blocks were used to deposit glue on the surface of the paper. Before the adhesive dried, the strip of paper was placed in a long case, the bottom of which was made of soft calf skin. With the help of a sieve, the fine milled and coloured wool fibres were spread all over the adhered surface. The lid of the case was closed and two rods were used to beat the calf skin underneath. A “cloud” of woollen dust spread throughout the case and settled on sticky attached areas, forming a layer of flock. **(Fig. 70)** Freshly flocked wallpapers were dried vertically, after which loose woollen dust was carefully brushed off the paper. Other treatments, such as adding another flocked layer or overprinting with a distemper in lighter or darker shades, may have followed. **(Fig. 71)**

In the second half of the 19th century, it became possible to produce flocked wallpapers with simple patterns industrially. The paper was attached with the help of a stencil cut out of parchment. After the freshly attached paper had passed through a “cloud” of textile fibres and had dried, it was cleaned of loose material with soft brushes.

During the 1880s, a very special type of flocked wallpaper, known as *cheviot*¹⁸⁹, was developed. Instead of powdered wool or silk, hairs were attached to the paper base. The appearance and design of such wallpapers resembled long-haired oriental rugs. *Cheviot* wallpapers were extremely heavy and expensive products, which most commonly were used in masculine interiors, such as smoking and billiard rooms.

In the 19th century, the effect of luxurious flock wallpapers was imitated by the use of powdered dry colour instead of fabric shearings. Such wallpapers were known as “mock-flock” or “counterfeit flock”.¹⁹⁰

2.2.4. Surface printing

Surface printing was the first mechanized process for producing wallpapers. Its introduction is connected with a technique

¹⁸⁹ Luthmer, *Werkbuch des Dekorateurs*, 76.

¹⁹⁰ Hoskins, *Glossary*, 267.

patented by Jean Zuber in 1826. The principle of *taille-douce*, as it was called, meant laying colour on paper with the aid of engraved brass cylinders.¹⁹¹ The pattern was formed by small cavities engraved in the surface of a cylinder. The deeper the cavity, the darker the mark on the paper. Such a technique made it possible to archive various shades of a single colour with the aid of only one roller. Despite their fine and graphic appearance, papers produced by this method did not have the expected commercial success.

In 1840 the manufacturers C. & J. G. Potter & Company¹⁹² introduced wooden cylinders with raised surfaces, which employed the principles of block-printing. Each colour needed to be printed by a separate roller. In comparison to block-printed wallpapers, the size of the surface-printed repeat was relatively short, and the motifs were smaller in scale and less elaborate. **(Fig. 72)** To avoid paint mixing, and blurring the outcome, separate colours were usually printed as individual patches, rather than on top of each other.¹⁹³ Simpler patterns used up to four cylinders. With more elaborate patterns, the number could increase to 15–20. **(Fig. 73)**

The printing surfaces were formed by fine brass elements tapped into the wooden core of the cylinder. Fine details, such as lines and dots, were printed with bare brass elements. The outlines of larger areas were formed by strips of brass, which were tightly stuffed with felt. **(Fig. 74)** After the cylinders had been attached to a machine, each was coated with a separate coloured belt, which provided it with an appropriate colour.¹⁹⁴

Surface-printed wallpapers are easy to recognize. If one keeps in mind that the papers were printed with cylinders rolling in one certain direction, an edge (a “lip”) is formed on one verge of a defined shape. In addition, since the thin paint used for printing did not dry quickly, different colours could flow into each other, resulting in a picturesque effect. **(Fig. 75)**

¹⁹¹ Nouvel, *Wallpapers in France*, 23.

¹⁹² Banham, “The English Response...”, 135.

¹⁹³ Luthmer, *Werkbuch des Dekorateurs*, 75.

¹⁹⁴ Frangiamore, *Wallpapers in Historic Preservation*, 12.

Methods of wallpaper production and mounting



Figure 72. A selection of rollers in the workshop of Cole & Son in London.

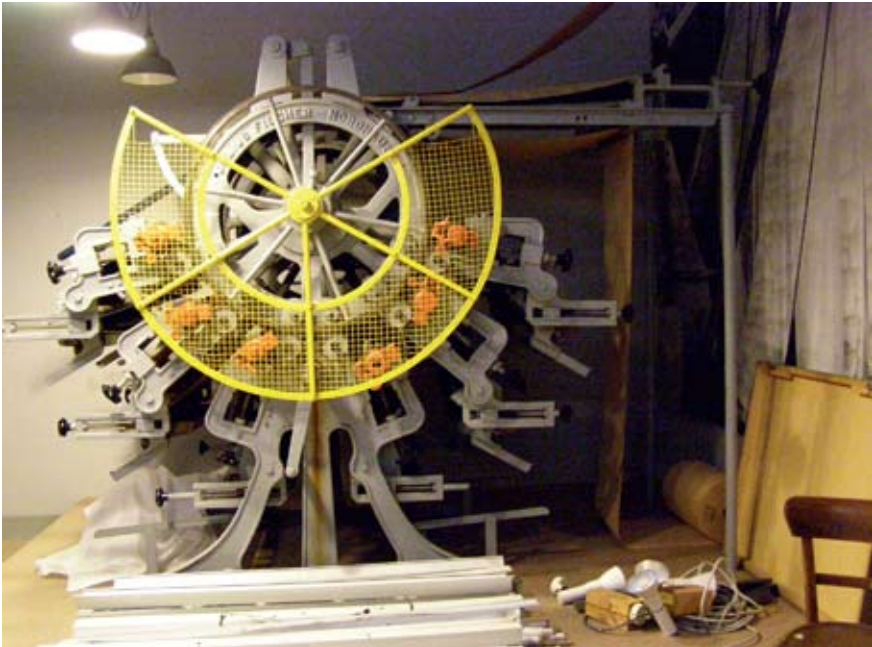


Figure 73. A six-colour printing machine. Photo was taken during the relocation of the wallpaper collection of the German Wallpaper Museum in Kassel.

Methods of wallpaper production and mounting



Figure 74. A surface-print roller for printing a fine Art Nouveau pattern. The outlines of larger areas are formed by stripes of brass. The number of pattern series is seen on the edge of the roller.



Figure 75. Surface-printed wallpaper from the 1930s. Collection of Tiiu Lõhmus.



Figure 76. Wallpaper imitating embossed leather wallcover by an architect A. Corroyer ca. 1870. Reproduction from *The Papered Wall. The History, Patterns and Techniques of Wallpaper*, ed. by Lesley Hoskins, Thames and Hudson, London, 2005, p. 183.

2.2.5. Embossing

Embossing was a widely used term that commonly referred to the production of wallpapers with relief finish. It was carried out by engraved metal plates, blocks or rollers. Most commonly paper passed through a pair of negative and positive (“male” and “female”) forms, which created a shallow or over-all effect.

The created texture was an attempt to imitate more expensive materials, such as wood, stone, tapestries and Maroquin leather wall covers.¹⁹⁵ The most widely sold embossed wallpapers imitated ceramic tiles, which could be used in passages, hallways, kitchens, bathrooms and toilets. **(Fig. 76)**

¹⁹⁵ Luthmer, *Werkbuch des Dekorateurs*, 77.

2.3. MATERIALS USED FOR PRODUCTION

2.3.1. Paper

With historic paper, such properties as durability, cost and much of the final aesthetic value of a wallpaper depend on the material on which it is printed.¹⁹⁶ One common factor of all the earliest decorated papers is that they were produced as small single sheets,¹⁹⁷ which were prepared from linen, cotton¹⁹⁸, flax or hemp¹⁹⁹, all high in cellulose. Each fibre had its own properties, which influenced the characteristics of the final product. Besides textile fibres, one could find various particles, such as charcoal from water heaters and tar or impurities from recycled ropes used for the production of brown paper.

As the 18th century progressed, linen paper became more refined and, with the introduction of engraved printing rollers, cotton fibres, which are softer and less suited to block-printing, have occasionally been identified.²⁰⁰ High-quality raw material is probably one of the reasons why numerous wallpapers from the 18th and early 19th centuries have survived in good condition.

Patterns were printed on either separate sheets or rolls, which were formed after several sheets had been joined together. Before single sheets were applied to a wall, margins from all four sides of the sheet needed to be trimmed.

The paper of Chinese export wall covers was made of paper mulberry fibres and was usually lined with one or two layers of oriental paper, including mulberry and bamboo.²⁰¹ Oriental paper had to be produced from pulp with very long flexible fibres to allow frequent rolling and unrolling. Compared to its European equivalent, papers produced in China were much lighter and thinner, which meant that larger sheets could be produced. By the end of the 18th century, short-fibred wheat and straw were used to create a smoother, white paper support.

¹⁹⁶ Robert T. Davis, *Exhibition of Wall Paper. Historical and Contemporary*, The Buffalo Fine Arts Academy, Albright Art Gallery, Buffalo, N.Y. 1937. Exhibition catalog.

¹⁹⁷ Wisse, "Manifold Beginnings:...", 8.

¹⁹⁸ Pazaurek, *Die Tapete*, 15.

¹⁹⁹ Silvie Turner, *The Book of Fine Paper* (London: Thames and Hudson, 1998), 21.

²⁰⁰ McDermott, "Investigating Wallpapers...", 60.

²⁰¹ *Ibid.*, 63.

As this shorter-fibred material had poor strength when wet, it was usually lined with two layers of oriental paper, including mulberry and bamboo.²⁰²

Early 19th century developments in the technology of printing wallpapers, along with increased population and the demand for cheaper decorative materials, inspired tradesmen to look for ways of mechanizing and speeding up production.²⁰³ The principle of making continuous long strips of paper was invented in 1798 by the Frenchman Nicolas Louis Robert, who sold his idea to the Fourdrinier brothers. Although endless paper was made as early as the beginning of the 19th century, it wasn't introduced to wallpaper production in France until 1820 and in England until 1830. The widths of machine-made paper varied from country to country, for example in France the common width of a wallpaper was 45.72 cm and of an English paper 50.8 cm.²⁰⁴

Since the supply of rag fibres was soon exhausted, new sources needed to be located. By the middle of the 19th century, it had become possible to process a paper-making fibre from wood, thus opening up an unlimited source of basic material.²⁰⁵ Due to the use of wood pulp, straw and other cheaper ingredients, prices and the quality of wallpapers started to drop. Such papers commonly became brittle and yellowish over time, due to acids in the wood pulp. Wood fibres used for making paper originated from coniferous trees, such as pine, larch, fir, cedar and spruce, and deciduous trees, such as beech, birch, eucalyptus, maple and oak.²⁰⁶

2.3.2. Pigments and paint

In many ways the history and development of wallpapers mirrors that of painted surfaces. Most of the pigments, as well as the binders and varnishes, are the same.²⁰⁷ Besides determining historical methods of paper manufacture and printing techniques,

²⁰² Ibidem.

²⁰³ Turner, *The Book of Fine Paper*, 16.

²⁰⁴ Frangiamore, *Wallpapers in Historic Preservation*, 6.

²⁰⁵ Turner, *The Book of Fine Paper*, 16.

²⁰⁶ Ibid., 21.

²⁰⁷ McDermott, "Investigating Wallpapers...", 58.

knowledge of pigments and paints helps to date a wallpaper or even determine its origin.

Before several inorganic synthetic pigments were developed at the end of the 18th century and during the 19th century, most of the colours used for printing wallpapers were earth pigments (e.g. yellow ochre, umber and terre verte)²⁰⁸ in the 18th century. Fashionable papers were occasionally printed with blue and green verditer, and Prussian blue and carmine were used to colour textile fibres for flocked wallpapers. Dark outlines were printed with ivory black.

In comparison to the dull-coloured European papers of the time, imported *chinoiserie* wallpapers were painted with malachite green, carmine red, lapis lazuli and azurite blue.²⁰⁹

According to a book published by Theodor Seeman²¹⁰ in 1882, earth pigments and mineral pigments were used to print wallpapers. The most common earth pigments included Bolus and Cardinal purple (*Caput Mortuum*) for red, Ultramarine and Azurite for blue, Malachite and Green Earth for green, Yellow Earth and Ocker for yellow, Brown Ocker, Umbra and Raw Sienna for brown, and limestone, chalk and kaolin for white. A much larger number of mineral pigments were used to print wallpapers. The most common of them were Cinnabar, Red Lead, Chrome Red and Venetian Red for red, Chrome Yellow, Massicot, Naples Yellow and Cadmium Yellow for yellow, Zinc Green, Chrome Green and Cinnabar Green for green, Blue Verditer, Ultramarin, Blue Mountain and Prussian Blue for blue, Carbon Black and Bone Black for black and Zinc White for white.

The discovery of synthetic substitutes of various pigments made it easier and cheaper to produce certain colours, which otherwise needed to be mined and prepared at great expense. New pigments made it possible to print more complicated and colourful designs more cheaply and with less effort.

²⁰⁸ Ibid., 61.

²⁰⁹ Ibidem.

²¹⁰ Theodor Seemann, *Die Tapete, ihre ästhetische Bedeutung und technische Darstellung sowie kurze Beschreibung der Bunt-Papier Fabrikation*, U. Hartleben's Verlag, Wien, Pest, Leipzig, 1882, 142–177.

Wallpapers were traditionally printed with distemper paint, which is a water-medium paint made using a mixture of whitening (chalk or calcium carbonate), pigment, sometimes china clay, water and a binder of rabbit skin (gelatine) or hide glue²¹¹ in precise proportions that allowed the paint to be printed without flaking after drying. The word “distemper” derives from the French term *detrempe*, which means to soak, and refers to a process of letting chalk soak overnight before mixing it with a pigment. Distemper paint is suitable for printing wallpapers, since it creates subtle tints, a matte thick surface and cannot be washed away when dry.

²¹¹ “Some Notes on Distemper: Traditional Hide Glue Bound Distemper” in *Heritage Stewardship*, accessed December 9, 2012, http://philipmarshall.net/hs/techniques/systems/finishes/media/distemper_wallpaper.htm.

2.4. HISTORICAL METHODS OF MOUNTING WALLPAPERS

The following chapter will focus on various historical methods of attaching wallpaper on walls. Similarly to wall paintings, mosaics and plaster decoration, wallpapers are usually considered to be immovable objects. Although the modern theory of conservation supports the idea of treating historic wall covers *in situ*, they might need to be removed from their original location for better protection and more thorough treatment. When remounting a historic wallpaper, it is ethical to return it to its original location. Depending on the condition of the object, either the original method or an improved interpretation of it can be chosen.

It is common that properties of a historic installation, such as big over-laps, unevenly trimmed strip-edges and mismatching patterns, are unusual for a modern viewer. This can easily lead to misinterpretation and false preservation decisions. Even if seemingly wrong to our eyes, the visual evidence should be respected during the restoration of a room with reproduction wallpapers.²¹²

Dating a wallpaper according to a method of installation can be misleading, since paperhanging techniques are not easily dated.²¹³ Although fashions changed frequently, the tools and techniques of mounting a wallpaper did not develop much. Since trade magazines did not appear until the last quarter of the 19th century, the know-how was passed on from a master to an apprentice. Thus most of the information about various older mounting methods can be gathered through observing preserved installations, and from archival sources, historical descriptions or wallpaper history books.

In general, all lining systems were intended to create an improved surface on which the wallpaper could be hung and to protect it from the structure that it covered. The preparation of a wall surface, the skills of the paper-hanger and the budget of the house owners dictated the methods of mounting a wallpaper.

²¹² Kelly, "Historic Paper-hanging Techniques:...", 2,

²¹³ *Ibidem*.

Paperhanging was most commonly carried out by a paperhanger or a decorator. By the middle of the 18th century, two types of wallpaper installers had developed: trained professionals worked in towns with finer interiors; in rural areas and small towns, paper-hanging was done by amateurs²¹⁴. According to the Arrowsmith's *House Decorators' and Painters' Guide* (1840), paperhanging was one of many areas in which decorators were trained. The list of possible services included marbling, graining, stencilling, gilding and staining, as well as the more mundane areas of distempering and varnishing.²¹⁵ Any of these treatments might have been needed in a 19th century interior.

Starting in the 17th century, there were several options for attaching a wallpaper. Since wallpapers were still not produced in rolls, they were pasted or tacked on the wall sheet by sheet. Using tacks was still common in England during the early 18th century. They were used along the edge of the paper, which was later covered with a border, which was also tacked to the wall.²¹⁶ According to Edward Entwisle, detailed instructions for paper-hanging with tacks were published in 1734. The author, Robert Dunbar, recommended first cutting one edge of each piece, or "breath", then attaching it with large tacks to the wall and pasting the edge of the next breath over the heads of the tacks, until the room was perfectly hung, being careful to make the flowers join. The paper had to be dampened before it was put up, and then the next window was begun. A paste had to be made of the best flour and water.²¹⁷ Although such a method of wallpaper mounting seems to have been widespread, many of the 18th century wallpapers found in their original locations were not tacked or nailed. This particular technique was not restricted to the 18th century.

Another widespread method of mounting a wallpaper was to attach it to a fabric, which was either tacked to the perimeter of a room or stretched onto a wooden frame, which was then

²¹⁴ *Ibidem*.

²¹⁵ Decorative Art. 19th Century Wallpapers in the Whitworth Art Gallery, 18.

²¹⁶ Frangiamore, *Wallpapers in Historic Preservation*, 16.

²¹⁷ Eric Arthur Entwisle, *The Book of Wallpaper. A History and An Appreciation* (London: Arthur Barker, 1954), 83.

mounted on the wall. Most commonly, a fine sewn linen canvas was used for this purpose.

To achieve a smoother outcome, the canvas may have been covered with a layer of lining-paper before covering it with a wallpaper. In Europe, a cheap and thick lining-paper called “elephant” was used. A find of early lining layer from the 1860s found in the Juuru vicarage in Estonia involved using recycled paper. This particular example consisted of tiny pieces of paper carrying a text in Cyrillic. Since a layer of thick lining-paper could absorb paste and superfluous humidity from the wallpaper, it left a very smooth surface for delicate and costly goods.²¹⁸ To get even a finer finish, the lining-paper may have been polished with a pumice stone. Hanging wallpapers on a canvas base protected them from humidity and decreased the chance of wooden walls splitting during seasonal contractions.

Illustrations provided in the book *Die Tapete. Raumdekoration aus fünf Jahrhunderten. Geschichte. Material. Herstellung* (1982)²¹⁹ show feather-drawings made by J.-M. Papillon around 1759 for an encyclopaedia published by Diderot. Besides numerous depictions of producing wallpaper, various methods of papering walls are shown. Out of seven sheets, five show various stages and methods of hanging wallpapers. The third sheet shows men preparing the surface of a wall before papering. According to the illustration, residues of old paint were washed off the wall with hot water, and cracks were puttied and covered with strips of attached paper. The fourth sheet depicts paper-hangers marking the location of the wallpaper and borders. Long vertical and horizontal lines were applied to the wall with the help of a string dusted with ochre. Different stages of papering are depicted in the fifth sheet. Paper-hangers are shown evening crooked corners with pieces of paper, attaching sheets of paper from top to bottom and examining the straightness of the wallpaper strip edge with a lead solder. Covering a wooden beam ceiling and a

²¹⁸ Kelly, “Historic Paper-hanging Techniques:...”, 3.

²¹⁹ Françoise Teynac, Pierre Nolot and Jean-Denis Vivien, *Die Tapete. Raumdekoration aus fünf Jahrhunderten. Geschichte. Material. Herstellung* (München: Verlag Georg D. W. Callwey, 1982), 28–34.

round niche with a wallpaper is illustrated in the sixth sheet.

It is commonly believed that wallpapers were hung only on walls. However, in the 18th- and 19th-century house decorative panels could also serve to ornament ceilings.²²⁰ Most commonly they were used in Victorian interiors in England.

According to the instructions of J.-M. Papillon, two layers of thick paper needed to be attached to cover the uneven surface of a ceiling. Visible gaps between paper sheets had to be covered with thin strips of paper.

A ceiling decoration consisting of several separate details was usually made up of two layers: a plain ground and cut-out decorative details. Before applying paper to the ceiling, the central subject and its surrounding border needed to be fixed in their dimensions. The use of a plain ground and an outer border were flexible. In the case of the latter, it could vary in width, or could be eliminated altogether, when the cornice of the room served to finish off both the wall hanging and the ceiling.²²¹ Characteristics of early installations were unevenly trimmed strip-edges and large overlaps. As the first step before hanging a paper, selveges needed to be cut with scissors or shears, which often left a wavering trim-line. Trimming was usually carried out by decorators themselves. One needed to sit down, hold a roll with one hand and trim it with the other, with wallpaper cradled on the floor or one's lap.

When a strip was hung, a trimmed edge covered an untrimmed edge of a previously mounted strip. Although it was not always true, wallpaper was generally hung away from a source of light, e.g. a window, to avoid the shadow creating an overlap.

To cover mistakes made by a paper-hanger, such additional applications as borders and edgings made of metal, wood or composition (e.g. *papier-mache*) were used. Thomas Chippendale divided such edgings into two groups: those fitting for paper hangings, and those meant for borders of damask or

²²⁰ de Bruignac – La Hougue, “Arabesques and Allegories:...”, 93.

²²¹ S. Le Normand, *Annales de l'Industrie nationale et étrangère*, 46 cited in Véronique de Bruignac – La Hougue “Arabesques and Allegories: ...” in *The Papered Wall. The History, Patterns and Techniques of Wallpaper*, edited by Lesley Hoskins (London: Thames & Hudson, 2005), 93.

paper hangings.²²² According to Sabine Thümmler, wallpapers were framed with decorative mouldings, which were most commonly left smooth or decorated with *rocaille* or shell forms.²²³ Even after the mouldings had gone out of fashion, they stayed in use for a long time.

Besides engraved wooden mouldings, matching cheap paper borders were used to give a wall structure. In 18th century interiors, borders ran along the perimeters of a wall, i.e. beneath a cornice, above a dado, and along window and door frames, over mantles and doors. Sometimes two strips of narrow borders could be attached in corners. Corners formed of borders may have been mitred or overlapped at 90-degree angles. By the end of the 19th century manufacturers had developed matching corner-pieces, which could be cut out and pasted onto the corners formed by borders.

In most standard *bell-etagé* rooms, where walls were divided into three sections – dado, filling and cornice - wallpapers were hung on canvas bases attached to wooden frames. The walls behind a wooden dado did not usually have any special finish – even stone and brick could be exposed. After the canvas had been mounted onto the frame, wallpapers were pasted over it. Examples characteristic to this method are found in the Schönbrunn Palace, the Esterházy Palace in Eisenstadt and in Riegersburg²²⁴ in Austria.

Besides wallpapers, the space between the cornice and the dado was filled with anything that could be attached to wooden frames: *chinoiseure* lacquer plaques, wooden panels or textiles. Such fillings could be moved with the rest of the mobilia: furniture, artworks, lamps, carpets etc. When a room was redecorated or the owner moved, the wallpapers were transported to a new location, sold or preserved in an attic.

To install an English print room, both of the previously described methods could be used. A paper-base formed by two layers of paper was pasted together sheet-by-sheet without

²²² Blakemore, *History of Interior Design and Furniture*, 238.

²²³ Thümmler, *Die Geschichte der Tapete*, 61.

²²⁴ Troschke, "Der Blaue Salon im Schloss Schönbrunn...", 74.

leaving visible joins. It could be applied to a layer of canvas or directly on a wall, which meant that the prints could be easily damaged by humidity.²²⁵

Another method that offered better protection was considerably costlier and was very often used for prints or other expensive wall covers. A fine canvas was stretched on a wooden frame and pasted over with two layers of paper. After the paper had dried, it was painted with distemper, which left a fine matte finish.²²⁶ It was then pasted over with prints and paper applications that formed the print room scheme.

A method frequently used in Central Europe involved the use of wood strips with tapered edges. The evidence of its use has been found in Graz, painted wallpapers from Alois Gleichenberger (1804), in the Landshut residence, in *Birkenfeldzimmer* French wallpapers from 1803 and elsewhere.²²⁷ The raw plastered walls were first covered with canvas. Although no residues have been detected so far, it is possible that light animal glue (rabbit skin glue or bone glue) or starch paste was used. In the corners of the room and on the upper and lower edges of each wall segment, narrow tapered wooden strips were nailed onto the wall, fixing the canvas on the desired location. The wooden strips on the edges of the canvas were covered with a layer of lining paper before attaching the wallpaper.

Although mounting methods were generally the same, special care needed to be taken with complicated paper decorations created on modular bases, such as *papier en feuille*, *decórs complets* and panoramic wallpapers.

To avoid common mistakes, panoramic wallpapers were equipped with detailed descriptions and sketches. Additionally, all the wallpaper lengths were numbered or even titled, as for example in the case of *Amor and Psyche* from *Manufacture Dufour* (1815). Although great care was taken to avoid mistakes, they still occurred. If a panoramic wallpaper with continuous

²²⁵ Fitzgerald, "The Georgian print-room explored", 15.

²²⁶ *Ibidem*.

²²⁷ Kallaste, Kadri, Krön, Markus. Two Approaches to Mounting and Dismounting of Historic Wallpapers on Example of Conservation Projects Carried Out in Austria. Article submitted for the IIC Congress Vienna 2012. Unpublished manuscript, 2011.

depiction was used, the fields above doors were papered with an area of sky. Another option was to cover the area with a small composition that matched the colour and motifs of the wallpaper, but didn't form a continuous composition with the rest. In the case of a hidden door, the whole field of the door, together with the over-door, were covered with the same length of paper. As a general rule, wallpaper strips were attached to canvas and hung above the dado. To avoid furniture breaking its continuity, the horizon of the depiction needed to be placed at the height of the observer's eyes, i.e. about 150–170 cm from the floor.

Although almost all scenic wallpapers allowed a perfect join between the last and the first pieces,²²⁸ it was not always possible to present the whole length of the decoration, for rooms were of different heights and sizes, and the surface of the walls was occasionally interrupted by windows and doors. In such cases, the owners needed to decide which parts of the wallpaper were to be used. The harmonious effect of the finished room was crucially dependent on the proper positioning of the individual scenes on the wall.²²⁹ Separate scenes could be treated as large paintings, which were framed in and decorated with additional accessory elements, such as borders depicting architectural ornaments, pilasters, over-doors and over-mantles. However, such a treatment was not always used. If an owner found it important to emphasize the narrative character of a panorama, even doors were papered.

The scheme of *decór-complets* consisted of a balanced arrangement of fields, borders, cornices, pilasters and central applications. The common formula was 3-5-3; for example, one central panel 127 cm wide could be flanked by two other panels, each 76.2 cm in width.²³⁰ Borders ran through doorways and fireplaces. In addition, they were used to outline each wall.

In the late 1830s and the beginning of the 1840s the first machines were invented to produce endless strips of paper economically and at greater speed. Previously, sheets of paper

²²⁸ Nouvel-Kammerer, "Wide Horizons:...", 98.

²²⁹ Ibidem.

²³⁰ Kelly, "Historic Paper-hanging Techniques:...", 6.

had been pasted together to form a roll of paper. Soon after, the method of surface printing was introduced and traditional wood-block printing was used only to produce exclusive wallpapers. From this point on, wallpaper became affordable for almost everybody. Thus it was no longer necessary to make exceptional preparations to apply a wallpaper. Most commonly it was pasted directly onto the plastered wall or unfinished boards with or without a layer of lining paper in between.

Although during the 1860s several patents were awarded for portable trimming-machines,²³¹ they do not seem to have been commonly used. Readily trimmed wallpapers were supplied by manufacturers as late as the beginning of the 20th century. Although contemporary tools, such as paper-hanger's knives, straight-edges made of wood or brass, seam rollers, and tack-trimmers, could provide a fine finish, the quality of mass-produced wallpaper was still poor. Besides paper being produced of wood-pulp and straw, a large majority of wall hangings were printed with water-soluble inks, which meant that gluey strip edges could not be cleaned. For this reason, over-lapping was still seen as an easier, faster and safer means of attaching a wallpaper.

Flour paste was the most common adhesive used for mounting a wallpaper. During the 19th century a small amount of allum, Venetian turpentine²³² and, in the 1920s, powdered dextrin²³³ were added to improve its properties. By the end of the 19th century a pre-mixed vinyl adhesive was developed to hang heavier wall covers, such as Lincrusta, Anagypta, vinyl and sanitary wallpapers. The latter were often varnished to make them durable and waterproof.

Using lining paper and canvas persisted throughout the 19th century. It was even common to use a combination of both of them. Walls could be tacked with a special light-weight cotton canvas or thick cardboard, or pasted with thin lining paper or textile liners.²³⁴

²³¹ *Ibid.*, 4.

²³² Luthmer, *Werkbuch des Dekorateurs*, 114.

²³³ Kelly, "Historic Paper-hanging Techniques:...", 7.

²³⁴ Frangiamore, *Wallpapers in Historic Preservation*, 16.

To offer additional support in corners, edges of window- and door-frames, another layer of lining paper or thin gauze²³⁵ was applied. Besides the usual cotton-canvas, muslin was used to support embossed or gilded papers in the 1870s.

Numerous practical tips for paperhanging could be found in *Werkbuch des Dekorateurs* (1897), by Ferdinand Luthmer. According to his recommendations, one should treat the wall with glue water before attaching a layer of lining paper, in order to bind loose dust and lime. A layer of lining paper was used for two reasons: to smooth the roughness of the plastered wall, and because the thinner glue used for mounting a wallpaper would have a weaker bond with a plain wall. Special care had to be taken with the edges of wallpaper strips, since they tended to roll away from the wall. Ferdinand Luther recommended pasting and nailing about 3-cm-wide strips of linen canvas along the baseboard, door- and window frames, and under the cornices and window panes.

To protect wallpapers from damp walls, the walls needed to be covered with thin sheets of zinc, which were covered with canvas or paper. In cases of light moisture, it was sufficient to use wooden frames covered with canvas and lining paper.

After wallpapers became generally affordable and available, it was common to paste new layers directly onto old ones. However before attaching, it was necessary to make sure that old wallpaper layers were removed from the wall. Loose parts were torn down and irregularities smoothed with pumice.²³⁶ Embossed or flocked wallpapers were removed completely before applying a new wallpaper.

²³⁵ Use of thin gauze was detected in Puurmani manor in South-Estonia.

²³⁶ Luthmer, *Werkbuch des Dekorateurs*, 114.

2.5. CONCLUSION

The first thing we notice in a wallpaper is its aesthetic appearance. However, besides its pattern, wallpaper has several additional properties, which may not be noticed at first glance. The used materials, method of production and mounting define the main physical properties of a wallpaper, and therefore play an important role in conservation planning. In addition, these aspects may indicate the origin and age of an object.

The method of mounting connects a wallpaper with the rest of an interior and helps to form a unity. Since a wallpaper should be handled as an integral part of an interior, the method of mounting forms a bridge between a separate object and an interior.

As Cesare Brandi has emphasized, not only the material form of a work of art is restored.²³⁷ Besides maintaining the values (e.g. artistic and historical) attributed to an object, the conservator should evaluate the physical condition of an object and consolidate it.

The type and properties of the original mounting method indicate the safest way a wallpaper can be removed from its original location. Commonly, the method of mounting depended on the properties of the wall and the object itself. Several types of damage might have been caused by a certain method of mounting. To avoid the re-occurrence of the damage, the original method should be changed or improved.

²³⁷ Cesare Brandi, *Theory of Restoration*, ed. Giuseppe Basile (Firenze: Nardini Editore, 2005), 51.

3

DISCUSSING
PRINCIPLES OF
CONSERVATION

3.1. VALUES OF CONSERVATION OBJECTS

Objects are most commonly preserved because people attribute several values to them. Most preservation objects have a certain monetary value, but other values are usually of much greater relevance to treatment decisions.²³⁸ Two of the main values attributed to a conservation object are historical and aesthetic value.

Several theorists have attempted to explain the meaning of conservation objects through the values attributed to them. One of these theorists was the prominent Austrian art historian Alois Riegl (1858–1905). He used the term "monument" (*Denkmal*) to describe a conservation object.²³⁹

Riegl distinguished between two types of monuments: deliberate monuments that were intended to memorialise certain events, and unintentional monuments which gained importance because of historical, artistic or other values attributed to them. Since a value known as commemorative value (*Denkmalwert*) can be attributed to both of them, we call them monuments. In the case of deliberate monuments, the commemorative value is dictated to us by others, while we define the value of unintentional monuments ourselves.²⁴⁰ According to Riegl, values attributed to monuments can be divided into two groups: 1) commemorative values (*Denkmalwert*), which include age value (*Alterswert*), historical value and intended memorial value, and 2) present day values, which include use value, art value, newness value and relative art value.²⁴¹ Besides the commemorative

²³⁸ Barbara Applebaum, *Conservation Treatment Methodology* (Oxford / Burlington: Elsevier Ltd., 2007), 86.

²³⁹ Salvador Muños Viñas, *Contemporary Theory of Conservation* (Oxford: Elsevier, 2005), 37.

²⁴⁰ Alois Riegl, "The Modern Cult of Monuments: Its Essence and Its Development" in *Historical and Philosophical Issues in the Conservation of Cultural Heritage. Readings in Conservation*, ed. Nicholas Stanley Price, M. Kirby Talley Jr. and Alessandra Melucco Vaccaro (Los Angeles: The Getty Conservation Institute, The J. Paul Getty Trust, 1996), 72.

²⁴¹ Joseph King, "Aesthetic in Integrated Conservation Planning: A Consideration of Its Value" in *Urban Space and Urban Conservation as an Aesthetic Problem*, Lectures presented at the international conference in Rome 23rd–26th October 1997, edited by Gregers Algreen-Ussing et al. (Rome: "L'Erma" di Bretschneider, 2000), 22. Accessed February 26, 2013, http://books.google.ee/books?id=4WoeN37LonYC&pg=PA22&lpg=PA22&dq=alois+riegl,+conservation&source=bl&ots=tHgs9nYKMz&sig=_DgHGtN3Jl46PSSfxDZpcdDEC&hl=en&sa=X&ei=4RItUa-2jcbF0QXLxIHwBA&redir_esc=y#v=onepage&q=alois%20riegl%2C%20conservation&f=false.

and age values that can be attributed to monuments, unintentional monuments are usually characterized by historical and artistic values.

According to the perception at the beginning of the 20th century, all human activity and all human fate of which we have evidence or knowledge might claim historical value.²⁴² Artistic value could be attributed to any tangible, visible or audible work of man. The value depended on the extent to which it met the requirements of contemporary artistic volition (*Kunstwollen*),²⁴³ which in fact could never be formulated clearly, since the requirements of a work of art were subjective and might change over time. According to Riegl, any object with artistic and/or historical value should be considered a monument.²⁴⁴

Moreover, as historical and artistic value are strongly bound together, every work with artistic value is also a historical monument, since it represents a particular stage in the development of the fine arts. Conversely, every historical monument is a monument of art,²⁴⁵ since its separate properties may refer to a whole series of artistic developments. Therefore, since a wallpaper is tangible and visible evidence of human activity, it is a monument with historical and artistic value.

The Italian conservation theorist Cesare Brandi (1906–1988) also viewed artistic and historical value as the two main values attributed to a conservation object. According to Brandi, conservation consisted of a methodological moment in which the work of art was recognized in its physical being, and in its dual aesthetic and historical nature, in view of its transmission to the future.²⁴⁶ Aesthetic value is of foremost importance, and it must necessarily be taken into account when making a conservation decision.²⁴⁷ However, an object's aesthetic value can be separated from its historical value. Even if a wallpaper loses a part of its aesthetic appearance, it can still be dealt with as a historical document.

²⁴² Riegl, "The Modern Cult of Monuments:...", 70.

²⁴³ *Ibid.*, 71.

²⁴⁴ Muñoz Viñas, *Contemporary Theory of Conservation*, 37.

²⁴⁵ Riegl, "The Modern Cult of Monuments: ...", 70.

²⁴⁶ Brandi, *Theory of Restoration*, 48.

²⁴⁷ *Ibidem*.

In his main work, *Teoria del Restauro* (1963), Brandi stresses the difference between a work of art and a common product. In recent decades, a shift has occurred in the theory of conservation, and Brandi's theory has been widely discussed. In the opinion of the author, both works of art and common products can be preserved for their aesthetic and historical value. Although historic wallpapers can be divided into exceptional examples and common, available products, both types should be viewed as possible conservation objects.

With the shift of wallpaper's status from an expensive luxury product to a common product during the course of the 19th century, pre-industrial wallpapers were commonly seen as rare works of art, and available, later papers as ephemeral objects. However, objects that were once considered available and ephemeral can be seen today as valuable witnesses of a certain era.

Values attributed to an object are to a certain extent always relative, since they tend to change over time. Some changes, such as the accumulation of signs of ageing, can result in either an increase or a decrease in overall value or an increase in some values and a decrease in others.²⁴⁸ For instance, due to the increased availability of wallpaper starting in the middle of the 19th century, wallpaper came to be regarded as a temporary means of decoration. Its destruction or replacement with a new layer was associated in particular with the decrease in its aesthetic value, due to damage, changes in fashion or change of inhabitants. Therefore, conservation decisions depend on the object's status and the change of perception.

The sociologist Michael Thompson explains in his book *Rubbish Theory: The Creation and Destruction of Value* (1979) that in our culture objects are assigned to one of two broad categories. They are either transient or durable. Objects in the transient category lose value over time and have finite lifespans. Such objects are, for example, kitchen utensils. Objects in the durable category gain value over time. Antiquities belong to this

²⁴⁸ Applebaum, *Conservation Treatment Methodology*, 87.

group of objects. However, there is a third and hidden group of objects, which do not fall into either of the previously mentioned categories. These are “rubbish”, objects that lose value for years until re-evaluated by institutions or individuals.²⁴⁹ Wallpapers can be generally placed in the first, transient category, which means that they tend to lose their value over time and become useless. According to this principle, the destruction of wallpapers can be seen as the normal end of a process.

However, depending on the change in the observer’s attitude and education, some objects can acquire new meanings, becoming worthy of conservation.²⁵⁰ In the context of the given thesis, gradually more attention has been given to historic wallpapers due to increased interest in historic interiors. More wallpapers are being studied, collected and preserved. Due to this tendency, historic wallpapers can be classified in the third category of objects: “rubbish”.

Wallpapers have apparently been subject to a two-way transformation: from valued decorative objects to debris, and from debris to precious historic objects. In addition to aesthetic and historical value, other values, such as educational value, have been attributed to wallpaper. For example, the manufacturers of panoramic wallpapers offered a cultural programme for children and adults in the form of a comic strip on a mural scale. Panoramic wallpapers stimulated the imagination, they were instructive, and they were consistent with bourgeois morality.²⁵¹ They depicted legends of mythology (e.g. *Les Métamorphoses d’Ovide and Lady of the Lake*), morality (e.g. *Paul et Virgine*), well-known literary works (e.g. *Orlando Furioso and Don Quixote*), 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, educational value can be applied to any historic wallpaper. Any historic wall cover or decorative scheme can inform its observer of the prevailing fashion of a certain era,

²⁴⁹ Ingemann, “Object Images and Material Culture – the Construction of Autenticity and Meaning”, http://www.present-on-site.net/21_rubbish.html.

²⁵⁰ Muñoz Viñas, *Contemporary Theory of Conservation*, 57.

²⁵¹ Nouvel-Kammerer, “Wide Horizons:...”, 102.

the historical means of wall decoration, the history of pattern design, the quality of materials and printing methods. Moreover, historic wallpapers can help to create a different perception of historical means of decoration.

Besides fulfilling a merely decorative function, wallpaper can also have a historical or monetary function. The latter can be expressed in various ways, for example by selling historic wallpapers in auctions or by collecting money for observing historic wallpapers in an exhibition or a historic interior. On the other hand, a valuable historic wallpaper can increase the monetary value of a historic building.

Historical value recognizes objects as bearers of information about history.²⁵² The historical value of an object depends on the existence of additional information about the object. A special event or time period can give rise to this value.²⁵³

In the case of numerous wallpaper fragments or superimposed layers, conservators often need to face the complicated task of choosing what and how much should be preserved. Naturally it is not possible to maintain endless quantities of historic material. The preservation of rare, historically or artistically valuable objects can be easily justified, but the preservation of objects of “lesser value” is an uncomfortable topic and rarely discussed.²⁵⁴ If an object is neither historically nor artistically significant, other criteria, such as the values attributed to an object by its owner, should be considered. However, the majority of wallpapers found in historic buildings do not have owners and/or are classified as debris. Thus, relevant preservation decisions depend on a conservator or an institution being able to see its potential of gaining a certain value later on. Usually, such objects are neglected.

Wallpapers that cannot be categorized as potential conservation objects should not be completely excluded from the conservation process. As witnesses of a certain era, they should be at least systematically documented and, when possible, col-

²⁵² Applebaum, *Conservation Treatment Methodology*, 95.

²⁵³ *Ibid.*, 96.

²⁵⁴ *Ibid.*, 259.

lected. Documentation can provide researchers with material about the object and its context. Collected samples should be legible and big enough to provide researchers with necessary information about the characteristics of a certain wallpaper (e.g. the width of a panel, at least one pattern repeat and all available applications).

3.2. CONSIDERATION OF CONSERVATION SOLUTIONS

People wish to use historic buildings in ways they have never been used in the past, and this often comes into direct conflict with the requirements of conserving the historic material and contents in their present state.²⁵⁵ In addition, the success of a conservation process often depends upon the project sponsors and upon their understanding of the management and design process required to achieve their objectives.²⁵⁶ As a result, the aim of a conservator is not only to ensure the preservation of a historic object, but also to educate the sponsors about the significance of an object and possible ways of preserving it. However, to be able to conserve at all, conservators need to reach a consensus with the sponsors and, where possible, let them achieve their goals. Conservation is always facilitated by making use of an object for some socially useful purpose. Although such use is desirable, it must not change the lay-out or decoration of a monument. It is within these limits that modifications demanded by a change in function should be envisaged and may be permitted.²⁵⁷ Although developing the most fitting conservation concept is essential, in my opinion the primary aim of the whole process is to preserve the historic object, which cannot speak for itself.

Besides communication issues, the most important factors in conservation are the decisions made according to the results of research preceding the treatment. In some cases, the results may lead to the development of several conservation scenarios, all of which may be technically feasible. However, it is important to keep in mind that each scenario may have a different impact on the aesthetics of a room.²⁵⁸

²⁵⁵ Tobit Curteis, "Working Buildings: The Effect of Building Use on the Conservation of Wall Paintings and Polychrome Surfaces" in *Conservation of Historic Buildings and Their Contents. Addressing the Conflicts*, ed. by David Watt and Belinda Colston, (Shaftesbury: Donhead Publishing Ltd., 2010), 54.

²⁵⁶ Donald Hankey, "Management of the Historic Environment – The Broad Nature of the Process" in *Conservation of Historic Buildings and their Contents. Addressing the Conflicts*, ed. David Watt and Belinda Colston (Shaftesbury: Donhead Publishing Ltd., 2010), 100.

²⁵⁷ The Venice Charter, Article 5, 1964.

²⁵⁸ John Edwards, "Conserving Cardiff Castle – Planning for Success" in *Conservation of Historic Buildings and Their Contents. Addressing the Conflicts*, ed. David Watt and Belinda Colston, (Shaftesbury: Donhead Publishing Ltd., 2010), 93.

Salvador Muñoz Viñas, the author of the widely-discussed book *Contemporary Theory of Conservation* (2005), has stated that classical conservation principles, such as reversibility, objectivity, respect for truth and minimal intervention, can seldom be fully applied. Sooner or later, it is necessary to discard them to enable conservation to be reasonable and acceptable. According to Muñoz Viñas, the classical conservation theories were created to satisfy only a small circle of specialists, such as art historians, archaeologists, chemists and physicists, but not necessarily common people, who might use or encounter a conservation object more frequently than a professional. To create an acceptable outcome for all concerned, a conservator has to find a balance between a scientific approach and the actual needs and expectations of society.

Muñoz Viñas emphasizes that the current condition in which an object exists is its true state. In his opinion, truth has little to do with conservation. Conservation is about bringing an object to a preferred state, which means that the object is adapted to our preferences.²⁵⁹ Therefore, conservation is a highly subjective activity. Its results depend on someone's expectations and personal preferences. Everything but the current state of an object is relative. Although the author agrees that conservation is a subjective activity in which multiple preservation scenarios can be discussed, this thesis aims to show that the "preferred state" is finally not completely relative. The conservator's education and his/her professional skills can be considered as objective aspects of a conservation process.

Dealing with technical issues is fairly objective, which means that for each preservation issue a certain number of solutions exist. Aesthetics is, however, highly subjective,²⁶⁰ and depends on the viewer's cultural and/or social background. Therefore, every decision regarding the aesthetics of a room should be considered carefully and justified according to the results of

²⁵⁹ Christabel Blackman Interview with Salvador Muñoz-Viñas about New Horizons for Conservation Thinking, accessed February 21, 2013, <http://www.e-conservationline.com/content/view/627/195/>. Summarized.

²⁶⁰ Edwards, "Conserving Cardiff Castle...", 93.

research. To minimize the risk of misinterpretation, professionals from various areas should be included in the research and decision making. Regardless of how good the conservation and management are, or how efficient the project systems and procedures are, success depends upon the proficiency of expert consultants.²⁶¹ In addition, conservators should be involved in the initial design of any project in the same way as architects, heating engineers and planning officers.²⁶²

Since the use of wallpapers has not been thoroughly researched in Estonia so far, numerous conservation decisions may ignore the option of including them in a conservation project. This is due to the lack of specialized professionals who could draw more attention to historic wall covers.

Even if the importance of wallpapers is acknowledged, they might be excluded from the conservation conception. It is sometimes alarming that surfaces that have never been painted before are puttied and painted; the final conception should depend on the amount of surviving material as well as the function of a room. Nowadays, historic layers are frequently exhibited as fragments, instead of re-creating a historic whole. In the opinion of the author, more effort should be put into interpreting the signs left by various decorative means. If walls that have obviously been papered before are painted instead, a completely new perception of the environment is created. Such solutions lead to misconceptions about the versatility of local historic interiors and create a certain image of what is historically accurate and what is not.

Although wallpapers are found, collected and basically documented, the information is very seldom used to develop a corresponding conservation conception. Despite the gradually increasing inclination to integrate wallpapers into historic interiors, consideration is seldom given to historic wall schemes or to patterns characteristic to a certain period.

²⁶¹ Edwards, "Conserving Cardiff Castle...", 88.

²⁶² Curteis, "Working Buildings:...", 56.

3.3. DEFINITION(S) OF CONSERVATION

The basic principles of conservation have been described in a number of normative documents and charters compiled by a number of conservation specialists.²⁶³ Among them are the Venice Charter (1964) and Burra Charter (1979, revised in 1999), which offer an overview of various conservation principles. The main conservation principles will be discussed on the basis of the mentioned charters. Depending on circumstances, conservation can be approached, in a narrow sense, as a separate principle or it can be seen as a sum of various preservation activities. The latter includes preservation, conservation, (stylistic) restoration and reconstruction. Conservation in the modern sense is a combination of these preservation principles. The multidisciplinary character of conservation is revealed by, for example, such varied objects as historic interiors. The combination depends on the aim of a conservation conception, e.g. one might like to preserve an interior as a museum or use it as a functional living environment. Although commonly the conservation principles are combined with each other, they will be dealt with separately in the following chapter.

Preservation means keeping something as it is, without changing it in any way: retaining its shape, status, ownership, use etc. Preservation is appropriate where the existing object or its condition constitutes evidence of cultural significance, or where insufficient evidence is available to allow other conservation processes to be carried out.²⁶⁴ According to the given definition, preservation should keep something as it is without altering its properties. Thus, if a wallpaper has survived in its original location, an effort should be made to preserve it *in situ*.

If an interior includes several layers of superimposed wallpapers from different periods, the most ethical way to treat the interior is to research and preserve all the layers *in situ*. Revealing the underlying state can only be justified in exceptional circumstances, for example if removed layers are of little interest and the revealed material is of great historical or aesthetic

²⁶³ Muños Viñas, *Contemporary Theory of Conservation*, 6.

²⁶⁴ The Burra Charter, Chapter 17, 1999.

value and its state of preservation is good enough to justify the action. Evaluating the importance of the elements involved and the decision regarding what may be removed cannot rest solely with the individual in charge of the work,²⁶⁵ but must include a group of specialists representing various aspects of interior conservation.

Although revealing underlying layers of wallpaper leads to damaging the historical unity, it need not lead to complete destruction of each separate layer. It is possible to separate wallpapers from each other, conserve them and preserve them as individual objects. Preferring a certain layer over others should not be influenced by the personal taste of a conservator or of the board of directors, local decorators, influential donors or volunteer committees. It is common that after professional research has revealed the actual paper that was used in a room, the result is ignored by members of an influential committee who consider the paper ugly and therefore “inappropriate”.²⁶⁶

The removal of a wallpaper is acceptable if 1) that is the sole means of ensuring its security and preservation, 2) on a temporary basis for treatment, 3) for cultural reasons, 4) for health and safety reasons, or 5) to protect the building. Such contents, fixtures and objects should be returned where circumstances permit and it is culturally appropriate.²⁶⁷ The panoramic wallpaper Don Quixote, found in the Lohu manor in Estonia, was removed from its original location to uncover a wall painting created by the German landscape painter Christian Gottlieb Welté.

In the case of valuable historic wallpapers, it is recommended that they be returned to their original locations, which will result in the re-creation of a broken unity. However, if that is not possible, a proper room should be found to exhibit them as a part of the interior.

If an object has been designed to be readily removable or already has a history of relocation, its removal might be appro-

²⁶⁵ The Venice Charter, Article 11, 1964.

²⁶⁶ Frangiamore, *Wallpapers in Historic Preservation*, 2.

²⁶⁷ The Burra Charter, Article 10, 1999.

priate.²⁶⁸ Wallpapers that have been attached to frames, such as numerous Chinese wallpapers, can be categorized as readily removable objects. However, if such objects have been preserved in a certain context, they should be continually handled as a part of it.

Since the main aim of wallpaper is to decorate, its removal and preservation as an archival document decreases its functional value. Thus, if any building, work or other component is moved, it should be moved to an appropriate location and given an appropriate use.²⁶⁹ If a wallpaper cannot be returned to its original location or to a new appropriate setting, it should be carefully documented, catalogued and protected in accordance with its cultural significance.²⁷⁰

Means of preservation include activities that minimise further damage, such as the monitoring of a room's climate (fluctuations in temperature and relative humidity), keeping windows closed to limit the access of insects, and controlling the intensity of UV-light by using proper light bulbs and covering windows with UV-protective stickers. In addition, preservation means regular examination of a wallpaper's surface and cleaning it of loose dirt.

Covering a wallpaper with a protective layer and keeping it covered by newer wallpaper layers can be categorized as preservation. Wallpapers may be covered up if they have lost their decorative value, only fragments have survived or if they are to be replaced by a reconstruction. Small fragments of wallpaper are preserved primarily for documentary purposes. An architectural conservator uses these samples to document alterations that have been made in interior rooms and as a basis for reproduction wallpapers.²⁷¹ Also, fragments that have been removed from their original location serve as documents. However, since such fragments cannot be analysed as a part of a larger structure, this might lead to misinterpretations.

²⁶⁸ The Burra Charter, Article 9 / Paragraph 9.2., 1999.

²⁶⁹ The Burra Charter, Article 9 / Paragraph 9.3., 1999.

²⁷⁰ The Burra Charter, Article 33, 1999.

²⁷¹ Gilmore, "Wallpaper and Its Conservation...",
http://cool.conservation-us.org/jaic/articles/jaic20-02-005_indx.html.

In the Runeberg Home Museum in Porvoo, Finland, several layers of historic wallpaper have been covered up to allow for their preservation *in situ*. They were researched and documented without removing them. After a layer corresponding to the period when the building was inhabited by a famous Finnish poet, Johan Ludvig Runeberg, and his family had been examined, the historic layer was either restored or reconstructed. The wallpapers that were going to be reconstructed were not removed, but preserved in their original location instead. Before covering the walls with reconstructions, loose areas were consolidated and fixed to the wall.²⁷²

A similar preservation solution was chosen in the Käsnu church, where three layers of historic wallpaper had survived *in situ* and were covered with a reconstruction. The wallpapers dated back to the 1860s, the 1890s and to the beginning of the 20th century. According to the research, the second layer was probably applied to the walls when a new organ was installed in the church. Since the wallpaper had formed a stylistic unity with the organ and the rest of the room, it was decided to restore it as it appeared in the 1890s. However, the original wallpaper had lost its aesthetic appearance and had been covered by another historic layer. Thus, to preserve the unity of all three historic layers, it was decided to cover them up with a layer of cardboard and create a reconstruction which would re-create the effect of the chosen historic wall decoration.²⁷³ The wallpaper reconstruction project carried out in the Käsnu church is the only known example of its kind in Estonia. It was carried out by Kristiina Ribelus and her team.²⁷⁴

As mentioned above, instead of preserving wallpapers in their original location, they are often stripped from the wall during or after research has been carried out. As a result, very few examples are left *in situ* and very little is handed over to archives. Commonly, samples in the archives are too small to

²⁷² Selja Flink, *Runebergin koti – rakentamisesta restaurointiin* (Jyväskylä: Gummerrus Kirjapaino Oy, 2006). Summarized.

²⁷³ Kristiina Ribelus, e-mail message to author, January 18, 2013.

²⁷⁴ The project was carried out in summer 2012.

show a whole pattern repeat. Finds of additional applications, such as borders and dados, are very scarce, since wallpaper samples are usually taken randomly from the middle of a wall. Such small fragments without detailed documentation are almost useless.

Conservation in its narrow sense is an activity which is based on a respect for the existing material, its use, associations and meanings. The aim of a conservation process is to consolidate an object's current condition and preserve all its relevant properties, including its original environment. Since wallpaper forms an integral part of an interior, its removal from its original location changes its function and meaning, and alters the properties of its original structure.

A type of conservation which seeks to implement measures and actions to avoid and minimize future deterioration or loss²⁷⁵ is often called “preventive conservation”. It has often been defined as the branch of conservation that attempts to avoid damage before it happens.²⁷⁶ However, most preservation activities, whatever their nature, attempt to prevent future damage. When a conservator has to perform any preservation treatment upon an object, the future stability of that object is necessarily taken into consideration.²⁷⁷

Another modern principle of conservation is closely related to the values of an object. This is known as “value-led conservation”. Its guiding criterion is neither meaning nor function, but the set of values people place upon an object.²⁷⁸ Conservation decisions should be based on the analysis of the values an object possesses for different people in order to reach a consensus among all the parties involved.²⁷⁹ According to the principles of value-led conservation, value and function are closely connected concepts, which means that the value of an object

²⁷⁵ Preventive Conservation. Terminology to Characterize the Conservation of Tangible Cultural Heritage, International Council of Museums – Committee for Conservation, accessed January 24, 2013, <http://www.icom-cc.org/242/about-icom-cc/what-is-conservation/#.UQGy0x26drM>.

²⁷⁶ Muños Viñas, *Contemporary Theory of Conservation*, 21.

²⁷⁷ *Ibid.*, 22.

²⁷⁸ *Ibid.*, 178.

²⁷⁹ *Ibid.*, 179.

is dependent on its ability to fulfil its function. On this basis, the better an object performs its function, the more valuable it is. For instance, an object with economic value fulfils an economic function,²⁸⁰ and an object with decorative value fulfils a decorative function. Since the main function of wallpaper is to decorate, after it has lost its aesthetic properties its value as a decoration decreases.

To permit more honest conservation, it is important to use reversible methods and minimize the impact the conservation process actually has on conservation objects.²⁸¹ In some circumstances, modern techniques and materials which offer substantial conservation benefits are appropriate.²⁸² Most of the traditional techniques and materials known in paper conservation can be applied to wallpapers. It is common that each conservator has developed his or her own set of conservation methods that have proved to be successful. Modern materials and methods are most commonly involved in the process of remounting a wallpaper. However, several conservators, such as Karin Troschke, Markus Krön and Mark Sandiford, promote the use of traditional Japanese mountings systems or their modern interpretations. Although, for example, the *shoji* method is a modern application in wallpaper conservation, it has been used for hundreds of years to create a firm foundation for Japanese artworks and sliding doors. In this sense, it can be viewed as a traditional method that has found a new function.

Conservation treatments that can be carried out *in situ* include dry-cleaning, consolidation of flaky paint layers and tears, and attaching a loosely hanging wallpaper back to its support. Additional conservation processes can be applied to a wallpaper that has been removed from its original location. These include de-acidification of paper, removal of acidifying lining paper or ripped canvas backing, applying new lining and stabilizing a mounting system.

²⁸⁰ Ibid., 180.

²⁸¹ Ibid., 5.

²⁸² The Burra Charter, Article 4 / Paragraph 4.2., 1999.

Andreja Dragojevic has described a conservation process carried out on early French wallpapers found in Croatia. One of the state's largest and best-preserved 19th-century wallpaper collections was found in the Gozze Palace in Dubrovnik. The oldest wallpaper dated back to about 1810 and was covered by a later layer from a period after 1850.²⁸³ Both of the layers were conserved in a workshop and returned to their original location. As there was an insufficient quantity of the older layer to completely redecorate the room, it was decided that it would be mounted on two of the walls, while the other two walls were covered with the more recent wallpaper.²⁸⁴ In this case, the conservation treatment did not interfere with the original - it consolidated the object's physical condition and ensured its further existence. The missing areas of the lower layer were retouched with a neutral tone which blended with the preserved material. The repairs and original could be distinguished from each other through close observation.

One of the dominant features in wallpaper conservation is known as **stylistic restoration**. It involves re-establishing an object in a completed state.²⁸⁵ According to Brandi's definition, restoration should aim to re-establish the potential oneness of the work of art, as long as this is possible without committing artistic or historical forgery, and without erasing every trace of the passage through time of the work of art.²⁸⁶ However, the feasibility of restoration depends on the amount of historic material that has survived. Restoration should only be carried out if there is sufficient evidence of an earlier state of the object.²⁸⁷ In the case of historic wallpapers, sufficient evidence refers to the extent and type of a wall scheme, as well as the existence of all relevant applications which help to form a whole. Restoration is most commonly carried out on either wallpapers that are easily accessible or those that have retained their integrity and aesthetic properties under several superimposed layers.

²⁸³ Dragojevic, "Croatia: the story continues", 60.

²⁸⁴ *Ibid.*, 62.

²⁸⁵ Muños Viñas, *Contemporary Theory of Conservation*, 4.

²⁸⁶ Brandi, *Theory of Restoration*, 71.

²⁸⁷ The Burra Charter, Article 19, 1999.

The latter scenario is rarely carried out in the case of highly significant objects.

If a wallpaper has survived only in fragments, careful thought should be given to the extent to which it can be restored. According to Cesare Brandi, a “ruin” is a number of fragments that have lost all trace of their original function and aesthetic qualities. It cannot be returned to its potential oneness.²⁸⁸ In the opinion of the author, if restoration of a heavily damaged original is not financially or technically feasible, but there is enough evidence of the whole setting, it should be reconstructed instead. If there is enough remaining material of the object and its context, a reconstruction might not falsify the general appearance of the room, but rather restore its legibility and visual integrity.

Since modern conservation theory emphasizes the importance of preserving as much original material as possible, the original can be combined with a reconstruction to create a unified object. This solution allows for the conservation of the original and re-creation of a historically accurate wall decoration and atmosphere. The evidence should include the whole of a pattern repeat, its original colours, the printing method, additional applications, the type and extent of the wall scheme and the method of mounting.

If no evidence of a historic wallpaper can be found preceding a conservation treatment, decorating the historic interior should be the task of an interior designer with proper knowledge of historic styles. In the opposite case, the information provided by a historic wallpaper or its fragments should be taken into account, instead of creating a modern historicised interior. To minimize subjectivity, such decisions should be made in consultation with all responsible parties in the conservation project.

The process of restoration is a specialized operation. Its aim is to reveal and consolidate the aesthetic and historical value of a monument and is based on respect for the original mate-

²⁸⁸ Alessandra Melucco Vaccaro, “The Emergence of Modern Conservation Theory” Introduction to Part III in *Historical and Philosophical Issues in the Conservation of Cultural Heritage. Readings in Conservation*, ed. Nicholas Stanley Price, M. Kirby Talley Jr. and Alessandra Melucco Vaccaro (Los Angeles: The Getty Conservation Institute, The J. Paul Getty Trust, 1996), 210.

rial and authentic documents. It should stop where conjecture begins and it must bear a contemporary stamp.²⁸⁹

In conservation, both traditional and modern materials can be used. The latter can be used if the traditional materials are too weak to consolidate an object. However, modern materials can also be more easily visually distinguished and removed from an original. For example, in the case of a missing area, it can be filled with either a piece of available original wallpaper or a reconstruction using modern material. Since modern papers seldom have the necessary properties, such as the appropriate thickness, shine and texture, it is preferable to use the original material instead. The visual difference between an original and an addition should be minimal, because marking additions too diligently might lead to patchiness and breaking the visual unity of the object. In addition, restored areas can be mapped and pointed out in documentation.

Sometimes partial or full **reconstruction** of a historic wallpaper can be justified to re-create the original appearance of a historic room. The original appearance of an object may be revealed through research, but also through analysing additional materials, such as archival material, photographs or other images, such as prints or paintings of the interior. Reconstruction is appropriate only when a place is incomplete through damage or alteration, and only when there is sufficient evidence to reproduce an earlier state of the object. In rare cases, reconstruction may also be appropriate as a part of use or practice that retains the cultural significance of the place.²⁹⁰

Recent justifications for aesthetic reconstruction of historical objects rely on educational value. Firstly, this shows what a historic setting used to look like. Secondly, comparison between old and new material might lead to understanding and appreciation of the original properties of an object.

Different types of reconstruction can be considered based on original wallpaper fragments and the function of the room.²⁹¹

²⁸⁹ The Venice Charter, Article 9, 1964.

²⁹⁰ The Burra Charter, Article 20, 1999.

²⁹¹ Martin, "Wallpaper Reconstructions in Historic Interiors...", 88.

According to Jean-Baptiste Martin, three types of reconstruction can be distinguished: archaeological, illusionistic and in-novo.²⁹² Archaeological reconstruction can be compared to a neutral retouch, which aims to reintegrate an authentic remnant of a wallpaper by using a neutral tone. In this case, the loss can be marked with either a neutral retouch or the insertion of paper in a matching neutral colour. To avoid breaking the visual aesthetic unity of an object, such a treatment should be kept in balance with the preserved original fabric, when necessary using other methods of retouching, such as *Tratteggio* and its variations.

The illusionistic approach is a combination of conservation and reconstruction, in which authentic fragments are preserved and complemented by reconstruction.²⁹³ Reconstructed areas should be distinguishable from the original.

The in-novo technique totally reproduces and replaces wallpaper. Martin describes three different situations in which this method can be applied.²⁹⁴

Firstly, the original fragments are not kept on the wall as the damage is too extensive. The panels may be taken down and the walls repainted with a neutral colour. In this case, the authentic setting is not preserved *in situ*. Instead, the choice of a neutral reconstruction in-novo is adopted.²⁹⁵ A similar solution of in-novo reconstruction was used in the *Gesellschaftsraum* in the aforementioned Schloss Paretz to complete a setting that included hand-painted Chinese wallpaper panels depicting exotic birds and flowers, a border, a dado and four over-door panels. The dado, border and panels on one wall had been destroyed. To mark their original location on the wall, papers in three neutral tones were used. This method imitated the type and extent of the historic decorative scheme instead of leaving the space empty.

Secondly, the decoration is totally lost and needs to be reconstructed. Such a reconstruction may ignore the changes in the décor that took place after a certain point.²⁹⁶

²⁹² Ibid., 90.

²⁹³ Ibid., 91.

²⁹⁴ Ibid, 93–94.

²⁹⁵ Ibid., 93.

²⁹⁶ Ibid., 94.

Thirdly, the complete decoration is not on the wall, and the condition of a wallpaper is poor. The original paper is thus not used in the reconstruction project but is completely reproduced.²⁹⁷ The extent and character of a reproduction not only depend on the amount of preserved evidence, but also on the type of wall cover. Reconstructing wallpapers with a non-repeating depiction, for instance panoramics, arabesque panels, *décor*, *papier en feuille* and Chinese wallpapers, is questionable. It should be considered only if another copy of the same wallpaper is found.

Of the aforementioned wall covers, finding a copy is most likely in the case of panoramic wallpapers and arabesque panels, which both have been well researched and documented. A copy might be found in one of the multiple wallpaper reference collections in Europe or the United States, for example in the *Deutsches Tapetenmuseum* in Kassel, *Musée du Papier Peint* in Rixheim, Whitworth Art Gallery in Manchester, Museum of Domestic Art and Architecture (MoDa) in London, Cooper-Hewitt, National Design Museum, Smithsonian Institution in New York or in several other collections. If a copy is not found, the object might be presented in its original condition instead, or combined with archaeological reconstruction.

Settings of *décor*, *papier en feuille*, print-rooms and Chinese wallpapers have been created from numerous separate parts and are thus non-recurring. In the opinion of the author, such wall schemes cannot be reconstructed, but rather must be re-created according to available analogues and descriptions.

Different techniques can be used to reproduce wallpapers, e.g. block-printing, screen-printing, lino-cut or digital printing. Before ordering a reproduction, one should be aware of the appearance created by certain techniques: screen-printing produces flat, but graphically accurate results, block-printing replicates a high relief typical to hand-printed wallpapers, and digital printing can imitate the effect of printing from engraved or surface-print rollers.²⁹⁸

²⁹⁷ Ibidem.

²⁹⁸ Anthony Wells-Cole, "Wallpapers and the Restoration of Temple Newsam House" in *New Discoveries, New Research. Papers from the International Wallpaper Conference at the Nordiska Museet, Stockholm*, 2007, ed. Elisabet Stavenow-Hidemark (Stockholm: Nordiska Museet Förlag, 2009), 69.

Choosing a matching technique from several options also depends on the appearance of the original as well as on budgetary constraints. The durability of a wallpaper depends on the printing technique used.²⁹⁹

²⁹⁹ Martin, "Wallpaper Reconstructions in Historic Interiors...", 94.

3.4. CONCLUSION

Due to the interdisciplinary character of historic interiors, commonly a combination of various conservation principles is used to prolong the life-span of a historic object. Despite the lack of standards in conservation treatment, conservation objects can be characterized by values attributed to them. According to Alois Riegl's division of monuments, historic wallpaper can be considered to be an unintentional monument. Since wallpaper is a result of human activity combined with artistic volition, both artistic and historical values can be attributed to it. Although all wallpapers can be seen as artistic and historical monuments, not all of them can be preserved. To decide on possible conservation solutions, additional values, such as the value of rarity and the monetary value, should be taken into account.

The aim of conservation treatment is to consolidate the physical condition of an object and ensure its preservation for future generations. To maintain a historic wallpaper, all known conservation principles should be applied: preservation, restoration, conservation and reconstruction. However, in all cases, the most important aim is to preserve as much historic material as possible.

Besides a small circle of professionals, conservation objects are commonly used and observed by a large number of non-professionals. The extent and character of conservation treatment often depends on the expectation of the owner and his/her financial possibilities. That is why modern conservation theory supports the idea of including the owner in discussions regarding the conservation process and its aims. However, including ordinary people in discussions may lead to a highly subjective outcome, which can be reduced by the interdisciplinary education of the conservator and by including expert consultants from various fields.

4

PRESERVATION
OF WALLPAPER
AS A PART
OF INTERIORS

The following chapter will focus on the basic conservation methods implemented in wallpaper conservation which make the preservation of wallpapers as a part of interiors possible. The text will be divided into sub-chapters, each of which will deal with a separate stage of the conservation process.

The chapter will not offer a complete overview of all available materials and possible techniques, but rather describe and analyse the materials and methods implemented in the projects carried out either independently or under the supervision of Markus Krön during the years 2009–2012. More specific conservation decisions will be discussed in describing separate case studies.

The preservation of a wallpaper in an interior not only refers to the maintenance of intact wallpaper in its original location, but also the preservation of fragments and already removed objects as a part of a room. Preserving a wallpaper fragment *in situ* instead of removing it may be more reasonable since storing non-standard or oversized segments of wallpaper as archival documents can be problematic due to an unsuitable environment within the original building or ownership issues that might occur when the objects are deposited in another institution, such as in a museum or an archive.

Two of the main aims of wallpaper preservation are the consolidation of its physical condition and improving the aesthetic appearance. Depending on the level of decay and the general aim of a conservation concept, various preservation principles can be either used separately or in combination. Restoration must aim to re-establish the potential unity of a work of art, as long as this is possible without producing an artistic or historical forgery and without erasing every trace of the passage of time left on the work of art.³⁰⁰ Of the several conservation principles that have become generally accepted, the main aspects are that a procedure should not materially alter the character of an object, and that any method used should be reversible without

³⁰⁰ Brandi, *Theory of Restoration*, 50.

difficulty or risk to the artwork.³⁰¹ However, in the case of paper objects hardly any conservation treatment is completely reversible, since even the simplest standard processes alter, though often positively, the structure of paper.³⁰²

The general preservation process of a wallpaper preserved *in situ* can be divided into two stages: the condition survey and conservation treatment.³⁰³ The condition survey records the current condition of the object, the scope and character of damages and any additional evidence of existing historic wallpapers. The results of monitoring are very useful in describing the reasons for deterioration and in indicating possible future treatments. The survey can offer several options, which will be dictated by location and future use, as well as environmental conditions and the nature and condition of the materials used.³⁰⁴

A conservation process includes different stages of treatment. The number of stages depends largely on the aims of the process, and the condition and location of the object. If a wallpaper is going to be conserved *in situ*, the stages include monitoring, documentation, surface cleaning, consolidation, in-filling, retouching and reconstructing. In the case of a wallpaper which has been or will be removed from a wall, other treatments, such as dismounting, packaging, washing, bleaching, lining and mounting, may be added to the process.

³⁰¹ Robert Futernick "Conservation of Scenic Wallpapers: Sauvages de la Mer du Pacifique" in *JAIC Online* (1981), accessed May 5, 2011, <http://cool.conservation-us.org/jaic/articles/jaic20-02-012.html>.

³⁰² Troschke, "Der Blaue Salon im Schloss Schönbrunn...", 75.

³⁰³ Allyson McDermott, "Wallpapers in the Historic Interior" in *The Building Conservation Directory* (2004), accessed December 7, 2012, <http://www.buildingconservation.com/articles/wallpapers/wallpapers.htm>.

³⁰⁴ McDermott, "Wallpapers in the Historic Interior", <http://www.buildingconservation.com/articles/wallpapers/wallpapers.htm>.

4.1. DAMAGES AND THEIR CAUSES

The aim of this chapter is to describe the most frequent causes of damage and their effects on wallpaper. The causes of the principal types of deteriorations affecting historic wallpapers *in situ* can be divided into “external” and “inherent” factors.³⁰⁵

Since wallpapers preserved *in situ* cover large areas, they are susceptible to various types of damage and deterioration. Besides atmospheric pollutants, extensive damage is brought about by changes in wall structure and paper caused by fluctuations in temperature and relative humidity. The main reasons for changes in environmental conditions are seasonal changes, ventilation, heating, such as central heating and heating with coal or oil, and lighting. Areas exposed to extensive light suffer from fading of paint, discolouration of support structures and accelerated build up of acidity.³⁰⁶ These might cause discolouration and the physical breakdown of paper.

Materials used for building and decorating a wall react differently to changes in atmosphere and may cause dimensional changes in the substrate. Usually, the weakest material, such as wallpaper, will be affected the most. The amount of damage depends largely on the method of mounting. Paper attached directly to the wall is naturally most vulnerable. Cracks, tears and loosening of wallpapers from the wall are some of the first signs of damage brought about by dimensional movements in the wall. Outer walls and corners of a building are usually the most vulnerable to changes in climate and rainy weather, which means that wallpapers covering such walls are more often damaged by moisture, causing dark tide-lines, (**Fig. 77**) loosening of paper from a wall, and the spread of mould and insects. In a humid environment, mould spores left on the surface of paper eat away at sizes, fillers and cellulose fibres, which may lead to permanent weakening and staining of paper.³⁰⁷

³⁰⁵ Philippa Mapes, “Historic Wallpaper Conservation” in *The Building Conservation Directory* (1997), accessed September 7, 2011, <http://www.buildingconservation.com/articles/wallpap/wallpap.htm>.

³⁰⁶ Collier, “Wallpaper – In and Out of Context”, 53.

³⁰⁷ *Ibid.*, 54.

The more expensive method of hanging a wallpaper on canvas attached to a wooden frame or battens can protect a wallpaper to some extent. With the help of wooden frames, wallpapers can be easily dismantled from walls and preserved elsewhere. However, this type of mounting also has disadvantages. Due to fluctuations in humidity and temperature, wooden battens may warp and loosen the canvas. If the canvas loses tension, the first folds will most commonly appear in the corners of the frame. Although stretching a canvas is a common practice in painting conservation, it is not recommended for wallpaper conservation, since it may damage the paper. In a domestic environment, such objects may be preserved in a cellar or attic, which is not an appropriate location for preserving a valuable object. For instance, after numerous *chinoiserie* wallpaper panels were discovered in the attic of the Esterházy Palace, it became apparent that both the wallpaper and lining canvas were in very poor condition. Due to the high level of humidity in the attic, the canvas had lost its strength and loosened from the frames, causing numerous small cross fractures in the wallpaper. **(Fig. 78)** In addition, high humidity had provided a perfect environment for the spread of mould and insects. **(Fig. 79)**

Major damage can be caused by normal domestic life and careless handling. Dusting, scrubbing and washing leave their marks on the delicate printed surface of wallpaper. Furniture that has been placed too close to a wall may scratch the surface of a wallpaper. This kind of damage is revealed by the loss of paint and tears or holes in the paper's surface. **(Fig. 80)** Water pipes, radiators and pieces of furniture (cupboards, shelves and frames) fixed to the wall may have been painted without dismantling them. This leads to streaks of paint on the surface of a wallpaper. The areas behind paintings and furniture that have been placed close to the wall may leave "shadows", which means that the surrounding surface has been bleached through the exposure to UV light.

Since the majority of paints used for wallpaper printing are distemper paints, using water or cleaning solutions may result in blurring a pattern or leaving uneven and patchy areas. Ever since

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Figure 77. Dark tide-lines seen on a panel of Chinese wallpaper from the Esterházy Palace in Eisenstadt.



Figure 78. Loosening of wallpaper from supporting frame could cause numerous small cross fractures and the loss of material.

wallpaper became an affordable and widely used product, it has been seen as an ephemeral means of decoration. This principal has led to destroying or damaging numerous historic wallpapers in domestic interiors, where the wallpaper has been partially or completely stripped from walls, painted or pasted over.

Certain types of damage are caused by the inherent weaknesses of paper and paint. Deterioration and embrittlement of a paper support dating from after the 1850s were direct results of the poorer quality paper stock used at that time.³⁰⁸ A flaky paint layer can be caused by the common practice of using a matte distemper having granular pigments with very little binder. Pigments containing metal particles may start oxidising, causing discolouring and embrittlement of the paper base and printed areas. A certain area on wallpaper strips hung close to the outer wall of a salon in the Theodor Aman Museum in Bucharest had started corroding. The background of an embossed wallpaper imitating gilded leather had been printed with a pigment consisting of copper. Due to high humidity, areas of the wallpaper had turned greenish-grey.

Although it is not possible to guarantee complete protection and maintenance of a historic wallpaper, one can minimize extensive damage by using certain restrictive measures.

The most effective and least interventionist means of extending the life-span of a wallpaper is to control the environment. Thus it is recommended that thermohygrographs be installed to monitor changes in temperature and that humidifiers/dehumidifiers be used to regulate the environment. To reduce the amount of light, UV filter stickers should be installed on windows.

Recommended storage conditions of a wallpaper *in situ* are:

- controlled temperature of +18 (with \pm 3 C° degrees fluctuation annually)
- controlled humidity of up to 30-50% (with \pm 5% fluctuation annually)

³⁰⁸ Mapes, "Historic Wallpaper Conservation", <http://www.buildingconservation.com/articles/wallpap/wallpap.html>.

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Figure 79. High humidity provides a perfect environment for the spread of mould and insects.



Figure 80. Wallpaper heavily damaged by careless handling during dismounting.

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- no water pipes or tanks in the interior or on the exterior wall
- amount of light is minimized with UV filter stickers or glass attached to windows
- good air circulation
- no heavy furniture on the wall
- no furniture too close to the wall
- limited access³⁰⁹

Such conditions are always very complicated to maintain in historic buildings. The most important consideration is to avoid extreme fluctuations in temperature and relative humidity.

³⁰⁹ Collier, "Wallpaper – In and Out of Context", 61 – 62.

4.2. METHODS FOR PRESERVING A WALLPAPER IN AN INTERIOR

4.2.1. Monitoring

As mentioned above, ideally a papered room should be surveyed before the start of conservation treatment. To avoid any further damage, it is important to determine the environmental factors affecting the object. Monitoring should include: control of fluctuations in temperature and relative humidity, intensity of illumination, structural movements in walls and the moisture content of plaster walls.

In addition, buildings open to the public often lead to a large amount of dust brought in by numerous guests. Such a problem is faced, for example, by the museum of the Schönbrunn Palace in Vienna, where dust brought in by guests accumulates on the surface of wall covers. The dust originates most probably from the gravel covering the public square in front of the palace.

If possible, monitoring should be carried out throughout the year to ensure a complete overview of climate-related changes and other possible causes of damage. The architectural conservator needs to make any physical alterations required prior to remounting a conserved wallpaper or treating a wallpaper *in situ*. For example, one can consolidate weak plaster or wooden walls, eliminate the reasons for water leakage, such as defective water pipes, and reduce the amount of UV-light shining on walls.

4.2.2. Textual documentation

Since conservators develop either their own documentation forms or employ forms created by institutions, there is no universal form to document historic wallpapers. According to Michelle Moore, two types of documentation can be distinguished: textual documentation and visual documentation. In the case of textual documentation, two types have developed: free-text documentation, a type of essay describing the object and its conservation treatment,³¹⁰ and check-list documentation.

³¹⁰ Moore, "Conservation Documentation and...", 6.

Free-text documentation is more suitable for large objects, in which check-list documentation does not allow for the recording of all relevant information. Check-list documentation, on the other hand, is appropriate to document a large number of museum objects, for example numerous wallpaper fragments.

To record all the details of a historic wallpaper and its conservation project, a conservator should not be limited to using either free-text or check-list documentations, but rather should use a combination of both. Some of the properties which need to be recorded include:

- Chronological order of the particular interior layer
- Width of the wallpaper proof if known or the size of the paper sheet
- Width of the wallpaper proof joint
- Characteristics of the paper (e.g. cast or manufactured, and tone)
- Colours of ornaments, and the amount of colour
- Location where the wallpaper sample was found
- Exact site from which the sample was taken (shown on a plan).³¹¹

To show the advantages of this approach, the author has compiled a case study in the form of a free-text description and a check-list of two objects conserved during the course of the study. The objects are the wallpapers from the dining-room of the Puurmani manor and Estonian Literary Museum.

The check-list form used to document the objects was compiled to record the properties characteristic to a wallpaper preserved *in situ*. The ideas described by Christine Woods led to the use of the following four documentation forms: the Winterthur

³¹¹ Laura Lüse, “Wallpaper Through the Ages from the Collection of the Architectural Investigation Group: a Brief History from the 18th to the 20th Century” in *Architectural Finishes in the Built Environment*, ed. Mary A. Jablonski and Catherine R. Matsen (London: Archetype Publications, 2009), 138.

wallpaper examination form,³¹² documentation forms of the Conservation Center Kanut and the Conservation Department of the Estonian Art Museum, and the catalogue for documenting painted ceilings in Tallinn created in 2009³¹³.

4.2.3. Visual documentation

Recording the physical appearance of an object and its properties is an essential part of documentation. The most common and available means for visually documenting a wallpaper are photographing and sketching.

Different kinds of photography accompanied by raking-light, reflected or ultraviolet light, can be used to convey or reveal information invisible to the naked eye.³¹⁴ For example, photographing with raking-light may reveal irregularities on the surface of a wallpaper and indicate seams between the sheets and the length of the wallpaper even when coated with a layer of paint.³¹⁵ Ultraviolet light can be used to detect residues of organic adhesive left by a wallpaper.

Before taking a photo, one should consider the aim of the photograph: to document the whole object, a segment, a detail, a damaged area or something else. Photos taken of various damages should be keyed to a diagram or plan detailing their locations.³¹⁶ It is highly recommended that photos be taken before, during and after a conservation treatment.

To permit objective examination of results, the light conditions should be kept the same, or the same colour control strip should be used throughout the project. Especially with wallpapers preserved *in situ*, proper illumination plays a crucial role. If comparative photos need to be taken, the position of the light, the

³¹² Anne F. Clapp, "The Examination of Winterthur Wallpapers and a Progress Report, April 1980, on a Group of Papers from the Fisher House, Philadelphia" in *JAIC Online* (1981), accessed December 6, 2012, <http://cool.conservation-us.org/jaic/articles/jaic20-02-004.html>.

³¹³ Kais Matteus, Tallinna Vanalinna maalitud talalagede inventeerimise taustauuringud ja katalogiseerimine (Bachelor thesis, Estonian Academy of Arts, 2006).

³¹⁴ Moore, "Conservation Documentation and...", 6.

³¹⁵ Frangiamore, *Wallpapers in Historic Preservation*, 3.

³¹⁶ Patricia Hamm and James Hamm, "The Removal and Conservation Treatment of a Scenic Wallpaper, *Paysage A Chasses*, from the Martin van Buren National Historic Site" in *JAIC Online* (1981), accessed 8 December, 2012, http://cool.conservation-us.org/jaic/articles/jaic20-02-010_indx.html.

light source, the filter, film and magnification should all remain constant.³¹⁷ It is recommended that the object be accompanied by professional colour control strips.

Besides photos, drawings should be made of each wall to map the extent and types of damage, as well as to show the locations of various photographed damages. Drawings are commonly known as graphic documentation and they can be made either manually or with the aid of graphic design software, such as Adobe Photoshop or AutoCad.

A sketch can document what cannot be seen in a photo, for example the measurements of an object, extent of damage, original method of mounting, and the sequence and location of each strip or other decorative application. Sketching is especially important if a wallpaper is going to be dismantled. A well-made sketch will ease the process of remounting a wallpaper later on.

4.2.4. Research

If a historic wallpaper or its fragments are preserved *in situ*, research needs to be carried out before the start of any conservation treatment. No wallpaper should be removed until a possible conservation concept has been discussed with an interior designer, co-conservators and other parties, or before a target date for the conservation or redecoration has been established.³¹⁸

The research on a conservation object is commonly divided into two categories: research based on the primary source, the object itself, and research based on secondary sources, which commonly include context and various archival materials. The former is usually carried out by a conservator and the latter by an art historian.

Frank S. Welsh divides the two categories into five principle stages, which should be followed in researching a historic wallpaper. First of all, the physical properties of a wallpaper should be analysed. This research will help to identify the fibres used to produce the paper, the pigments in paints and inks, and the

³¹⁷ Moore, "Conservation Documentation and...", 6.

³¹⁸ Nyman, *Wallpapers for Historic Buildings*, 16.

binding medium. Secondly, the type of wallpaper and methods of manufacture should be determined. These two stages can be carried out by a conservator.

The following stages should be carried out by an art historian or in co-operation with one. They include identifying pattern styles, evaluating the context of the physical evidence and searching for additional information in archives and museums.³¹⁹

Since historic interiors form a complex unity of various decorative methods and means, it is highly recommended that experts from various disciplines be involved: conservators of other materials, art historians, architects, chemists etc.

4.2.5. Testing paint and paper

Although several types of damage, such as tears, holes, flaky pigments, brittle paper, darkened residues of adhesive, growth of mould, and tide-lines, can be revealed through observation, a number of additional tests should be carried out on paint and paper. Materials and methods should be chosen according to the results of tests. Several methods have been applied to quantitatively describe the effects of ageing on a paper support.³²⁰

The basic tests to be conducted involve the solvent resistance of printing paints, presence of mould spores, pH of paper and, less often, pigments and fibres. Of the latter, the most frequent aim is to determine the level of lignine in paper, since it may turn dark when washed.

The acidity of paper depends on the raw material used, the methods of manufacturing and the subsequent preservation conditions, and has a significant impact on the durability of the material. Historic rag papers tend to have a neutral pH (in the range of 6.0–7.0) and a long life expectancy. Wallpapers produced after the mid-19th century are often made of wood-pulp fibre and have inherent instability problems from the lignin and

³¹⁹ Frank S. Welsh, "Investigation, Analysis, and Authentication of Historic Wallpaper Fragments" in *JAIC Online*, Volume 43, Number 1, Article 7, accessed June 5, 2013, <http://cool.conservation-us.org/jaic/articles/jaic43-01-007.html>.

³²⁰ Joel et al., "The Measurement and Significance of pH in Paper Conservation" in *Bulletin of the American Group – IIC 12, No. 2, April 1972* (1972), accessed December 7, 2012, <http://www.jstor.org/discover/10.2307/3179136?uid=3737920&uid=2129&uid=2&uid=70&uid=4&sid=21101350589173>.

hemicellulose left in semi-processed papers.³²¹ Their pH is 6.0 and lower. Acidic paper ages more quickly; it is mechanically less resistant and sensitive to changes in the environment.³²² pH-meters with special flat electrodes or pH indicators, such as pH pens, are used to measure the acidity of wallpaper, since they are the least destructive.

To examine the solvent resistance of printing paints, the solvents that might be used during the course of the conservation process are tested: saliva, distilled water, ethanol (40% and 100%), acetone, ammoniac, hydrogen peroxide and adhesives with surface-active substances, such as methyl cellulose. Tests are carried out with cotton swabs wetted in a solvent, which is gently rolled or pressed onto the printed surface and kept in place for about five seconds. A runny or sensitive paint will leave a mark on the swab. Besides indicating easily dissoluble printing inks, the test shows whether the printed layer is sensitive to the pressure to be applied if the layer of lining is removed.

Testing a wide range of properties, such as tearing, tensile strength, fold strength, reflectance and elongation related to the ageing of paper, can be carried out as well. However, they are not very common in everyday conservation projects. After the fold endurance test lost its importance as a means of evaluating paper strength, an indicator which determines the length of cellulose polymer chains, called the degree of polymerization (D.P.),³²³ has been used by conservation specialists.

4.2.6. Dismounting and packaging

Current preservation theory strongly favours preserving a room of original or early wallpapers rather than removing and reproducing them,³²⁴ since wallpaper is considered to be an immovable

³²¹ Basic Conservation of Archival Materials, Chapter 6 – Collections, Revised Edition, Canadian Council of Archives, 2003, accessed December 7, 2012, http://www.cdncouncilarchives.ca/RBch6_en.pdf.

³²² Raamatukahjustuste atlas, Paberi pH määramine, accessed December 7, 2012, http://paber.ut.ee/ET/kategooriad/sisuplokk/paberi_ph_maaramine.

³²³ Leslie M. Kruth, "Paper Conservation Update: Bleaching and Fumigation" in *Abbey Newsletter*, Volume 13, Number 5, September 1989, accessed December 7, 2012, <http://cool.conservation-us.org/byorg/abbey/an/an13/an13-5/an13-516.html>.

³²⁴ Nylander, *Wallpapers for Historic Buildings*, 16.

object and a part of a historic interior. In addition, the removal of wallpaper destroys its historical integrity and the original method by which it was applied to the wall. The way that seams of wallpaper were originally put 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. These elements may be changed or destroyed if *in situ* conservation treatments are not used.³²⁵

Wallpaper should be removed only in exceptional cases. For example, since wallpaper is supposed to be aesthetically appealing, its removal might enable a conservation specialist to get a better result by treating its material. Instead of a limited number of conservation methods being available, dismantled strips can be treated more thoroughly. Moreover, if the walls under the wallpaper need to be consolidated or if a building is being demolished, valuable wall covers need to be removed.

If certain conservation treatments (for example treating major mechanical damages or replacing a lining canvas) need to be carried out partially, or a segment of a wall decoration is planned to be exhibited, dismantling only a few strips can be considered. The rest should be conserved, covered up and preserved *in situ*.

Before removing the wallpaper, one should pay close attention to documenting the original method of mounting. It is necessary to photograph, describe and map the sequence of strips and additional applications (borders, corner pieces, dados etc.), properties of the mounting system and damages to avoid possible confusion when reassembling and remounting the wallpaper. An unambiguous and easy-to-follow numbering system for the maps and removed pieces needs to be developed prior to the removal.

When removing a wallpaper hung on canvas, large sections or whole walls of wallpaper can be removed by dismantling wooden frames or releasing canvas from nails and taking the

³²⁵ Gilmore, "Wallpaper and its Conservation – an Architectural Conservator's Perspective", http://cool.conservationus.org/jaic/articles/jaic20-02-005_indx.html.

wall cover down, using it as a carrier support.³²⁶ Instead of breaking the wallpaper into separate strips or segments, dismantling a wallpaper in large sections reduces further damage to the whole. The Chinese wallpapers in the Esterházy Palace had been mounted on wooden frames covered with canvas in the 1960s. According to the observations of the author, since each segment had been attached to a separate frame, it was easy to mount and dismount the panels that needed to be treated. Moreover, the frames enabled the segments to be easily systematized and packed for transportation.

Many problems may occur while dismantling wallpapers attached directly to a wall. If the bond between the wall and wallpaper is not strong enough, the wall cover should be removed mechanically, working from behind with a plastic or horn spatula. **(Fig. 81)** It is important to remember, however, that a segment or a strip of wallpaper should be removed from the wall moving from the bottom upwards. By doing so, the risk of wallpaper folding down or tearing apart is decreased. Also, the damage to the paint-layer is reduced.³²⁷

In the Theodor Aman Museum in Bucharest, heavy, embossed wallpapers were removed by a local conservator from the top downwards. The decision proved to be unfortunate, since the released strips bent down under their own weight. This led to tears and numerous small cracks in the paint and paper, which needed to be consolidated and retouched later on. **(Fig. 82)** This example illustrates the importance of research, evaluating one's capabilities and consulting with experts before undertaking any conservation process.

If wallpaper cannot be removed mechanically, wet, chemical techniques are used, involving a variety of aqueous solutions and sprays, and a superheated steam and/or enzymes can be used to break down the adhesive bond between the paper and wall.³²⁸ The result depends largely on the adhesive behind the

³²⁶ Mapes, "Historic Wallpaper Conservation", <http://www.buildingconservation.com/articles/wallpap/wallpap.html>.

³²⁷ Krön and Kallaste, unpublished manuscript, 2011.

³²⁸ Mapes, "Historic Wallpaper Conservation", <http://www.buildingconservation.com/articles/wallpap/wallpap.html>.

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Figure 81. If the bond between the wall and wallpaper is not strong enough it could be removed mechanically by carefully working from behind with a plastic or hord spatula. Photo was taken during the relocation of the wallpaper collection of the German Wallpaper Museum in Kassel.



Figure 82. Removing heavy wallpaper from up downwards could result in numerous cracks and damaging the layer of paint.

wallpaper, but so far the best outcome has been achieved by spraying distilled water on the surface of wallpaper and letting it soak in.³²⁹ To avoid loose particles of dirt accumulating in the material of the wallpaper, its surface should be dry-cleaned beforehand. **(Fig. 83)** It is recommended that the water resistance of colours be tested before an aqueous treatment. In the case of flaky surfaces and runny pigments, it is highly recommended to apply a layer of facing to the wallpaper.

For facing, Markus Krön and his team have used a Manila hemp tissue known as Renova or *Teesäckhenpapier* (tea-bag paper) from the Viennese provider *Japico Feinpapier*. However, Renova paper is no longer produced. Instead of Renova paper, light machine-made Japanese papers, such as archival interleaving tissue L2,³³⁰ Japico's Kuranai Natural produced of Manila hemp³³¹ or Abaca tissue,³³² can be used. The last tissues is made of Abaca fibres, which are used to make Western and thin sheets of Japanese-style paper. It is also used widely for tea bags.³³³ Although the consistency of various products might be similar, their names vary due to different producers.

For facing, pieces of Renova paper were covered with a thin layer of methyl cellulose or gelatine in a 2% ethanol solution and applied to the printed side of the wallpaper. The layer of facing applies enough moisture to the wallpaper to ease its removal from the base. After dismantling a wallpaper, it should be allowed to dry before packing and transportation.³³⁴

When transporting large dismantled pieces of wallpaper, they should be loosely rolled on large diameter cylinders and stored on poles to avoid putting pressure on patterns. Similarly to transporting paintings, it is important to roll the patterned side of wallpaper outwards to minimize the damage to the col-

³²⁹ Krön and Kallaste, unpublished manuscript, 2011.

³³⁰ Conservation Resources UK Ltd., L2 Archival Interleaving Tissue, accessed February 20, 2013 http://www.conservation-resources.co.uk/index.php?main_page=product_info&products_id=162.

³³¹ Japico Yokohama Ltd., Our products – Technical Washi paper, accessed February 20, 2013 <http://www.japicoyokohama.com/index.php/products/technical/>.

³³² Paccin – Preparation, Art Handling and Collections Care Information Network, Abaca Tissue, accessed February 20, 2013 <http://www.paccin.org/content.php?64-Abaca-Tissue>.

³³³ Turner, *The Book of Fine Paper*, 21.

³³⁴ Krön and Kallaste, unpublished manuscript, 2011.



Figure 83. Wallpapers should be dry-cleaned prior to dismantling and further treatment. Photo was taken during the relocation of the wallpaper collection of the German Wallpaper Museum in Kassel.

our layer. The cylinders are covered with acid-free paper and the wallpaper layers interleaved with acid-free tissue,³³⁵ such as neutral blotting paper, a Manila hemp paper or Hollytex.³³⁶ Fragmented, embossed, relief or painted wallpapers should be transported in oversized archive folders lined with acid-free paper or tissue. (Fig. 84)

4.2.7. Surface cleaning

Following the monitoring and testing of paper and paint media, the surface cleaning should be carried out as the first stage of the conservation treatment on wallpapers preserved *in situ* as well as on dismantled wallpapers. This may include the removal of dust, insect excrement, spider webs, paint residues or other foreign matter accumulated on the surface of a wallpaper. The treatment is important for several reasons. First of all, the surface dirt and dust alter the image and aesthetic appearance of a wall cover. Secondly, when dealing with several layers of wallpaper, dirt can cause abrasion between the layers of paper. If aqueous treatments are planned, loose dirt may be carried across the surface of the wallpaper and cause staining.³³⁷ Superficial dirt and dust may even penetrate the surface of the paper and become attached to the fibres.

Before starting full-scale *in situ* treatment, it is important to clean details above the wallpaper, such as cornices, ledges, pelmets and other surfaces where dust may have accumulated.³³⁸ The most suitable techniques to begin the dry-cleaning of a surface are Hoovering and brushing. Hoovering will help to remove initial dirt. For the fragile parts of a wallpaper, it is recommended to use a Hoover with adjustable suction levels and various nozzle sizes and brushes.³³⁹ To avoid further damage to fragile paper or pigments, one should Hoover through a fine gauze stretched across an embroidery frame, a fibreglass window screening or

³³⁵ Collier, "Wallpaper – In and Out of Context", 60.

³³⁶ Deffner & Johann, Restaurierungsbedarf und Denkmalpflege seit 1880, Lascaux Hollytex 3257, accessed February 20, 2013 <http://www.deffner-johann.de/lascaux-hollytex-3257-34-gm-rolle-120-cm-x-25-m.html>.

³³⁷ Collier, "Wallpaper – in and out of context", 54.

³³⁸ *Ibidem*.

³³⁹ *Ibid.*, 55.

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Figure 84. Large-format wallpaper should be preserved either in acid-free folders or on large cylinders. Photo was taken during the relocation of the wallpaper collection of the German Wallpaper Museum in Kassel.

polyester canvas, such as Hollytex or Parafil RT 20.³⁴⁰

After hoovering, the residues of loose dirt should be removed with a soft and wide brush, for example with soft Japanese bamboo hake brushes. Working with hard brushes may work the dirt deeper into the paper fibres, which makes it even harder to remove.

Other widely used tools for removing dirt are dry-cleaning sponges made of vulcanized natural rubber, which effectively remove soot and smoke damage from wallpaper.³⁴¹ Since they contain no chemical solvent additives, they are non-abrasive, leave no detectable residue and can be reused after washing and drying. On large-scale objects, such as *in situ* wallpapers, they have proven to be irreplaceable.

Another material that can be successfully used for cleaning the surface of wallpapers is an Akabad Dry Cleaning Sponge (also known as a Wishab Sponge³⁴²). A damaged and sensitive paper surface should be cleaned with Akabad White. **(Fig. 85)** The slightly harder Akabad Soft is meant for cleaning pictures, mural paintings, textiles and well-preserved wallpapers.³⁴³ One should be careful not to rub the surface of a wallpaper too hard, since that may cause the loss of pigments and flattening of lightly embossed texture. Since Akabad sponges crumble, it is necessary to clean the surface of the paper with soft brushes afterwards to avoid any further abrasion. To test the effect of the sponge and durability of the paper and paint layer, it is necessary to make a small test patch on the edge of a wallpaper segment. **(Fig. 86)**

For working with wallpaper fragments or lengths removed from the wall, besides the above-mentioned Prochem Dry Chem

³⁴⁰ Deffner & Johann, Restaurierungsbedarf und Denkmalpflege seit 1880, Parafil RT 20 Polyester-Spinnvlies, accessed February 20, 2013 http://www.deffner-johann.de/parafil-rt-20-polyester-spinnvlies-rolle-100-cm-x-50-m.html?__store=shop_en&__from_store=shop_de.

³⁴¹ University Products –The Archival Company, Dry Cleaning Sponges, accessed December 8, 2012, [http://www.universityproducts.com/cart.php?m=product_list&c=1166&primary=1&parentId=&navTree\[\]=1262&navTree\[\]=1296&navTree\[\]=1166](http://www.universityproducts.com/cart.php?m=product_list&c=1166&primary=1&parentId=&navTree[]=1262&navTree[]=1296&navTree[]=1166).

³⁴² CR – Conservation Resources UK Ltd., Wishab Dry Cleaning Sponge – Soft, accessed February 20, 2013 http://www.conservation-resources.co.uk/index.php?main_page=product_info&products_id=738.

³⁴³ Preservation Australia, Akapad Drycleaning Sponges, accessed December 7, 2012, <http://www.preservationaustralia.com.au/products/range/cleaning/akapad>.



Figure 85. Dry-cleaning could be carried out with soft wide brushes, dry-cleaning sponges made of vulcanized natural rubber or Akabad Dry Cleaning Sponge.



Figure 86. A test-patch made on a panel of a Chinese wallpaper from the Esterházy Palace.

Sponge³⁴⁴ and Akabad Dry Cleaning Sponge, polyvinyl chloride erasers are also suitable. A grated PVC eraser is not suitable for working *in situ*, since it may leave residue embedded in the fibres, paint layers and between cracks of varnished or layered wallpapers. When PVC erasers are used, one needs to remove dirt evenly without staining and streaking. Such erasers as a Staedler Mars 52650 and Magic Rub remove dirt effectively and gently.³⁴⁵

4.2.8. Consolidation

Wallpaper is a printed material, and is above all valued for the decorative properties of its visual impact. To preserve the aesthetic appearance of a wallpaper, it is essential to preserve its printed layer. One of the most discussed principles of conservation ethics is the principle of reversibility. This is particularly difficult during consolidation, since adhesives inserted to saturate powdery pigments are usually permanent.³⁴⁶

Loose and unstable paint is usually visible as crumbles, losses in the printed surface, raised and cupping paint, or lifted and tented surfaces, which become more apparent when viewed with raking light.³⁴⁷ However, not only flaky pigments but also damaged paper needs to be consolidated before thorough conservation treatment. If the paper base is not too fragile, it is recommended to Hoover and brush it beforehand, removing the loose foreign particles that can become embedded in the paint layer or support during the process of consolidation and blur the image. If an object cannot be cleaned before further conservation treatment, it is recommended to combine the process of consolidation with blotter washing. For this purpose, the

³⁴⁴ Prochem Europe, Prochem Dry Chem Sponge, accessed February 20, 2013 <http://www.prochem-uk.com/product.php?xProd=243&xSec=26>.

³⁴⁵ Collier, "Wallpaper – In and Out of Context", 55.

³⁴⁶ Joyce Hill Stoner and Rebecca Rushfield, *Conservation of Easel Paintings* (Oxon / New York: Routledge, 2012), 370. Accessed February 19, 2013, http://books.google.ee/books?id=1msM3h9mbaoC&pg=PA376&lpg=PA376&dq=tea-bag+tissue,+conservation&source=bl&ots=UMkxfXN6ii&sig=_HMOj5sBCsax2JJbPtZkhB5s370&hl=en&sa=X&ei=9KEmUbPzO4qX1AXH5oGIAQ&redir_esc=y#v=onepage&q=tea-bag%20tissue%2C%20conservation&f=false.

³⁴⁷ *Ibid.*, 371.

wallpaper should be covered with a layer of facing (for more, see pp. 190–191), which will make it possible to consolidate the brittle pigment and wash the object simultaneously. After the facing has dried, the object should be placed with its printed side up onto a layer of Hollytex and two or three layers of blotting paper. The whole pile should be sprayed with distilled water, which will loosen the particles of dirt. The dirt will be absorbed by the blotting papers, which should be changed at least once or twice during the process. The layer of facing paper should be carefully removed after washing.

To prevent runny and water-sensitive pigments from absorbing into the backside of a wallpaper, the areas of the pigment should be consolidated with cyclodecane, which is commonly used as a temporary consolidant to support weak and brittle materials: textiles, objects with loose paint layers, weathered stone etc. Cyclodecane is a fitting material for consolidating runny pigments on wallpapers, since it forms a hydrophobic layer on the surface of an object, which protects it from water and aqueous solutions, as well as polar solvents.³⁴⁸ Cyclodecane sublimates from the material over the course of time.

A consolidant is an adhesive carried in a solvent at the minimum concentration necessary to re-attach a medium to a support.³⁴⁹ Depending on the degree of fragility, the paint can be either consolidated locally with a soft brush or overall with the aid of spray bottles, vapour beam pens, airbrush guns and the like.³⁵⁰ The success of a consolidation of aerosols depends on the original paint materials and on the interaction of the adhesive, solvent, and spraying tool.³⁵¹

The matte surface of a wallpaper is often treated with water-soluble binding agents, which may be applied either locally or to the entire surface. To effectively consolidate a paint layer, the conservator must know its composition, solubility, sensitivity to

³⁴⁸ Tsüklodekaan ja selle kasutamise paberi konserveerimises. Metoodiline juhend, Nr. 1, ed. Heige Peets. Accessed on June 17, 2013, http://www.kanut.ee/juhendid/broshyyr_tsyklododekaan.pdf.

³⁴⁹ Collier, "Wallpaper – In and Out of Context", 55.

³⁵⁰ Hill Stoner & Rushfield, *Conservation of Easel Paintings*, 377.

³⁵¹ *Ibid.*, 378.

heat and moisture, strength and flexibility, as well as the point of application for any material to be introduced.³⁵²

The most common consolidants used in wallpaper conservation are organic adhesives, such as gelatine, sturgeon glue³⁵³ and funori algae,³⁵⁴ which are frequently used for their matte properties. Since sturgeon glue and funori algae are very expensive, they are commonly used to consolidate small areas.

Before applying an adhesive to the surface of a wallpaper, it is important to test its effectiveness, for some consolidants may cause staining or even leave a residual sheen on the surface of a paper. (**Fig. 87**) It is important to apply the consolidant on the problematic areas as evenly as possible.

Purified gelatine, which is commonly used in conservation, is a modified form of glue used in the food and photography industries. Since it is clear, colourless, light resistant and has low viscosity, it is suitable for wallpaper conservation. It does not tend to gel in diluted concentrations, and can be used cold or warm.³⁵⁵ The concentration of a gelatine solution depends on the character and extent of a treatment. If a certain pigment or small area needs to be consolidated, a 2%–5% gelatine solution in ethanol should be applied locally with a brush. Spray bottles used for distributing a consolidant require very diluted adhesives (1%–2% solutions), so that the sprayer does not become clogged.³⁵⁶

Another frequently used adhesive is sturgeon glue, which has great strength in low concentrations, is nearly colourless, and is the most flexible and the least shrinking of all the collagen glues.³⁵⁷ Because it has a low viscosity and gelation temperature, it can be used at cooler temperatures and remains liquid longer than other animal glues.³⁵⁸

³⁵² *Ibid.*, 371.

³⁵³ GMW für Papierrestauratoren, Sturgeon Glue, 10 grams cost 19,50 €, accessed June 7, 2013, <http://www.gmw-shop.de/shop-uk/klebstoffe---klebstoffbereitung/stoerleimchips.php>.

³⁵⁴ GMW für Papierrestauratoren, Funori, 25 grams cost 19,80 €, accessed June 7, 2013, <http://www.gmw-shop.de/shop-uk/klebstoffe---klebstoffbereitung/funori.php>.

³⁵⁵ Hill Stoner and Rushfield, *Conservation of Easel Paintings*, 372.

³⁵⁶ *Ibid.*, 378.

³⁵⁷ *Ibid.*, 318–328.

³⁵⁸ *Ibid.*, 372.

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Figure 87. Consolidating loose paint on the panoramic wallpaper “Eldorado”. Photo was taken during the relocation of the wallpaper collection of the German Wallpaper Museum in Kassel.



Figure 88. Facing consolidates flaky pigments and loose pieces of paper until further treatment.



Figure 89. Applying overall facing is easier done in a team.

Japanese Funori algae³⁵⁹ are used to work locally with fine brushes on areas of runny pigments. Although the Funori is applied on a paper in generous quantities, when it dries its bulk is not apparent and appears matte.³⁶⁰ Although several of the consolidants are water-soluble, they can be used for treatments of wallpaper with cold or slightly warm water.

4.2.9. Facing

Facing is a temporary treatment used to consolidate a printed layer, as well as a fragile paper base. It is widely used by wall-painting and easel-painting conservators. The use of this technique for wallpapers raises interesting ethical questions and highlights the contrasting attitudes of fine art and archival paper conservators.³⁶¹ In many instances, wallpapers are salvaged during redecoration, refurbishment or even demolition. Severe damage caused during their removal often leads to the use of more radical and interventionist conservation treatments.

There are several positive properties of facing. Besides strengthening and supporting heavily damaged fragmented papers, it consolidates flaky paint until further treatments. **(Fig. 88)** Facing is particularly useful for *in situ* projects and over-sized wallpapers. It can be used successfully when dismounting a wallpaper or separating a layered section of several over-sized wallpapers. Additionally, facing allows fragile and fragmented papers to be separated, washed and lined. After washing and lining, facing paper is removed by spraying the recto side of the wallpaper with distilled water. It is then removed carefully piece by piece, being careful to prevent any further damage.

Facing includes the adhesion of a support to the printed surface of a wallpaper, either locally or overall. **(Fig. 89)** A thin tissue with a good wet strength is usually used as a support; it should absorb and transmit water well without excessive shrink-

³⁵⁹ Françoise Michel et al., "Funori, ein japanisches Festigungsmittel für matte Malerei", accessed December 8, 2012, http://www.empa.ch/plugin/template/empa/*/20447.

³⁶⁰ Debra Evans, "Funori: A Short Description, Recipe and Source" in JAIC Online (1984), accessed December 8, 2012, <http://cool.conservation-us.org/coolaic/sg/bpg/annual/v03/bp03-05.html>.

³⁶¹ Collier, "Wallpaper – In and Out of Context", 56.

age. As mentioned above, Markus Krön and his team have used a tissue known as Renova for facing. In Eastern Europe, including Estonia, a product known as *Mikalent* has been used for the facing of paintings and printed paper objects. Since *Mikalent* is very expensive and difficult to obtain, other alternatives may be used instead. The aforementioned interleaving tissue L2, Japico's Kuranai Natural or Abaca tissue can be used.

Facing consists of appropriately sized tissue squares placed over areas of loose paint or, in the case of thin and fragile wallpapers, overall. Adhesive is applied either onto a piece of facing tissue or through the tissue using a soft brush, hand sprayer or airbrush.³⁶² It is applied to the surface of the object with a very low concentration adhesive. Before continuing with the next steps of the treatment, it is necessary to let the adhesive dry.

The most commonly used consolidants in wallpaper conservation are gelling agents, such as methyl cellulose and methylhydroxyethylcellulose adhesives, e.g. Tylose MH300.³⁶³ In both cases, the recommended concentration for facing is 1–2%. They are opaque, water-soluble adhesives with high viscosity. Since methylcellulose is a surface-active agent, it functions as a consolidant as well as a cleaning medium. After methylcellulose has loosened the particles of dirt on the surface and inside the material of a wallpaper, the amount of dirt can be decreased either by blotter washing (for more, see pp. 192–194) with the help of a large amount of distilled water or by removing the layer of facing. The latter absorbs and binds the loose particles of dirt found on the surface of a wallpaper.

Gelled consolidants are applied to wallpaper with the help of tissues, which need to be covered with a fine layer of a gel prior to facing. The amount of the consolidant cannot be precisely specified, but it should be enough to enable one to attach a piece of facing tissue onto a wallpaper.

³⁶² Hill Stoner and Rushfield, *Conservation of Easel Paintings*, 376.

³⁶³ Deffner & Johann, *Restaurierungsbedarf und Denkmalpflege seit 1880*, Tylose[®] MH 300 P2, accessed February 20, 2013 <http://www.deffner-johann.de/tylose-mh-300-p2.html>.

4.2.10. Washing

Since it is not possible to wash wallpapers preserved *in situ*, washing can only be carried out on dismantled wallpapers. Washing is the most effective way to decrease the amount of degradation products on the paper. However, it is not appropriate for every wallpaper, since washing may lead to dissolving the paint media and sizes,³⁶⁴ which will alter the wallpaper's appearance. For this reason, it is necessary to carry out solubility testing on the media, coating and varnishes prior to any aqueous treatment.

The larger and more fragile the object, the more complicated the washing treatment. When wet, paper will become significantly more fragile, particularly embrittled poor quality or thin Chinese wallpapers. A combination of wet treatment procedures, such as consolidation, facing, washing and lining, is recommended, as this reduces the risk of a weakened support and media through repeated wetting.³⁶⁵

To wash wallpapers, three standard techniques can be used: blotterwashing, float washing and immersion. However, blotter washing was the only method used to wash certain research objects of the thesis study.

Blotter washing is suitable for large, brittle and moderately water-sensitive wallpapers that cannot be treated by the float washing method. Wallpaper supported by a piece of Hollytex or ParaFil is placed with the printed side up onto two to three layers of acid-free blotter paper, which should be bigger than the object itself. After the wallpaper is evenly sprayed with a thin mist of distilled water, the blotters are left to absorb the excessive moisture, which loosens impurities and degradation products, and the components of internal and surface sizing. **(Fig. 90)** In addition, it helps to keep the object flat. Impurities not absorbed by the blotters should be removed manually by gently dabbing the surface of the wallpaper with cotton swabs or paper tissue. **(Fig. 91)**

³⁶⁴ Collier, "Wallpaper – In and Out of Context", 56.

³⁶⁵ *Ibid.*, 57.

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Figure 90. Mag. Markus Krön blotter-washing a panel of wallpaper in his workshop in Streitdorf, Austria.



Figure 91. The impurities not absorbed by the blotters should be removed manually. Photo was taken during the relocation of the wallpaper collection of the German Wallpaper Museum in Kassel.

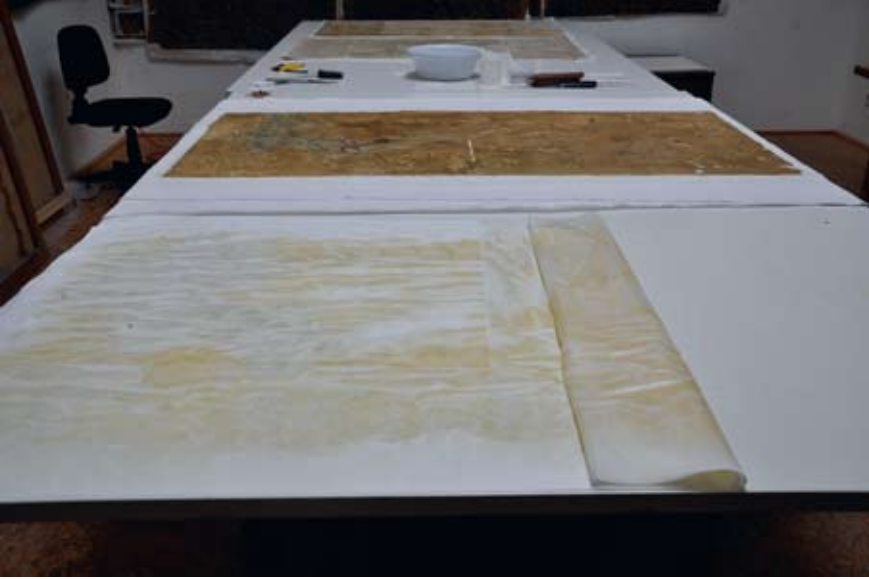


Figure 92. Blotters should be changed two to three times to remove possibly much dirt accumulated in paper.

The blotters should be replaced when necessary (usually two or three times) with dry ones until the majority of the accumulated dirt seems to have been washed off. **(Fig. 92)** The Chinese wallpapers from the Esterházy Palace were washed on blotters to remove the discoloured products of degradation from the paper fibres and soften dark tide-lines.

Since the paper of the wall cover was very thin and fragile, it was important to wash it on blotters to avoid any further damage to the material. According to my observations, blotter washing reduces the risk of runny printing paint spreading along the surface of the original, which may happen during float or immersion.

No object analysed in this thesis research was treated by float washing or immersion. More information about float washing and immersion can be found in the tutorial material of the Paper Conservation Catalogue, published from 1984 to 1994 by the AIC Book and Paper Group.³⁶⁶

³⁶⁶ Paper Conservation Catalogue, accessed January 8, 2013, <http://cool.conservation-us.org/coolaic/sg/bpg/pcc/>.

4.2.11. Bleaching

Bleaching is probably one of the most harmful and discussed techniques in paper conservation. For this reason it is seldom carried out.

The most common means used for bleaching are such chemicals as hydrogen peroxide, chlorite/chlorine-dioxide solutions and hypochlorites³⁶⁷. Chemical bleaches are powerful chemical agents that destroy colour by breaking and re-forming covalent bonds within organic colouring matter. They are, consequently, the most potentially damaging chemicals used in paper conservation treatments and their use should only be considered when all other means of removing discolouration have been fully explored.³⁶⁸

Besides chemical bleaches, a method of aqueous light bleaching has been developed, which is considered to be less harmful; it is easier to control and gives equally good results. The process is carried out in a bath of alkalized water or on a locally wet paper in the presence of sunlight or artificial light.

The lightening of coloured materials or chemical oxidation are the main reactions that take place during bleaching. Since it is difficult to limit the extent of the reaction solely to the stains or darkened areas, both paint and paper are usually damaged.

Heavily moulded and discoloured wallpaper strips found in the attic of the Esterházy Palace needed to be bleached to match them with better-preserved panels. Despite repeated blotter washing, the panels had retained their dark yellowish appearance and it was decided to bleach them. Before using chemicals, a test of light bleaching was carried out. (**Fig. 93**) A small segment of a wallpaper sample was covered up to distinguish the difference between bleached and unbleached areas. The whole process lasted for six hours, during which the sample was examined after every hour.

³⁶⁷ Kruth, "Paper Conservation Update: Bleaching and Fumigation", 1989.

³⁶⁸ Anthony W. Smith, "Bleaching in Paper Conservation" in *Restaurator. International Journal for the Preservation of Library and Archival Material*. Band 22, Heft 2-4, Seiten 223-248, ed. G. Banik and I. Brückl, (2012), accessed January 3, 2013, <http://www.degruyter.com/view/j/rest.2012.33.issue-3-4/res-2012-0011/res-2012-0011.xml>.

Since light bleaching did not produce an acceptable outcome, it was decided to do a test of chemical bleaching. Hydrogen peroxide (a concentration of 3%) was used. As a result, the colours looked matte and slightly paler, but the dark tide-lines and darker areas had become considerably lighter than they were before the process.

4.2.12. Infilling *in situ*

Infilling is a standard practice of mending losses and tears in paper. The process improves the aesthetic properties of an image and the dimensional stability of a lined object that has suffered major losses, and prevents the collecting of dirt on damaged edges. According to modern conservation principles, it should be carried out with high-quality acid-free papers with matching weights, tones and textures. For this purpose, the most common Japanese paper, *washi*, made from fibres of three plants (*gampi* tree, *kozo* plant or *mitsumata*) are used. Damages are mended with small torn paper strips, “bridges”, and archival starch paste.

There are two methods of making in-fills on wallpaper *in situ*.

To fill smaller cavities in thick or embossed wallpaper, a mixture of acid-free paper pulp and an adhesive is used. To form an easily applicable paper paste, an adhesive used in paper conservation, such as starch paste, Tylose MH50 or Klucel G,³⁶⁹ can be used. The latter has been proven to give the best results, since ethanol, which is commonly used as its solvent, evaporates before leaving dark tide-lines. Minor losses, such as insect holes and canals, in the surface of wallpaper can be filled with it and retouched after drying. (**Fig. 94**) The smoothness of the final outcome depends on the fineness of the paste. Since the paste tends to shrink, the method needs to be carried out repeatedly until the desired level has been reached.

³⁶⁹ GMW – Geräte, Material, Werkzeuge für Papierrestauratoren, Klucel G, accessed February 20, 2013 <http://www.gmw-shop.de/shop/klebstoffe---klebstoffbereitung/klucel-g.php>.



Figure 93. A small segment of a wallpaper was bleached with hydrogen peroxide. Before and after the treatment.



Figure 94. The minor losses in the surface of the wallpaper found in the dining-room of the Puurmani manor were filled with a fine layer of applicable paper paste.

This method was used to treat the wallpapers of the Puurmani manor. Since the majority of the wallpaper was treated *in situ*, minor losses, such as scratches, nail holes, insect holes and canals, were filled with a paper pulp made of Japanese paper (*Gampi*, 36 g/m²), smoothed to the level of the original, left to dry and retouched. Since the wallpaper did not have an embossed texture, the pulp created a smooth surface that perfectly levelled off with the original fabric.

The second method of filling losses *in situ* has been described by Thomas K. McClintock. Applying shaped patches from the front is an option best suited to *in situ* projects.³⁷⁰ A tracing needs to be made of each loss and, since the patches are less secure after adhesion, they have to cover some portion of the original wallpaper.³⁷¹ (Fig. 95) For filling losses *in situ*, acid-free paper with a comparable tone, weight and texture should be used to form a visually unified appearance. Hundreds of small losses caused by mechanical damage in the wallpaper found in the Estonian Literary Museum were filled with original material removed from behind the radiator and above the oven in the same room. Where possible, pieces with matching segments of pattern were used to complete the unity. The remaining losses were covered with pieces with a plain background colour, which formed a good basis for retouching and in-painting.

4.2.13. Lining

Lining, or backing, involves the attaching of an overall secondary structural support to the primary support of an original work of art or artefact.³⁷² Since lining with another material, such as paper and/or canvas, has been a common approach with the majority of historic wallpapers, applying a new layer of lining can be easily justified. The poor state of many primary supports caused by inherent weaknesses and/or subsequent external damage, and the need for reinforcement due to the nature of the size,

³⁷⁰ McClintock, "Compensating for Losses in Historic Wallpapers", 149.

³⁷¹ *Ibidem*.

³⁷² "Lining", Cool Conservation http://cool.conservation-us.org/coolaic/sg/bpg/pcc/29_lining.pdf.

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Figure 95. Large missing areas in the wallpaper were filled with fragments found behind the overdoors of the dining-room of the Puurmani manor.

account for the frequency with which wallpapers are lined.³⁷³ Materials used for lining should have a suitable thickness and weight; most commonly thick long-fibred japanese papers (of *Kozo* or *Gampi* fibres) are used. Wheat or rice starch paste are the usually preferred adhesives. **(Fig. 96)**

Although there is more than one method of lining, the technique applied to the wallpapers treated by the author under the supervision of Markus Krön will be described. For this purpose, the wallpaper was placed face down on a layer of Hollytex and humidified with a hake brush or a pulverizer until the object lay flat. To avoid possible tension in either the original or lining, and to make the work easier on large format objects, the lining was applied piece by piece, with maximum one-cm overlaps. **(Fig. 97)** After a piece of lining-paper had been pasted, it was brushed and taped to the verso side of the wallpaper with a wide pasting brush, a *noribake* or *uchibake*, which are hard Japanese brushes made from the fibres of a hemp palm tree. **(Fig. 98)** The object was dried face up between a layer of Hollytex and felt under weights. Such a technique is preferred for large, unwieldy and fragile papers or when using several sheets to make up the lining.³⁷⁴

Lining has the following positive properties:

- it provides a severely damaged and fragmented wallpaper with additional structural support, which allows for transportation and further preservation treatments (such as retouching, toning and mounting), storing or exhibiting.
- it provides a protective layer between a wallpaper and an additional material (the *shoji* system – discussed later), canvas, lining-paper etc. used for mounting.
- it improves aesthetic properties by flattening the object and reducing its dimensional movements.
- it reduces creasing, cockling and fill losses.³⁷⁵

³⁷³ Ibidem.

³⁷⁴ Ibidem.

³⁷⁵ Ibidem.

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Figure 96. A bowl of freshly cooked and cooled wheat starch paste.



Figure 97. A layer of lining adds extra support to the object. The given process is easier carried out in a team.



Figure 98. Uchibake made from the fibres of a hemp palm tree.

Lining is recommended for wallpapers that will be handled or remounted again. Since wallpapers preserved in museums should be observable from both sides to reveal various properties (manufacturer stamp, taxation stamp, signatures, watermarks, commentaries etc.), one should consider employing alternatives to lining.

Remounted wallpapers preserved *in situ* are occasionally attached to wooden screens (*shoji*) layered with a considerable number of linings. The type of mounting will be discussed in more detail in the following sub-chapter.

4.2.14. Remounting

In terms of remounting a historic wallpaper that has been removed for better conservation treatment, consideration must be given to the means of re-installing it. Since the wall finish partially dictates the type of mounting system, wallpapers should be remounted in the same way they were originally discovered. However, to enable the conserved wallpapers to be preserved longer, the original method can be improved on. In selecting a mounting method, the original dimensions and principles should be viewed as important qualities of the room where the preservation is conducted. Wallpaper support should not obscure the decorative mouldings at the tops and bottoms of the walls or around the doors and windows.³⁷⁶ Although remounting a wallpaper can be a very creative process and each conservator may come up with his or her own solution, there are two main types of remounting: onto a lining system pasted directly on a wall or onto a lining system attached to a structure.

In the case of the eight conservation objects, both methods were put to use. If a wallpaper has been pasted onto a wall, there is usually not enough space for a new mounting system with larger dimensions, such as a wooden framework. Although one should use the original method for remounting a wallpaper, an alternative that complies with the conservation standard of reversibility can be implemented instead. For example, an inter-

³⁷⁶ Hamm and Hamm, "The Removal and Conservation Treatment of a Scenic Wallpaper...", 1981.



Figure 99. An easily removable mounting system was built up in the Theodor Aman Museum in Bucharest. It consisted of a layer of thin cotton canvas and two layers of non-acid lining-paper.

pretation of a Japanese *karibari* system and a method of attaching wallpapers onto a canvas were discussed by Andreja Dragojevic in relation to remounting rare French wallpaper found in Dubrovnik, Croatia.³⁷⁷ In that case, the walls were pasted over with three layers of lining: 1 m × 1 m pieces of Japanese paper, previously washed and dried linen canvas and another layer of Japanese paper.

After that, an “air-pocket” layer was applied. Attaching a thicker Japanese paper layer directly onto the “air-pocket” layer in larger sheets completed the lining of the walls. Although the article does not provide any information about the adhesive, one could assume that either wheat starch paste or a mixture of starch paste and methylcellulose was used.

A much simpler combination of thin cotton canvas pasted over with two layers of non-acid lining-paper³⁷⁸ was used in

³⁷⁷ Dragojevic, “Croatia: the Story Continues”, 62.

³⁷⁸ Staufen-Demmler GmbH & Co. KG, Mal- und Zeichenpapier Skizzenpapier 50 cm x 10m.

the Theodor Aman Museum by Markus Krön and his team. The canvas and the lining-paper were applied with Metylan Extra from Henkel. (Fig. 99)

In both of the cases, the layer of canvas should allow for fast, safe and easy removal of a wallpaper if necessary. The method allows for the dismounting of a wallpaper in large integrated segments. In my opinion, the removal of large segments is preferable to dismounting separate strips, since it helps to preserve the newly created integrity of an object. In addition, the canvas provides the object with additional support for packaging and transportation.

If only one or a few segments of wallpaper are dismounted for conservation, it is reasonable to continue using the original mounting method, which helps to maintain the dimensions inherent to the object. A few heavily moulded strips and mechanically damaged borders from the Puurmani manor were removed from their original location to allow for better conservation in a workshop. Since they had been applied to a lining and a layer of older wallpaper, they were remounted onto two layers of acid-free Japanese paper³⁷⁹ with methyl cellulose, with an addition of wheat starch paste after their conservation.

The lining protects and separates the object from the rough surface of the wall, but it only provides minimal support if the wallpaper is to be removed.

To remount wallpapers that have earlier been attached to either wooden battens or frames covered with canvas, a structure known as a *shoji* is often recommended. It is suitable for Chinese or very fragile wallpapers. The *shoji* has been used for hundreds of years to create a rigid and flat base for artworks, such as standing or folding screens, sliding-door screens and wall and ceiling paintings.³⁸⁰ The method of applying a paper to a layer of stretched canvas has proven to damage the fragile material of the paper, because the tension and movement of the textile and paper are different. This leads to loosening of the adhesion, and tears and losses in the pigment and paper. The

³⁷⁹ *Gampi*, 36 g/m²

³⁸⁰ Meredith, Sandiford & Mapes, "A New Conservation Lining for Historic Wallpapers", 43.

shoji system is suitable for rooms where big shifts in relative humidity are expected and is an optimal solution for dealing with the stretching and shrinking of wallpaper.

The base of the system is formed by light and stable wooden grids or frames, which are easy to mount and dismount. Since they are most commonly made of spruce, using the services of a skilled carpenter is highly recommended. A description of the preparation of a five-layer *shoji* frame is given in the article *Der Blaue Salon im Schloss Schönbrunn – zur Restaurierung und klimagerechten Montage chinesischer Tapeten*, by Karin Troschke (1994).

The system consists of stretched and loose layers, which are pasted over each other. While preparing the frames, it is important to pay attention to both the front and back sides of the frame. The latter needs to be covered with as many stretched layers as the front side to keep the frame straight. The frames are mounted onto a system of laths attached to the wall. After the frames are lifted to the laths, they can be moved to the left or right to the chosen location on the wall.

With the help of the *shoji* system, remounting and dismantling large format wallpapers has become easy and safe. Besides using it in a historic interior, the system can be used in a gallery of a museum. It is a method that offers an improved alternative to traditional frames covered with canvas. However, using canvas as a lining should definitely not be excluded as an option. Although wallpaper is rarely mounted onto canvas lining nowadays, objects that have preserved their original mounting systems and are in stable condition should be kept as they are.

The choice of the mounting system depends on the condition of the object and the environment in which the wallpapers are going to be exhibited. In the case of the thin and fragile Chinese wallpapers from the Esterházy Palace, the *shoji* system seemed to be the best solution, since the wallpapers were sensitive to movement and dimensional changes in the lining system. **(Fig. 100)** The *shoji* system was implemented by using wheat starch paste in various concentrations. The same adhesive was used to apply the Chinese wallpapers to the *shoji* frame. Using the previously implemented method would have resulted in the

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Figure 100. Large prepared *shoji* frames before and after mounting the panels of the Chinese wallpapers from the Esterhazy Palace.

occurrence of similar damages, which the team of Markus Krön needed to deal with.

It was possible to use the original function of the *shoji* system. As mentioned before, *shoji* was used in Japan to build folding-screens, sliding-doors and other elements in oriental buildings. In the case of wallpapers, a method now known as the *Schablonentapete* from Freyschlössl in Salzburg was used to build a large walk-through closet. Since the wallpaper could not be exhibited in its original location, another solution needed to be developed to preserve the decorative function of the object. The wallpaper was attached to *shoji* panels, which functioned as the cover and sliding-doors of the closet. In my opinion, the solution can be seen as a kind of preservation compromise, which enabled the preservation of the physical integrity and decorative function of the wallpaper in the room where it belonged.

The described system can be applied either to a whole object or to a segment of it, as long as the dimensions of the original system are not altered. A separate segment applied to a *shoji* frame should be easily integrated into a historic setting.

4.2.15. Retouching

Retouching is the last and usually the most time-consuming aspect of the whole conservation process. It is used to minimise the disfigurement of images and unify the overall visual impact of an object.³⁸¹ According to Cesare Brandi, disfigurement or a painful interruption in a form is called a lacuna.³⁸² In the artistic domain, a lacuna is when there is an aggressive interruption of the figurative pattern that is consequently perceived as a part of the foreground of the image, and the comprehension and the meaning of the artwork are damaged.³⁸³ Lacunae in wallpaper include scratches, edges of tears, holes, sprinkles of unremov-

³⁸¹ Doris A. Hamburg, "The *in situ* Conservation Treatment of a Nineteenth-Century French Scenic Wallpaper: *Les Paysages de Télémaque Dans L'île de Calypso*" in *JAIC Online*, (1981), accessed December 8, 2012, http://cool.conservation-us.org/jaic/articles/jaic20-02-007_indx.html.

³⁸² Brandi, *Theory of Restoration*, 92.

³⁸³ Naila Murray and Eduard Vazquez, "Lacuna Restoration: How to Choose a Neutral Colour?", accessed February 17, 2013, http://www.create.uwe.ac.uk/norway_paperlist/murray.pdf.

able paint, dark tide-lines, moulded and darkened areas, and losses in printing media and paper.

Since there is hardly any artistic tradition in the conservation of art on paper,³⁸⁴ the principles of wallpaper retouching have been most commonly influenced by those used in painting conservation.

The intensity and extent of retouching should be chosen according to the appearance and stage of decay of a whole interior. A wallpaper which is conserved close to its former state should not dominate the whole room, but rather form a balanced unity with other decorative details. Moreover, since the effects of retouching a paper object are irreversible, retouching is often considered not to be the best treatment for a historic wallpaper. That is why it is most commonly undertaken on exhibited samples and prestigious *in situ* wallpapers which form a part of a decorative scheme.³⁸⁵

According to Knut Nicolaus, there are four different methods of retouching: normal, total, neutral and *Tratteggio* retouching (developed according to a theory by Cesare Brandi). Of the four methods, total retouching and *Tratteggio* are considered physically reconstructive methods, and normal and neutral retouching are optically reconstructive methods.

In addition, there are innumerable transitional forms and combinations of the mentioned methods. For the decorative and depicting properties of wallpaper, it can be compared to a painting. This means that all the types of retouching used in painting conservation can be implemented to conserve wallpapers.

The aim of **normal retouching** is to create an optically uniform image when observed from a viewing distance. The lacunae are “muted” and bound to the rest of an image with the help of fine modelling lines or dots, which aim to imitate the colours and missing forms. The retouched areas should not be registered by the naked eye, but only distinguishable with a magnifying glass or through closer examination.³⁸⁶

³⁸⁴ Troschke, “Der Blaue Salon im Schloss Schönbrunn...”, 75.

³⁸⁵ Collier, “Wallpaper – In and Out of Context”, 58.

³⁸⁶ Knut Nicolaus, *Handbuch der Gemälderestaurierung*, 294 – 295.

The patterned areas of the wallpaper from the Estonian Literary Museum were conserved *in situ* and were treated with normal retouching, using crayons. The normal retouch enabled the lacunae to be visually bound to the original. They could not be noticed from a distance, but only through closer observation.

It is hard to distinguish the difference between normal and total retouching. However, perfect **total retouching** integrates fully into the original.³⁸⁷ The treatment is strictly limited to the area of the loss. Since total retouching is not distinguishable, the extent and character of the treatment should be described in documentation.³⁸⁸

Since the wallpaper in the Puurmani manor had a smooth surface with a busy dark pattern, it was easy to hide minimal and even larger losses. Small lacunae were perfectly integrated into the rest with the help of total retouching. They could not be visually distinguished from the original. However, large lacunae were treated with normal retouching. Although the lacunae were filled with modelling lines in a matching tone, they could still be clearly distinguished from the original. (Fig. 101)

In case of neutral retouching, the missing areas are filled with a neutral tone. However, there is no inherently neutral tone. It needs to be chosen according to the location and proximity of the losses. There are two methods of neutral retouching:

- One neutral tone is chosen to fill all the lacunae.
- Different neutral tones are used in lighter and darker areas of an object.³⁸⁹

In contrast to the wallpaper in the Puurmani manor, the wallpaper in the Estonian Literary Museum had a sparse pattern on a shiny and textured background, which made it difficult to imitate with watercolours or gouache. Both of the paints create a rather matte and homogeneous surface, which is easily

³⁸⁷ Ibid., 295.

³⁸⁸ Kristel Leivo, “Kunstiteose esteetilise terviku taasloomise vajadustest ja ideedest: Elmar Kitse seinamaali restaureerimise lugu” (Bachelor thesis, Estonian Academy of Arts, 2005), 14.

³⁸⁹ Nicolaus, *Handbuch der Gemälderestaurierung*, 290.

legible on a shiny background from a certain angle. To prevent the defined lacunae from being easily visible, it was necessary to find another medium which would give the loss only a haze of tone. After several tests with other materials, crayons were chosen to finish the treatment. By using two or three different tones, a very fine slightly vibrating outcome, which let the background colour shine through, was created.

Tratteggio and its variations involve a system made up of vertical lines that, when viewed from a distance, form a tone (or pattern) that integrates the lacunae into the original. It is a reconstructive method which can be distinguished from the original. In *tratteggio*, three main tones, yellow, red and blue, are combined and applied as successive layers until the desired tone is obtained.

Similarly to neutral retouching, *Tratteggio* helps to present the primary properties of an original. The decisive difference between these two methods is the use of lines. Surfaces treated with **neutral retouching** may look monotonous or dull in comparison to the losses filled with *Tratteggio*. However, the level of dullness depends on the quality of the work, the conception and the aim of the conservation treatment. According to the general idea of neutral retouching, lacunae are neutralized, so that the aesthetic whole can be reconstructed optically.

As a rule, physically and optically reconstructive techniques are combined with each other.

Large losses on the panels of the Chinese wallpaper from the Esterházy Palace were retouched using a version of *Tratteggio*. Instead of the three basic tones, other tones were used to obtain the expected result. **(Fig. 102)**

Since several panels had been damaged by humidity, mould and discolouration, their light background had lost its homogeneous appearance. To cope with the unevenly toned surface, the *Tratteggio* method seemed to be the best choice. Since the method lets a conservator vary the tone within one lacuna and build it up layer by layer, it is possible to integrate an otherwise homogeneous loss into a visually uneven environment.

Objects that have survived only in fragments are commonly preserved and exhibited as ruins. Instead of reconstructing the

Preservation of wallpaper as a part of interiors



Figure 101. Missing areas in the wallpaper of the Puurmani manor's dining-room were integrated into the rest with the help of modelling lines in matching tones.



Figure 102. Large losses have been treated with a method interpreting *Tratteggio*.



Figure 103. If damaged wallpapers are not planned to be exhibited, they should not be retouched.

unity of an object, fragments are treated in a basic fashion. If lacunae break the unity of an object, they can be reduced with light toning or optical structuring of the background.³⁹⁰

Two of the historic wallpapers found in the small palace of Freyschlössl in Salzburg had survived in fragments. Both of them had non-repeating decorations, which would have been complicated to reconstruct. It was decided to conserve and preserve both of them *in situ* as ruins. Since there were no plans to exhibit them, no retouching was necessary. **(Fig. 103)**

Throughout the treatment of an object, different methods of retouching can be combined.

In the case of widespread loss, the right strategy is to address all of the smaller networks of loss first. As areas surrounding a larger loss become unified in appearance, the manner of handling the colour and opacity of the design becomes apparent.³⁹¹

Finding matching tones is the greatest challenge, because even one that appears to be the same may not be the same once it is applied. The best method of choosing a matching tone is

³⁹⁰ Leivo, "Kunsteose esteetiline terviku taasloomise vajadustest ja ideedest...", 15.

³⁹¹ McClintock, "Compensating for Losses in Historic Wallpapers", 149.

selecting the one which triggers the least visual attention, taking into account the composition of the wallpaper and the location of the lacunae on that wallpaper.³⁹²

Before treating large areas, it is necessary to do a test-patch. It is also important to keep in mind that retouching involves the colouring of lining-paper, which does not have entirely the same characteristics as the original. A filling-paper may absorb paint more than the original, and its surface may have a slightly different texture and shine. In the case of the Chinese wallpapers from the Esterházy Palace, large losses that needed to be retouched were covered with two layers of lining, first a layer of short-fibred silk tissue paper³⁹³ and then a Japanese paper.³⁹⁴ The short-fibred silk tissue had similar properties to the original material and provided conservators with an even surface for retouching. Retouching can usually be carried out by using watercolours, gouache, crayons and dry pastels. Opaque colours, such as gouache, are used for opacity and texture. They are preferred because the desired tone can be built up to allow for gradual adjustment of value, hue and intensity.³⁹⁵ Acrylic paints are not recommended since they are irreversible and lack versatility.³⁹⁶

Retouching is not used only to fill in lacunae, but also to hide darker areas which break the visual unity of an object and cannot be reduced by a conservation treatment. Such damages include dark tide-lines, areas discoloured by mould, non-removable splashes of paint, adhesive and over-paintings. McClintock has described a technique of opaque glazing which implements the hiding power of watercolours mixed with titan white pigment or ground pastels. Since the glazing will cover not only the lacunae, but especially the original surface, it is highly recommended to use the technique of opaque glazing for limited cosmetic treatment.³⁹⁷

³⁹² Murray and Vazquez, "Lacuna Restoration: How to Choose a Neutral Colour?", http://www.create.uwe.ac.uk/norway_paperlist/murray.pdf.

³⁹³ KLÜG Conservator, Silk tissue on reels – without buffer, accessed December 8, 2012, <http://www.klug-conservation.com/?site=produkte&id=532>.

³⁹⁴ Kozo paper, 30 g/m².

³⁹⁵ McClintock, "Compensating for Losses in Historic Wallpapers", 151.

³⁹⁶ *Ibidem*.

³⁹⁷ *Ibidem*.

For instance, the embossed wallpapers from the Theodor Aman Museum had been extensively retouched using an unknown paint in an inappropriately dark and glittering tone during a previous conservation treatment. **(Fig. 104)**

Since it was impossible to remove the retouches, it was decided to cover them with opaque glazing, which would help to re-create the aesthetic unity of the object. If the wallpaper had been exhibited without additional treatment, the retouched areas would have dominated the original and created a patchy outcome.

4.2.16. Conclusion

Wallpapers are fragile over-sized paper objects integrated into an interior. Since they cover large areas, they are vulnerable to various types of damage. Any kind of damage can be minimized by regular monitoring and constant care, as the main harm is caused by humans. Thus, besides practical conservation, it is also important to inform the public of the importance of historic wallpapers and options for their better preservation.

According to contemporary conservation theory, historic fixtures and applications, such as wallpapers, should not be separated from their original environments and should be preserved in their original locations. As mentioned above, this is not always possible. Depending on the circumstances, there are various scenarios for preserving a wallpaper in an interior. The task of conservators is to develop the most suitable preservation treatment by combining various methods of practical conservation. This depends on the results of monitoring and research preceding the conservation process.

Basically, all paper conservation methods can be applied to preserve historic wallpapers. However, to maintain them as a part of interiors, additional treatments inherent to the preservation of other materials need to be implemented. For example, similarly to painted surfaces, wallpapers can be retouched to restore their aesthetic appearance. However, when returning a wallpaper to its original location one should pay attention to the mounting method, which should follow the properties of the original method, as well as the dimensions of the room.



Figure 104. Example of inappropriate retouching and overpainting.

Since conservation can alter the properties and appearance of an object, it is important to include detailed documentation, which can prove to be invaluable material for future conservators. Besides documenting the methods and materials used during a conservation process, documentation should also include descriptions of excluded conservation scenarios.

5

TASK OF
CONSERVATION.
CASE STUDIES

5.1. PUURMANI MANOR, JÕGEVAMAA, ESTONIA

5.1.1. History of the building



Figure 105. Puurmani manor in Jõgevamaa, Estonia

The early history of the Puurmani manorial estate is associated with the Kursi fortress of the Teutonic Order, which was destroyed during the Livonian War (1558–1583).³⁹⁸ The name of the Puurmani manor (in German *Schloss Talkhof*) derives from Major General Christopher von Buhrmeister and his family, who acquired the property from Queen Christina of Sweden in 1645. Through his heirs, it changed hands and became a property of the Manteuffels around 1713. The estate remained in their possession until 1919.³⁹⁹ Although the development of the manorial centre started in the 1860s,⁴⁰⁰ the current residence was built by the architect Friedrich Hübbe in 1877–1881 for Count Ernst von Manteuffel.

³⁹⁸ Ants Hein, *Eesti mõisad* (Tallinn: Kirjastus Tänapäev, 2002), 71.

³⁹⁹ *Ibidem*.

⁴⁰⁰ Maiste, *Eestimaa mõisad*, 321–322.

It is one of the most beautiful Neo-Renaissance palaces in Estonia, with its symmetrical facade structured by round arched windows and intermediate cornices dividing the facade into horizontal spaces. Most of the indoor facilities were either oil-painted or papered.⁴⁰¹ Halls and other official rooms were decorated with complex combinations of elements from several historical styles (Renaissance, Rococo and Neo-Classicism): panelling with garlands and portrait medallions, fluted columns, and strictly symmetrical ceiling rosettes combining bouquets and vases. There are examples of high quality carpentry, such as doors embellished with torches and laurel wreaths, decorative consoles, cornices and a coffered ceiling in the dining-room.⁴⁰² After expropriation in 1919, the main building of the manor has been used as a school since 1926.⁴⁰³ Nowadays, the Puurmani Secondary School is located in the building.^{404 405}

5.1.2. Situation preceding conservation

During the research on the decorative layers, multiple wallpaper fragments were found on the first and second floors of the manor. Over ten wallpapers were found under the baseboards and behind window hatches. The earliest wallpapers dated to the beginning of the 1880s, when the building gained its current form.

The most interesting of all the fragments was found in the former study of Count von Manteuffel, where a wallpaper depicting a pattern inspired by American Indians was found. **(Fig. 106)** Besides multiple fragments, five wallpapers and two borders were found that had survived more or less intact under wooden panelling in four rooms. They were found in the dining room, entrance hall, former bedroom **(Fig. 107)** and dressing room of Countess von Manteuffel.

⁴⁰¹ Ibidem.

⁴⁰² Olev Suuder, "Puurmani mõis" in *Eesti arhitektuur 4. Tartumaa, Jõgevamaa, Valgamaa, Võrumaa, Põlvamaa*, ed. Villem Raam (Tallinn: Valgus, 1999), 104.

⁴⁰³ Hein, *Eesti mõisad*, 71.

⁴⁰⁴ Puurmani Gümnaasium, accessed December 17, 2012, <http://www.puurmani.edu.ee/>.

⁴⁰⁵ Kultuurimälestiste Riiklik Register, Puurmani mõisa peahoone (Mälestise number 23988), accessed May 25, 2013, <http://register.muinas.ee/?menuID=monument&action=view&id=23988>.



Figure 106. Wallpaper fragments found in the study of count Manteuffel.



Figure 107. Fine *Toile de Jouy* wallpaper found in the bedroom of countess Manteuffel.

Under the Neo-Rococo panelling of the dressing room, a large amount of wallpaper with *chinoiserie* motifs was found. Its pattern was made up of four allegorical compositions, depicting scenes of Chinese everyday life. **(Fig. 108)** The choice of wall covers seemed to have been influenced by the 18th-century fashion of decorating the private rooms of a female patron with *chinoiserie* wall covers. Although only one panel had been removed to exhibit the wallpaper, most of it seemed to have survived basically intact. A fragment of a border and plain paper was accidentally removed from the wall during construction work. It revealed a tripartite decoration scheme, which consisted of a filling, border and strip of plain paper. A similar scheme had been used in the dining room of the Puurmani manor.

Since the author was responsible for the development of the conservation concept and the treatment of the wallpaper in the former dining room, the case study will focus on this particular object.

More than 50 m² of wallpaper was found under a wooden dado covering the lower part of the wall in the former dining room. Although there was no documentation, it could be assumed that the panelling had been attached to the wall in the 1920s, when the manor was turned into a local school. The original plan was to preserve the wooden panelling intact, with the wallpaper exhibited within one segment of the panelling. However, since the wallpaper was considered to be an exceptional object, all of the panelling was removed.

The wallpaper had survived up to a height of 174 cm on three of the four walls. Close examination revealed that the walls were covered with two layers of wallpaper.

The older layer had been applied on the wall at the beginning of the 1880s. **(Fig. 109)** It depicted a composition of hunting trophies, including a bugle, a pouch for gunpowder, a grouse and a head of a deer which had been adjusted into a half-drop pattern. Since the surface of the wallpaper had been treated with shellac, it had a shiny appearance similar to polished wood.

The upper decorative layer consisted of a wallpaper, a border with matching corner pieces and a monochrome paper. **(Fig. 110)**



Figure 108. Well-preserved *chinoiserie* wallpaper exhibited within a segment of Neo-Rococo panelling.



Figure 109. Older layer of wallpaper in the dining-room of the Puurmani manor.



Figure 110. A segment of the three part decorative scheme found in the dining-room.

The wallpaper imitated an embroidered or woven textile, which depicted green lush foliage with exotic birds, insects, and various fruits and flowers. **(Fig. 111)** From the pattern type and available analogues, it was dated between the 1890s and 1910s.

Historicist patterns, and especially imitations of various materials, were still widely used in fashionable Estonian interiors until the beginning of the 20th century.⁴⁰⁶ The surviving wallpaper and additional applications revealed a three-part decoration scheme, which had been popular between the 1870s and the beginning of the 20th century, when it was recommended for use in rooms open to guests,⁴⁰⁷ such as parlours and dining rooms.⁴⁰⁸ According to literature from the end of the 19th century, it was recommended that walls be separated from ceilings and floors visually. For an artistic result, decorators started to frame wallpapers with borders on all four sides.⁴⁰⁹ In the dining room in the Puurmani manor, the wide border was sided by an additional strip of plain paper, which made the result even more refined. The corners of the framing border were embellished with special applications. Due to the combination of coffered wooden ceiling, oiled floor and wallpaper, the general image of the whole room was rather dark, which was very common for historicist room decoration.

Although the decorative scheme of the Puurmani manor is the only one of its kind discovered and conserved in Estonia, several of its analogues can be seen in historical photographs. One of the most expressive examples is the salon-study of the Uuemõisa manor **(Fig. 112)**, where the filling is surrounded by a wide border and a strip of plain paper. Each segment was treated as a separate segment. A similar, but simplified version of the three-part decorative scheme can be seen in the hall of the Voose manor **(Fig. 113)**, and the boudoir and white hall of the Vääna manor.

⁴⁰⁶ Thümmeler and Turner, “Unsteady Progress: From the Turn of the Century to the Second World War” in *The Papered Wall. The History, Patterns and Techniques of Wallpaper*, ed. Lesley Hoskins (London: Thames and Hudson Ltd., 2005), 186.

⁴⁰⁷ Woods, Kosuda Warner and Jacqué, “Proliferation:...”, 152.

⁴⁰⁸ Von Savigny, “Tapeten und Dekorationsstoffe”, 199.

⁴⁰⁹ Von Falke, *Die Kunst im Hause*, 230.



Figure 111. Pattern of the wallpaper imitates a woven or richly embroidered textile.



Figure 112. Good example of three-part scheme of the salon-study of the Uuemõisa manor. ERM 887 : 399.



Figure 113. Three-part scheme with a narrow border from the hall of the Voose manor. ERM 887 : 1033.

Until the removal of the wooden over-door panels to permit their better conservation, the extent of the decorative scheme had only been an assumption. Large fragments of wallpaper and border were found behind the over-doors, which proved that the wallpaper and its applications had covered the whole wall up to the ceiling cornice. The general condition of the object, various types of damage and exact details of the conservation process are provided in the documentation form.

5.1.3. Conservation concept and treatment

The conservation treatment was carried out in co-operation with Ms. Kristiina Ribelus from the Tartu Art College. It lasted from February until July 2010.

Since about 45 m² of the wallpaper was in good condition, it was decided to conserve it *in situ*. The aim of the project was to stop further decay and form a unity with the rest of the decorative details, such as the floor, ceiling and doors.

Due to a defective rainwater pipe on the facade, the corner facing the main hall had been extensively damaged by humidity, which led to mould and discolouration of the object. **(Fig. 114)** Since five strips of heavily moulded wallpaper with borders and monochrome papers were hanging loose from the wall, it was decided to dismount and conserve them in a conservation workshop in Tartu. In addition, mechanically damaged borders from sections between windows were removed to allow for better treatment. During the conservation treatment, it became apparent that the older layer of wallpaper had been partially stripped from the wall before new wallpaper was applied. Without removing the damaged strips, it would not have become clear that only fragments of the older wallpaper had survived. Although the author had given some thought to opening and exhibiting the older layer of wallpaper within a segment of a wall, this proved to be too risky without further comprehensive research. Due to limited finances and a tight deadline, this was considered to be unreasonable. Thus it was decided to open a smaller area showing only two repeats of the pattern. Fragments



Figure 114. Corner of the dining-room badly damaged by humidity and mould.



Figure 115. After removal of the wooden over-doors, large fragments of wallpaper and border were discovered.

of the older wallpaper had survived under the newer layer and may be researched and uncovered later, when necessary.

The four doors leading out of the dining room were conserved by a furniture conservation student from the Tartu Art College/University of Applied Sciences (*Tartu Kõrgem Kunstikool*). To permit their better conservation, over-doors and doors were removed and transported to a conservation workshop in Tartu. After the removal of the over-doors, large fragments of wallpaper and border were discovered. **(Fig. 115)** The find revealed the original height and confirmed my estimates of the type of decorative scheme. It was decided to remove the fragments from behind three of the four over-doors and use them to fill in the losses caused by mechanical damage. Using original materials for replacements *in situ* preserved a certain degree of authenticity of the visual and material qualities.⁴¹⁰ The best preserved fragments were maintained under the over-door leading to the main hall.

The most demanding task of the project was to reach a conclusion concerning presenting the surviving segments of the original wallpaper and the scale of its reconstruction. Since it was not known to what extent the first layer had survived, it was reasonable to develop a concept to preserve the second historic layer.

The following four preservation approaches were considered:

- 1) to conserve and exhibit only the surviving segments of the wallpaper. The rest of the surface would be covered with a wallpaper in a matching neutral tone.
- 2) to combine the original wallpaper with a reconstruction up to the height of 174 cm. The rest of the surface would be covered with a wallpaper in a matching neutral tone. **(Fig. 16)**
- 3) to reconstruct the whole scheme. The original wallpaper would be combined with a reconstruction. **(Fig. 17)**

⁴¹⁰ Martin, "Wallpaper Reconstructions in Historic Interiors...", 95

Task of conservation. Case studies



Figure 116. Combination of the original wallpaper and a plain wallpaper in a matching neutral tone.



Figure 117. Combination of the original wallpaper and reconstruction.



Figure 118. Combination of the original wallpaper, reconstructed border and plain wallpaper in a matching neutral tone.

- 4) to combine the wallpaper with a reconstruction up to the height of 174 and mark the course of the framing border either with a reconstruction or a strip of paper in a matching neutral tone. The remaining area would be covered with a wallpaper in a neutral tone. **(Fig. 118)** Before a final decision could be made, it was necessary to take into account that wallpapers play an aesthetic and decorative role in historic interiors,⁴¹¹ and that conserving and exhibiting only the surviving segments of the whole scheme would lead to a misinterpretation of the decoration.

On the one hand, the goal of conservation is to reveal and preserve an object's true nature and true condition,⁴¹² which suggested the option of conserving the fragments of the surviving wallpaper and exhibiting it as a large ruin. On the other hand, according to the tautological point of view, the goal of conservation is to facilitate the reading of an object, to make it understandable.⁴¹³ To allow for a better understanding of a historic interior, one should preserve or restore it as an aesthetic whole. This means that the object should be aesthetically appealing and that it should reveal clear information about its decorative properties. However, to create an aesthetic whole of a historic interior, enough material about its former appearance should be provided. In the case of the material found in the dining room of the Puurmani manor, it was possible to re-create the whole. Besides being aesthetically appealing, the whole would have an educational function. By re-creating the whole or an easily legible part of the historic wall decoration, it was possible to offer the public a chance to perceive and appreciate a historic wall cover as a part of an interior.

If the wallpaper were conserved and presented in fragments, as a ruin, it could be understood and appreciated only by an expert. But with the help of reproductions, it was possible

⁴¹¹ Ibid., 88.

⁴¹² Muñoz Viñas, *Contemporary Theory of Conservation*, 91.

⁴¹³ Ibid., 99.

to create a “surrogate reality”,⁴¹⁴ which would provide a non-professional with necessary information about the decoration, tones, patterns and overall atmosphere of the papered room. An expert or a curious observer might take one step further and examine the difference between the original and the reconstruction. In this case, a reproduction could be seen as educational material, which would lead to appreciation of the original wallpaper. A comparison between old and new helps to develop a perception of original material, create values and educate about how an object should be viewed.⁴¹⁵

When the condition of a wallpaper found *in situ* is stable, it is essential to preserve it. However, if damages are too extensive it is necessary for visual authenticity to make a reconstruction of the original wallpaper in the original room. In this case, the reprint of the wallpaper is based on the remaining fragments on the wall.⁴¹⁶

Each of the four solutions would have been suitable, but one needed to be chosen. Conserving and presenting only the surviving parts of the wallpaper was rejected, since it was decided to improve the legibility of the object and its decorative properties. The second, third and fourth solutions emphasized both the decorative and the educational functions.

Although the third or the fourth solution would have been the most suitable, the second solution was chosen. The two main reasons for the decision were the limited budget and short deadline of the project. It was decided to conserve the original pieces and reconstruct the missing areas up to the level (174 cm from the floor) that the original wallpaper had survived.

⁴¹⁴ Terry Zeller, “Let’s Teach Art with Originals” in *Art Education*, Vol. 36, Issue 1, January 1983 quoted in Rebecca Gordon “The ‘Paradigmatic Art Experience’? Reproductions and Their Effect on the Experience of the ‘Authentic’ Artwork” in *Art, Conservation and Authenticities: Material, Concept, Context*, edited by E. Hermens and T. Fiske (London: Archetype, 2009), 259.

⁴¹⁵ Rebecca Gordon, “The ‘Paradigmatic Art Experience’? Reproductions and Their Effect on the Experience of the ‘Authentic’ Artwork” in *Art, Conservation and Authenticities: Material, Concept, Context*, edited by E. Hermens and T. Fiske (London: Archetype, 2009), 263.

⁴¹⁶ Martin, “Wallpaper Reconstructions in Historic Interiors...”, 88.

It was necessary to choose a matching method of reconstruction. Screen-printing, linocut and digital printing were considered as possible options.

It was decided to use the latter for the following reasons. Screen-printing and linocut are both very laborious, time-consuming and expensive means of printing: it is necessary to prepare a frame or a linoblock for each separate colour, and mix and test printing inks in matching colours. Furthermore, both of the techniques leave a rather thick layer of paint and a fine relief on the paper, which is characteristic to a block-printed wallpaper. Digital printing, on the other hand, is less demanding in terms of time and effort, and it can imitate the visual properties of patina and decay, which makes it easier to match the reconstructions with an original. However, in comparison to manually printed wallpaper, digital prints appear flatter and more lifeless.

To prepare the reconstructions, a strip of damaged wallpaper, border and corner-piece that had been removed from the wall earlier were scanned in, retouched digitally, joined into a repeating pattern and printed as separate parts onto a matte paper with an inkjet printer. Since it was not possible to print glossy metallic surfaces, golden highlights and details of the border and corner pieces were stencilled by hand. The colour scale of the reconstructions was left slightly colder to distinguish new parts from the original.

The space between the original and the ceiling cornice was filled with a beige wallpaper covered with a slightly checkered pattern, which imitated the texture of a textile or embroidery. The tone of the wallpaper was chosen according to the light background tone of the original.

The monochromatic paper strips framing the borders had been scratched and covered with splashes of lime paint. To bind the composition of reconstructed and original pieces, a handmade reconstruction of monochrome paper was placed on top of the original. The original had previously been pasted over with a Japanese paper⁴¹⁷ to protect the original from further

⁴¹⁷ *Gampi* 36 g/m².

damage. This solution ensured the preservation of the historical wallpaper *in situ* and enabled the conservators to give the object a framed and visually unified appearance.

Although the final conception was chosen in co-operation with other parties and seemed to be the most neutral solution, the author does not see it as the best possible solution to exhibit the given object. Instead of using a light-toned wallpaper, it would have been better to emphasize the dark, cave-like appearance typical to 19th century dining rooms. A wallpaper in a darker green (such as olive or moss green) tone would have been more suitable. Although the used beige wallpaper defined the height of the preserved segments of the original, it did not simulate an atmosphere of a dark and cosy historicist room. The impact of the current solution is similar to a sterile modern interior, which is exaggerated by halogen lighting and white plastic plugs and switches. The solution could have been improved in closer cooperation with an interior architect.

An inhibitory aspect of the conservation process was the lack of discussion and cooperation between different responsible parties. Several of the conservation decisions concerning reconstruction and presentation were reached through discussions with representatives of a building company, not with a responsible interior architect and cooperating conservators. According to the personal experience of the author, throughout the course of the project, the conservator was seen merely as the person conducting the work, but not as someone with necessary knowledge and power to decide. This again shows that the aim of a conservator is not only to conduct the work, but also to inform the customer and other cooperating parties about the properties of the object and various conservation solutions.

Developing an interior decoration concept for a historic monument is not a one-time undertaking, but rather a constant process, which requires the active participation of all concerned parties throughout the whole project. Since wall covers are one part of a larger unity, which is comprised of various components, lack of communication may lead not only to damaging

wall covers, but may damage the overall appearance of a room. A lack of consensus among various parties may lead to a complete cacophony of styles. **(Fig. 119)**

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Figure 119. Final outcome of the papered room. Historic unity is broken by unfitting modern lights.

5.2. FREYSCHLÖSSL AUF DEM MÖNCHSBERG, SALZBURG

5.2.1. History of the building



Figure 120. Freyschlössl during renovation and construction works in 2011.

A building situated on Mönchsberg in Salzburg has several names: *Frey Schlösschen*, *Freyturm*, *Freyburg* and *Roter Turm*. It was erected for the protection of a monastery, the Salzburg fortress and a city gate probably at the end of the 13th century. After the small fortification had lost its military significance, it served as a dairy farm occupied by the tenants of the St. Peter's monastery up to 1821. The structure survived almost unchanged until the early 19th century. Since the revenue from the rental was not considered sufficient by the monastery, it was decided to sell the property. It changed hands several times and was acquired by Carl von Frey (1826–1896)⁴¹⁸ in 1862. The exterior and interiors of the small palace were decorated in Neo-Gothic style and the property was surrounded by a fence. Until 2009,

⁴¹⁸ Salzburg Wiki, Carl von Frey, accessed December 17, 2012, http://www.salzburg.com/wiki/index.php/Carl_von_Frey.

no significant changes had been made in the building. When the Freyschlössl was bought by Matthias Kaindl and his brother, the last descendants of the family Frey, a 70-year old lady was living in a few rooms of the palace.⁴¹⁹

5.2.2. Situation preceding conservation

A large part of the original exterior and numerous historic details in the interiors of the Freyschlössl were conserved under the supervision of the Austrian Federal Monuments Office, *Bundesdenkmalamt* (BDA), starting in 2009. In July and August 2011 the author had a chance to work on three historic wallpapers found in the palace, under the supervision of Markus Krön. All three conserved wallpapers apparently date back to the year 1862. According to the requirements of the BDA, the historic wall covers needed to be preserved *in situ*, even though only fragments had survived and the wall covers had lost their aesthetic properties. Furthermore, since all three discovered wallpapers seemed to have been produced especially for this particular building, it was necessary to consider their preservation in the original location. If the wallpaper fragments had been removed and preserved in an archive, they would have lost their connection to their original location and the minimal physical integrity they had maintained. The owners agreed to preserve all of the wallpapers, but insisted on exhibiting only one of them. It was decided to conserve and cover up two other wallpapers. The treatment of each wallpaper will be described separately. Each wallpaper was designated by Markus Krön according to the type of room where it was found, the type of pattern or the method of printing: *Zirbenstube*, *Wappentapete* and *Schablonentapete*.

The aim of the project was to consolidate the surviving wallpaper fragments *in situ* or return the previously dismantled fragments to their original environment. The solution aimed to re-create the physical unity and prolong the life-spans of the historic objects in their original environment.

⁴¹⁹ Wikipedia, Freyschlösschen, accessed December 19, 2012, <http://de.wikipedia.org/wiki/Freyschl%C3%B6ssl>.

5.2.3. Conservation concept and treatment of the *Zirbenstube* wallpaper

Of the wallpaper found in the *Zirbenstube*, only a small number of fragments attached directly to the plastered wall had survived. A *Zirbenstube* is commonly a rustic living room in Austria and Bavaria with an interior made of Swiss pine.

Even though about 90% of the object had perished, a few surviving fragments showed a fine hand-painted wood-grain imitation of Swiss pine (*Zirbe* in German). The largest fragment had survived above a window and depicted a scroll with a sentence written in Gothic letters. **(Fig. 121)**

Since the object had lost its physical and visual unity and there was no evidence of its former appearance, reconstruction was not justified. Besides, the owners of the building were not interested in exhibiting a ruin. Since it was necessary to preserve the object in its original location, it was decided to conserve the fragments to permit their preservation *in situ*. Prior to covering the fragments with a layer of a thin Manila hemp paper **(Fig. 122)**, they were documented, cleaned and consolidated. **(Fig. 123)** Following the conservation treatment, the object was covered up with panelling. This solution consolidated the current physical condition of the object and ensured its further existence in its original location. Even though the fragments cannot be observed, the new layer can be removed if necessary.

5.2.4. Conservation concept and treatment of the *Wappentapete* wallpaper

As its name in German indicates, the *Wappentapete* depicts a pattern combining coats-of-arms. Its design imitates a medieval tapestry with colourful fringes hanging on a wall with the aid of wooden or metal knobs. The coats-of-arms are arranged in a symmetrical composition surrounded by stylised eagles, pheasants and blossoms. **(Fig. 124)** Unfortunately, it is not known if the coats-of-arms are fictional or if they refer to a particular person or location. This would require further research.

The wallpapers had been removed in spring 2011 before the start of the conservation process and were handed over as a ran-



Figure 121. Largest preserved fragment depicting a scroll with a writing.



Figure 123. All the fragments were covered with a layer of a thin Manila hemp paper.



Figure 122. Edges of the wallpaper were consolidated with strips of Japanese tissue.

dom pile of papers. Since the room was not documented before dismantling the wallpaper, there is no photographic evidence of its former condition nor of the original method of mounting. However, according to observation, the wallpaper had been pasted directly onto the plastered wall and embellished with wooden and metal knobs, which had left holes in the wallpaper.

Similarly to the previously described *Zirbenstube* wallpaper, only fragments of the *Wappentapete* had survived, which means that they had lost their visual and physical integrity. **(Fig. 125)** Due to their non-repeating design and lack of information, it was impossible to re-create the wholeness of the decoration.

It was decided to conserve it instead. Thus after cleaning, consolidation and lining, it was remounted onto a wall covered with an acid-free lining paper.⁴²⁰ **(Fig. 126)**

Since it was not possible to determine the original sequence of the segments and there was not enough material to cover all four walls, the fragments were mounted next to each other on two neighbouring walls. As the walls were going to be covered with panelling, it was decided to add some additional protection to the locations where holes for screws would be drilled. The spots were pasted over with 4 × 4 cm patches of thick Japanese tissue (36 g/m²). **(Fig. 127)** This reduced the extent of the damage caused by drilling, which tends to tear the delicate material of wallpaper.

Since the wallpaper was not going to be exhibited, it was not necessary to retouch it. The conserved wallpaper fragments were returned to their original location and not to a museum at the request of the Austrian Federal Monuments Office, which insisted on preserving the wallpaper in its original location. However, since the appearance of the wallpaper was not considered aesthetic by the owners of the building, it was decided to cover up the wallpaper. The decision was a compromise between two opposing parties with different expectations. **(Fig. 128)**

⁴²⁰ Mal- Zeichenpapier, 55cm × 10m, 90g/m², Staufen-Demmler GesmbH&Co KG.

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Figure 124. Design of the wallpaper reminds of a medieval tapestry.



Figure 125. Conserved wallpaper fragments before remounting.



Figure 126. Walls were covered with a layer of acid-free lining paper prior to remounting.



Figure 127. Patches of Japanese tissue to add additional protection.



Figure 128. Wallpaper fragments during and after remounting.

5.2.5. Conservation concept and treatment of the *Schablonentapete* wallpaper

The papered wall had been divided into two parts: the upper part was covered with a wallpaper and a matching border imitating a medieval textile and the lower part with a paper covered with wood grain. The pattern of the *Schablonentapete*, covering the upper section of the wall, had been stencilled with black ink on a golden background. **(Fig. 129)**

The wallpapers had been dismantled before they were handed over to the conservators. According to the plans of the interior architect, the original room was to be turned into a walk-through closet. Thus the wallpaper could not be returned to its original location for exhibition. A new solution needed to be found. Besides the walls, the only vertical surface that could be papered was provided by the closet itself. It was decided to reconstruct the original decorative scheme (wallpaper with wood-grained paper) and mount it on *shoji* frames, which would serve as the sliding doors of the closet. **(Fig. 130)** In my opinion, this compromise led to the alteration of the room's function and the preservation of the historic wallpaper in its original room. Furthermore, the wallpaper kept its decorative function and physical integrity, which would have been lost if it had been preserved in an archive.



Figure 129. Conserved segments of the stencilled wallpaper.

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Figure 130. Mounting of the wallpaper to a *shoji* frame.

5.3. THEODOR AMAN MUSEUM, BUCHAREST

5.3.1. History of the building



Figure 131. Theodor Aman Museum in Bucharest.

The museum is located in a small Neo-Classical building erected according to the plans of the architect Fr. Scheller in Bucharest in 1869.⁴²¹ It served as the home and studio of the celebrated Romanian artist Theodor Aman (1831–1891).

Figurative decorations, such as friezes, medallions and sculptures, on the facade, as well as some of the interior decorations – mural paintings in the entrance hall, a ceiling painting in a parlour, carved doors in the studio and pieces of furniture – had been created by the artist himself. Currently, it houses a part of Aman’s creative work (paintings, aquarelles, drawings and engravings), personal belongings, such as brushes, weapons, a cello, masks, costumes, and his art collection, donated to the Municipal Museum by Ana Aman in 1904.⁴²²

⁴²¹ Romguide Feeling Romania, Theodor Aman Museum, accessed December 17, 2012, http://www.romguide.net/Visit/Theodor-Aman-Museum_vt4c3.

⁴²² Romguide Feeling Romania, Theodor Aman Museum, accessed December 17, 2012, http://www.romguide.net/Visit/Theodor-Aman-Museum_vt4c3.

The most outstanding rooms, such as the painted entrance hall, two small parlours and a part of a large artist's studio in Hans Makart style, have survived. The conservation process of the museum building and its interiors started in 2005, with the aid of donations gathered by the Rotary Club Bucharest.

5.3.2. Situation preceding conservation

The walls of the parlour next to the artist's studio had been covered with an embossed wallpaper imitating gilded leather. It is not known when the wallpaper was attached to the wall. There is no photographic or textual evidence of the decorative work carried out in the house, since the whole personal archive of Theodor Aman perished in a fire during the Romanian Revolution in 1989.

The embossed wallpaper was restored and remounted in September 2011. The author of the thesis worked on the wallpaper under the supervision of Markus Krön.

A few rooms of the building and the artist's garden were depicted in the paintings of Theodor Aman, for example his representative studio, his private studio on the second floor of the museum and the boudoir of his wife, Ana Aman⁴²³, but not the mentioned parlour.

In 2005 the wallpaper was dismantled by a local conservator, Mrs. Rodica Antonescu, after which the walls were cleaned and plastered. No research concerning earlier layers, historic lining paper, method of mounting or possible signs left by a wallpaper hanger was carried out. Mrs. Antonescu did not provide any documentation about the former condition of the object or the following process of conservation. Thus one could only assume in what way the wallpaper was applied to the wall and whether it formed the first decorative layer dating back to the end of the 1860s or was a later application.

The pattern of the wallpaper depicts simplified and symmetrically ordered acanthus scrolls covered with fish scales, a head of a horned, grinning man and two dragons holding a chain

⁴²³ Interview with Simona Predescu, conservator in Theodor Aman Museum, Bucharest, Romania on September 26, 2011.

of blossoms between their jaws. **(Fig. 132)** The background of the paper has a metallic copper-brown shimmer, which makes the wallpaper look like gilded leather. Since the production of imitations of a wide variety of materials was a particular feature of the last quarter of the 19th century,⁴²⁴ the wallpaper in the museum can probably be dated to the last three decades of the century. Embossed wallpapers were considered very suitable for the decoration of entrance halls, stairways, dining and drawing rooms, libraries and studies in fashionable middle-class homes.⁴²⁵ Commonly they were used in combination with other decorative elements. The wallpaper was applied above a dark wooden dado and completed with such applications as a jagged wooden cornice and flat wooden pillars mounted in the corners of the room.

5.3.3. Conservation treatment

Preceding the conservation treatment in September 2011, the wallpaper had been cleaned, lined and retouched by the local paper conservator, who had dismantled it during the first stage of the conservation project in 2005. Due to the lack of guidance and previous experience with historic wallpapers, the objects were damaged during dismantling, transportation and conservation treatment. **(Fig. 133)** For various reasons, such as inadequate experience, the quality of the work, and the need to limit expenses, the Bucharest Rotary Club decided to use the services of Markus Krön and the *Institut für Papier Restaurierung* from Vienna.

The aim of the project was to return the dismantled strips and fragments of wallpaper to their original location, to conserve them and form an aesthetically appealing unity with other decorative elements of the room.

As the first step, it was important to remount the pieces of wallpaper in the original order. **(Fig. 134)** The signs of various types of damage (such as discolouration due to light and humidity, areas of corroding pigments, mechanical damage,

⁴²⁴ Woods, Kosuda Warner and Jacqué, "Proliferation:...", 158.

⁴²⁵ *Ibidem*.



Figure 132. Luxurious pattern of the embossed wallpaper.



Figure 133. Conserved strips of wallpaper were handed over in a paper box.



Figure 134. Since many wallpaper segments lacked proper numbering, a new system needed to be created.

old repairs, and extensive tears and cuts) were not limited to one strip, but stretched over multiple pieces. As a result, if the wallpaper strips had been placed next to each other randomly in the wrong order, it would have broken the visual unity of the object and left an uneven outcome. The visual properties of damage become a part of a historic object. If it needs to be reassembled, they can be used as helpful means of guidance to complete the unity of the object. Since nothing was known of the original mounting method and a new one needed to be developed, decorative elements preserved *in situ* were observed carefully. As the wallpaper had been mounted above a shallow wooden dado, it was clear that there was not enough space for a *shoji* or similar system. Thus it was decided that the wallpaper would be mounted onto a lining applied directly to the plastered wall. To ensure the option of subsequent safe and easy removal, the lining system was a combination of a layer of cotton canvas and two layers of acid-free lining paper, which created an even surface for the wallpaper. **(Fig. 135)** These layers were attached to the wall using an adhesive, Metylan Extra by Henkel. If the object needed to be removed, it could be loosened from the wall together with the canvas, which would provide the necessary support and protection for the original.

Areas of extensive loss and damage had been retouched or over-painted with an unknown paint (probably gouache) by the local conservator. Since the background and various details of the original were highlighted with metallic pigments, the appearance of the shimmering surface depended on the angle of the observer. As the over-painted and retouched areas were either too dark or matte in comparison to the original, they broke the visual unity of the object. **(Fig. 136)**

Since removing the paint would have caused further damage, it was decided to hide the signs of the previous treatment with a layer of glazing. Large losses of over-paint were filled with streaking in neutral tones, and smaller losses were in-painted using matching neutral tones. After testing various paints, such as watercolours, gouache, gouache with acrylic binder, acrylic paint, crayons and pastels, it was decided that the texture and



Figure 135. Each strip and segment was remounted to its original location.



Figure 136. Poorly retouched and over-painted areas and needed to be improved.

shimmer of the wallpaper could best be imitated with acrylic paint. Although acrylic is considered inappropriate for conservation treatment, it was used to improve the aesthetic appearance of the object. To minimize the intervention, the paint was applied only to in-filled and damaged areas.

After remounting the strips and fragments of wallpaper, it became clear that there were three larger missing areas, which could not be retouched satisfactorily enough to hide the loss and imitate the embossed surface. Thus it was necessary to find a suitable method of reconstruction. The original wallpapers had been produced with the aid of either engraved metal plates, blocks, rollers or pairs of negative and positive forms. Since less than 1 m² of the original wallpaper needed to be reconstructed, ordering an embossed copy of it was considered to be financially and temporally unreasonable. A method of reconstruction was suggested by two painting conservators, Simona Predescu and Ioan D. Popa, from the Theodor Aman Museum. A cast reconstruction with the aid of a sculptors silicone mould was prepared. **(Fig. 137)** The mould, covering four pattern repeats, was taken from a well-preserved strip of wallpaper, which had been covered with two layers of gelatine to protect the original. The reconstructions consisted of two layers, a thin Japanese tissue (9 g/m²) and an adhesive from Henkel⁴²⁶ mixed with gouache to add some colour.

Wet tissue was gently tapped into the mould with soft brushes and covered with a layer of glue. **(Fig. 138)** After the glue had dried, the reconstruction was cut to form, following the shape of the missing areas, and attached to the wall, leaving the surface covered by the Japanese tissue on top. The reconstructions were hand-painted with acrylic paint *in situ*. **(Fig. 139)**

Besides the wallpaper, a historic oven had been dismantled and was kept in the cellar of the museum. Since the surface behind the oven had never been papered, it was decided to cover the missing area with a paper in a neutral colour to mark the

⁴²⁶ Henkel, Product Categories, Moment Raw Parquet Adhesive, accessed February 26, 2013, http://www.henkel-cee.com/1820_2847_CEE_HTML.htm.



Figure 137. To reproduce the embossed effect of the wallpaper, a silicone mould needed to be taken.

Figure 138. Process of reconstructing the embossed wallpaper.

location of the oven and bind the missing area with the whole. The paper could be removed or covered up when the oven was rebuilt. **(Fig. 140)**

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Figure 139. The reconstruction was painted *in situ*.



Figure 140. Final outcome of a wall after remounting and retouching.

5.4. ESTERHÁZY PALACE, EISENSTADT, AUSTRIA

5.4.1. History of the building



Figure 141. Esterházy Palace in Eisenstadt, Austria.

The following overview of the history of the Esterházy Palace is a summary of the material found on the website of the palace.⁴²⁷

The Esterházy Palace is one of the most beautiful Baroque palaces in Austria and presents a fascinating view of the resplendent life once lived at the court of the Princes Esterházy.

In the 13th century, a castle was erected where the Esterházy Palace now stands. In 1364 it was acquired by the Kanizsai family and was substantially developed. Starting in 1371, the castle changed hands again, and Louis the Great, the king of Hungary, turned it into a medieval city castle.⁴²⁸

In 1622 the building was acquired by the Esterházy family and between 1663 and 1672 it was remodelled into a Baroque

⁴²⁷ The Esterházy Palace, accessed January 5, 2013, http://esterhazy.at/de/schlossesterhazy/666785/Das-Schloss-Esterhazy?_vl_backlink=/de/schlossesterhazy/index.do.

⁴²⁸ Wikipedia, Schloss Esterházy, accessed January 5, 2013, http://en.wikipedia.org/wiki/Schloss_Esterh%C3%A1zy.

palace. The task of planning the work was given to the master architect Carlo Martino from Como in Lombardy. However, it is believed that the building was actually planned by the Viennese court architect Filiberto Luchese.

The construction work gave the building its modern appearance, with its courtyard and main facade. The rich stucco decorations on the facade were carried out by the master Andrea Bertinalli from Upper Italy.

During the 18th century mainly alterations in the interiors and staircases were made. The majority of rooms were given new floors, stoves and stucco ceilings. In this phase, little was altered on the outer facade. In the years 1790–1794 the princely stables and main guardhouse opposite the palace were erected by Anton Prince Esterházy. Subsequently, the palace moat surrounding the building was filled in and a stairway was constructed leading to the palace square.

Under Nicholas II, the son of Anton Prince Esterházy, in the early 19th century the palace was turned into a Neo-Classical structure according to plans by one of the most celebrated architects of Revolutionary Neo-Classicism, Charles Moreau. However, most of his ideas were not carried out because of financial difficulties and the French occupation of Eisenstadt during the Napoleonic Wars. Some of the alterations made by Charles Moreau can still be seen: the uniform, pavilion roofs of all four towers of the palace, the garden hall placed in front of today's Haydnsaal and a large peristyle on twenty Corinthian columns, with spacious driveways on both sides.

During the 19th century some renovation work was carried out in the palace, although the appearance was changed very little.

During the years of occupation after the Second World War, the Burgenland government and later the District Court were accommodated in the palace. Starting in 1969 an extensive part of the palace was leased to the Burgenland government. On 1 January 2010 the building was taken over by the Esterházy Private Foundation, which uses the palace as a venue for a wide-ranging programme of festivities and social events.

From July 2011 until March 2012 several rooms were restored in the Esterházy Palace for the exhibition *Das Appartement der Fürstin*. The exhibition opened on 29 March 2012. The main focus of the exhibition was on three ladies: Maria Josepha Hermenegilde (1768–1845), née Princess von und zu Liechtenstein and the wife of Prince Nikolaus Esterházy II, Maria Theresia (1794–1874), née Princess von Thurn und Taxis and the wife of Prince Paul Anton Esterházy III, and Lady Sarah Frederica (1822–1853), the daughter of George Child-Villiers, Earl of Jersey.⁴²⁹ The exhibition also featured the historic setting of their apartments.

Besides several other rooms in the west wing of the palace, two salons, embellished with historic *chinoiserie* wallpapers, were restored. The author will focus in detail on these two salons, one of which was used as the princess' bedroom and the other one as the princess' writing room.

5.4.2. Princess' bedroom.

Situation preceding conservation

Originally the colour scheme of the bedroom was blue, which created a calming and cool atmosphere. The wallpaper, curtains, large four-poster bed and upholstered furniture were all in this shade. The white lacquered furniture and the red of the marble console tabletop added striking contrasts to the overall colour scheme. In the mid-19th century, portraits transformed the room into a place of family commemoration.⁴³⁰ The current appearance of the room dates back to the 20th century. Two large mirrors were added, together with console tables with their *chinoiserie* carvings and exquisite 18th-century Chinese wallpapers.⁴³¹

After the devastation of the Second World War, the wallpapers were combined from different halls to cover the walls of the salon. This explains the difference in the motifs: flowers and birds on the one hand, and genre scenes on the other.⁴³²

⁴²⁹ Margit Kopp, *The Apartement of the Princess* (Eisenstadt: Esterházy Privatstiftung, 2012), 3.

⁴³⁰ *Ibid.*, 13.

⁴³¹ *Ibidem*.

⁴³² Schloss Esterházy, Large Chinese Salon, accessed January 5, 2013, http://esterhazy.at/en/esterhazypalace/680059/Esterhzy-Palace-in-detail?direct=680066&_vl_backlink=en/esterhazypalace/680057/index.do&selChannel.

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Figure 142. Two views of the princess' bedroom before renovation.



Figure 143. All the panels carrying the wallpapers were dismantled from the wall.

(Fig. 142) In 2011 a number of Chinese wallpaper panels depicting flowers and birds were discovered in the attic of the palace. It was decided to form a stylistic whole by combining the found panels with the ones exhibited in the salon. The wallpapers were conserved in July 2011–March 2012. The author had a chance to work on the object, under the supervision of Markus Krön.

5.4.3. Conservation concept and treatment

The wallpapers had been attached to the wall with the aid of wooden frames, each panel as a separate segment. To allow for more thorough conservation treatment, the panels were dismantled from the wall. **(Fig. 143)** Before the removal, each wall was photographed and detailed sketches were made to document the scheme. Since the new scheme was going to include only panels with bird and flower motifs, the drawings and photographs taken of the old decoration were the only references to the alterations made in the room.

To permit safer and more thorough dry-cleaning of the wallpaper, the panels were removed from the wooden frames. **(Fig. 144)** Cleaning a wallpaper still attached to a frame can cause further damage to the paper and paint layer, which are sensitive to the pressure and vibration of the canvas.

The panels depicting scenes from Chinese everyday life were removed from the wooden frames, dry-cleaned and packed, since they were not going to be conserved and exhibited.

Subsequently, the canvas backing was removed to allow the panels to be washed and lined. The panels needed to be washed to reduce discolouration and to soften dark tide-lines. The panels were washed on blotters, since they were too fragile for submersion or immersion washing. All of the panels were washed three or four times to remove the products of degradation that had caused the discolouration of the object.

Lining was carried out to support the areas damaged by the network of tears and missing areas. If a wallpaper is going to be remounted, it is essential to apply a layer of lining as protection and support for it.



Figure 144. Prior to dry-cleaning the wallpaper panels needed to be removed from the wooden frames.

After all the panels had been washed and dried, it became apparent that the pieces stored in the attic were much darker than the rest. To combine them with lighter panels, they needed to be bleached. The method of bleaching has been described in the chapter on the methods of conservation.

Since the wallpapers had been attached to the wall with the aid of wooden frames, a similar system needed to be used for remounting. The old method of applying wallpaper on canvas had proven to be generally stable, but the tension caused by shrinking and expanding of the frames had led to tears and losses in the paper. To avoid similar damage, it was decided to use the Japanese *shoji* system (discussed in detail in the chapter on methods of conservation), which is suitable for rooms where big shifts in temperature and relative humidity are expected. **(Fig. 145, Fig. 146)** Before the wallpapers were applied to the *shoji* frames, a new sketch was made to show the appearance of the walls. As mentioned above, the panels had been combined from different halls of the Esterházy Palace and no evidence was available of the original wall schemes, so a new solution following contemporary analogues needed to be developed. The only problem faced by the conservators was the size of the wall. The surface of the wall was smaller than the space needed to exhibit all the panels in full length. To create a visual and material unity, it was decided to combine the well-preserved panels with more damaged pieces, which were cut in half to fill the missing areas. The decision was based on the idea of functional conservation, in which conservation should not only consider the artistic and historical values of a heritage object, but also its more mundane functions,⁴³³ such as economic, social and cultural aspects.⁴³⁴ Breaking the unity of the wallpaper panels in order to form a new whole served the economic interests of the client, who wanted to attract new guests with a finely papered historic room. Conservation increases some of an object's possible functions or values, very often at the cost of decreasing

⁴³³ Muñoz Viñas, *Contemporary Theory of Conservation*, 177.

⁴³⁴ *Ibid.*, 177–178.



Figure 145. Japanese *shoji* frames before covering them with layers of Japanese tissue.



Figure 146. Applying the layers of Japanese tissue to form the so-called air-pocket system.

others.⁴³⁵The panels found in the attic, which would have continued to decay, were conserved and exhibited, which means that they were returned to their original function. To ensure the reversibility of the treatment, all the panels that were to be cut were photographed and documented, which made it possible to reassemble the panels when necessary later on.

After the panels had been mounted onto the *shoji* frames, they were retouched. Throughout the treatment, various techniques of retouching were combined: minimal losses and fine lines were filled with neutral retouch, and larger losses were filled with lines in neutral tones using the *tratteggio* technique. (Fig. 147)

In areas with many fine tears, in-painting was carried out on the original surface of the wallpaper. The in-painting was undertaken in transparent watercolours because of their versatility and ability to accommodate a worn surface.⁴³⁶

Large losses that needed to be retouched were covered with two layers of lining beforehand, first a layer of short-fibred silk tissue paper,⁴³⁷ the properties of which resembled the original material and provided the conservators with a smooth surface for retouching, and a layer of Japanese paper, which provided the object with the necessary support. Larger losses were filled with either neutral retouch or several layers of streaks in neutral tones. Of the two methods, the technique combining streaks in various neutral tones proved to be a better choice, since it enabled the conservators to work with the patchiness of the material. The neutral retouch formed a homogeneous surface and defined the shapes of *lacunae*, which left a patchy outcome and distracted the eye from the whole.

Final retouching was carried out *in situ*, after the *shoji* frames had been mounted. This enabled the conservators to observe the object once more in a new environment, which was lit differently than the workshop, and to treat the final flaws. (Fig. 148)

⁴³⁵ Ibid., 180–181.

⁴³⁶ McClintock, “Compensating for Losses in Historic Wallpapers”, 151.

⁴³⁷ KLUG Conservation, Silk Tissue on Reels Without Buffer, accessed December 8, 2012, <http://www.klug-conservation.com/?site=produkte&id=532>.



Figure 147. Areas of loss were retouched by using an interpretation of *Tratteggio*.



Figure 148. Final outcome after remounting the restored wallpaper panels.

5.4.4. Princess' writing room.

Situation preceding conservation

A small room next to the large salon was used as the princess' writing room. In 1810 it was supposedly used by Empress Maria Ludovika as a bedroom.⁴³⁸

This room has remarkable wood panelling and shutters that are painted in a shade of blue.

Inventory material provided by Mrs. Margit Kopp, a researcher working in the palace, describes hand-painted Chinese or "Indian" wall covers depicting "Indian" figures, flowers and trees (*"Ausspaliert aber mit Indianischen Papier von allerhand gemahlenen Indianischen Figuren, Blumwerk, und Bäumen"*⁴³⁹ in 1762) or with wallpapers depicting Chinese seaports (*"Spallier von Papier Chinesische Seehäfen vorstellen"*⁴⁴⁰ in 1818). According to the inventory material from 1762, the salon formed a whole, an ensemble with an adjacent dressing room (*Toilette-Zimmer*), which has not survived. Both of them were designed in the same manner, having blue lacquered panellings, including window hatches and doors. The walls of the dressing room were covered with various big and small "Indian" pictures (*"mit unterschiedlichen Indianischen groß und kleinen Bildern"*⁴⁴¹).

Seven pieces of rare hand-painted silk wall covers were stored in the archive of the Esterházy Palace. Each piece had been framed by a narrow black border, of which only fragments had survived. The border was embellished with a geometric *chinoiserie* ornament in gold and various berries and blossoms.

Before the conservation treatment, the walls of the study had been covered with light blue *moire* or watered silk and embellished with a ribbon in matching tone. (**Fig. 149**) Since no information except for the short historical descriptions of the *chinoiserie* wallpapers could be found, a new concept of wall decoration needed to be developed.

⁴³⁸ Schloss Esterházy, Das Appartement der Fürstin, accessed January 5, 2013, <http://esterhazy.at/de/ausstellungen/696330/Das-Appartement-der-Fuerstin>.

⁴³⁹ Margit Kopp, e-mail message to author, October 25, 2011.

⁴⁴⁰ *Ibidem*.

⁴⁴¹ *Ibidem*.



Figure 149. Condition of the princess' writing room prior to reconstruction.



Figure 150. Three painted silk wall-covers depicting scenes of Chinese everyday life.

5.4.5. Conservation concept and treatment

The wall covers were conserved by Hilde Neugebauer, a textile conservator in the Schönbrunn Palace in Vienna. Each separate fragment of the black border that had framed the silk wall covers was numbered and documented before their removal.

The task of the conservators was to develop a concept of a new wall decoration scheme for a *chinoiserie* salon in Rococo style, which would offer a fitting backdrop for the valuable silk wall covers. Nothing was known about the historic wall scheme, except for the short descriptions provided by Margit Kopp.

First textual and photographic material was gathered about similar salons from all over Europe. Since the Esterházys were closely connected to the Habsburgs,⁴⁴² special attention was given to Habsburg residences: for example, the *Porzellanzimmer*⁴⁴³ in the Schönbrunn Palace in Vienna, where numerous framed drawings had been ordered for a symmetrical composition enriched by *rocaille* and *chinoiserie* ornaments. Another noteworthy example, the *Chinesisches Kabinett*, was found in the Eggenberg Palace in Graz. This study was designed as a kind of print room. The Chinese silk paintings had been cut into small segments, each of which depicted a scene, and were framed as miniatures. **(Fig. 150)** As a background for the whole illusionistic wall decoration, blue silk was used.⁴⁴⁴ Besides several examples from elsewhere in Europe – France (the *Chateau de Chantilly*), Germany (the *Schloss Falkenlust* in Brühl and *Pagodenburg* near the *Schloss Nymphenburg*) and Russia (the Chinese Palace near the Oranienbaum) – another interesting example was found in Drottningholm, Sweden. This small Chinese Pavilion, built in 1753, combines decorative elements of European Rococo with exotic illusions of China.⁴⁴⁵ In one of the

⁴⁴² Kopp, *The Apartement of the Princess*, 5.

⁴⁴³ Österreichisches Institut für China- und Südostasienforschung, Schönbrunn Porzellanzimmer, accessed January 5, 2013, <http://www.china-kultur.at/content/Detail.aspx?CatalogItemID=28141>.

⁴⁴⁴ Schloss Eggenberg, Indianische Kabinett, accessed January 5, 2013, http://www.museum-joanneum.at/de/schloss_eggenberg/prunkraeume/interieurs/indianische-kabinette.

⁴⁴⁵ Swedish Royal Court, The Chinese Pavilion, accessed January 5, 2013, <http://www.kungahuset.se/royalcourt/royalpalaces/thechinesepavilion/thepavilion/history.4.396160511584257f21800011172.html>.



Figure 151. Fragments of the original border were attached to the reconstruction and thus returned to their original location.

rooms, framed *chinoiserie* scenes are used as over-doors, and it was considered to be a good example.

Since no decorative details, except for a wooden dado and cornice, had survived of the original setting, it was decided to keep the new design as simple as possible.

As discussed in the chapter on historic decorative schemes, a small number of Chinese wall cover pieces were treated as separate pictures and were used to create a type of print room common in England in the 1750s.⁴⁴⁶ Separate segments were surrounded by a plain wallpaper or textile and framed with wooden mouldings or narrow borders. As a result of the analysis, it was decided to create a parlour in the style of an English print room and exhibit each of the seven silk wall covers as a separate picture.

Similarly to historic mounting systems, each piece was attached to a wooden frame prepared according to the measurements of the piece, which made it easy to transport or store them as paintings.

Each picture was framed by a silk-screened reconstruction of the black border. **(Fig. 151)** Instead of preserving the removed fragments of the original in an archive folder and forgetting about them, they were attached to the reconstructions of the border. The solution made possible the reuse of the historical material as a part of the wall decoration, as it used to be before.

A blue canvas in a tone matching the restored wooden dado and window hatches was chosen to cover the walls. It was attached to a wooden framework. Besides functioning as a base for the canvas wall cover, it provided each picture with an opening in a matching size. The solution allowed for the removal and insertion of the valuable wall covers when needed. **(Fig. 152)**

⁴⁴⁶ Julie Fitzgerald, "The Georgian Print-room Explored", 14.



Figure 152. Final outcome of the princess' writing room reminds of a simplified print-room.

5.5. ESTONIAN LITERARY MUSEUM, TARTU

5.5.1. History of the building



Figure 153. The Estonian Literary Museum in Tartu.
Reproduction from [http://en.wikipedia.org/wiki/
File:Vanemuise_42,_Tartu_2011.jpg](http://en.wikipedia.org/wiki/File:Vanemuise_42,_Tartu_2011.jpg).

The current building of the Estonian Literary Museum was erected on a plot formerly belonging to the Tähtvere manor. The grounds of the manor were put on sale in the second half of the 19th century. In 1885 a plot was bought by the Tartu city physician Georg Weidebaum, who planted a garden on it. In March 1894, the property changed hands again and it was bought by Marie von Grote (born Stael von Holstein), the second wife of Rittmeister Nicolai von Grote, the owner of the Kaagjärve and Karula manors.

The luxurious Neo-Renaissance building was erected by Reinhold Ludwig Ernst Guleke (1834–1927).

It had impressive and representative interiors decorated with elements which most likely derived from product catalogues from Riga and St. Petersburg. The von Grotes moved into their new home in 1895. During the Estonian War of Independence in 1919, the family left for Germany and the house was sold to Johann Post. Up to 1923, the building was used as rented premises by the *Fraternitas Estica* corporation and the

2nd infantry regiment. In 1924 the heirs of Johann Post sold the house to the Estonian National Museum (*Eesti Rahva Muuseum*). By the end of the same year, the library, bibliography files and folklore collection of the museum had been moved to Vanemuise Street 42 (previously Aia 42/44). The collection and the archival library were kept in the building until the early 1940s. In 1943 the house was temporarily emptied out for the use of the German army. In January 1945, the building was returned to its former owner, the Estonian National Museum and the collection was returned to its former position.⁴⁴⁷ Three annexes have been added to the original structure: in 1964 by the architect I. Jaagus⁴⁴⁸, in 1986 by the architect P. Madalik (RPI Eesti Projekt),⁴⁴⁹ and in 2012 by the architect Indrek Saarepera (Arhitektuuribüroo Visuaal OÜ). Vanemuise 42 was added to the national heritage list in 1965.⁴⁵⁰ The original structure of the building houses several well-preserved representative rooms, such as a main hall in Neo-Renaissance style,⁴⁵¹ a dining room with a dark coffered wooden ceiling and two polychromic ovens, and two boudoirs: one with a ceiling of painted stucco and another with a ceiling painting and historic wallpapers.⁴⁵²

5.5.2. Situation preceding conservation

Research on the decorative layers carried out in 2010 revealed that, in one of the boudoirs adjacent to the main hall, a large amount of historic wallpaper had survived. Since the room had been used as a storage room for prohibited literature (newspapers and magazines published in 1918–1940 in Estonia, periodicals published during the German occupation in 1941–1944 and foreign Estonian publications) starting in 1947⁴⁵³, it was heavily

⁴⁴⁷ Mari Nõmmemaa, Muinsuskaitse eritingimused Eesti Kirjandusmuuseumi hoone rekonstrueerimise ja laiendamise projekti koostamiseks, ARC Projekt OÜ arhiiv töö nr 2010-042 (2010).

⁴⁴⁸ Tartu linna ja maakonna turismiinfo. Aadlielamu Vanemuise 42, accessed December 17, 2012, http://www.visittartu.com/49804?set_lang_id=1.

⁴⁴⁹ Nõmmemaa, Muinsuskaitse eritingimused, 2010.

⁴⁵⁰ Ibidem.

⁴⁵¹ Oleg Kotšenosvki, “Elamu, nüüd Kirjandusmuuseum Vanemuise 42” in Eesti Arhitektuur 4. Tartumaa, Jõgevamaa, Valgamaa, Võrumaa, Põlvamaa, ed. by Villem Raam (Tallinn: Valgus, 1999), 64.

⁴⁵² Estonian Literary Museum, accessed December 18, 2012, <http://www.kirmus.ee/>.

⁴⁵³ Merike Kiipus, e-mail message to author, December 18, 2012.

furnished with high bookshelves and accessible only by special permission. (Fig. 154)

Closer examination revealed that the wallpaper was the first decorative layer of the room and had probably been applied at the beginning of the 1890s, when the building was erected. After the removal of the shelves it became apparent that 90% of the wallpaper was in good condition. Since the room is the best preserved and largest of its kind in Estonia, it was decided to reconstruct the missing areas to unify the representative appearance of the object. The reconstructions were made by Kristiina Ribelus.

The general condition of the object, various types of damages and exact details of the conservation process are provided in the documentation form.

5.5.3. Conservation concept and treatment

It was decided to conserve the wallpaper *in situ*, since it had survived almost intact and its condition was stable. Moreover it is the only known monument of its kind that has survived to such an extent in Estonia. Thus it was not reasonable to destroy its unity and the original method of mounting. If there is any need for additional treatment later on, the wallpaper can be removed and treated more thoroughly.

During the process of conservation it became apparent that the greatest damage was caused by misunderstanding and the lack of co-operation between different responsible parties.

Besides detailed research on an object and historical materials available in archives and libraries, it is important to communicate with long-term employees working in a historic building, as well as with representatives of different parties involved in the preservation project. Communication may reveal essential information about the object and prevent further damage.

In the case of the Estonian Literary Museum, the most extensive damage was caused by careless handling and lack of communication. It would have been possible to avoid the damage if there had been an open discussion and all of those involved had been thoroughly informed. To avoid mishandling, there is a



Figure 154. Historic salon heavily furnished with bookshelves of the museum's archive.

need to educate all of the specialists working on historic buildings. In Estonia, not much is known about historic wallpapers, since hardly any research has been carried out and wallpapers are very seldom preserved. Besides, even professionals working with other decorative surfaces or details might not have any experience or knowledge of historic wall covers, which frequently leads to misinterpreting the whole conception of room decoration. To avoid any further damage caused by ignorance, conservators should educate their colleagues about the properties and importance of historic wallpapers, as well as options for preserving them.

One of the most crucial examples of the lack of communication in the museum follows. A sub-contractor of a company responsible for conserving historic ovens in the whole building had not been informed of the plan to preserve the historic wallpaper. About 0.5 centimetres of a wallpaper strip covered the edge of an oven in the papered room. Although it was a common practice to cover the edges of door frames and ovens with a wallpaper, it was seen as a hindrance by a worker who had been employed to clean the ovens. As a result, a great amount of wallpaper surrounding the oven was ripped off the wall in small pieces. (**Fig. 155, Fig. 156**) This damage was a result of the fact that in other rooms no historic wallpapers had survived and so it seemed "obvious" that this particular wallpaper should be removed. The pieces of the wallpaper were salvaged from a dustbin, cleaned, consolidated and remounted.

Besides the above-mentioned damage, there were other extensive losses, or lacunae, that needed to be filled. To fill them there were two options: use pieces of the original material or use reconstructions. If possible the original material should be used, since its properties (thickness, texture, colour and pattern) correspond to the wallpaper on the wall. Reconstruction, no matter how well it has been carried out, can only imitate the original. In the museum, pieces of wallpaper were removed from behind the radiator and above the oven. Since the surface behind the radiator was supposed to be consolidated and additional holes for installing a new radiator were going to be drilled,

Task of conservation. Case studies



Figure 155. Large segment of wallpaper removed from the wall prior to restoration.



Figure 156. Salvaged fragments of wallpaper.

it was decided for the sake of the better preservation and visual unity of the whole that the pieces should be removed and used elsewhere. Wallpapers above the oven could not be observed from the floor and were shaded by the oven. (Fig. 157) To imitate the movement of the border, a paper in the colour of the border's background was chosen, cut into strips and pasted on the wall. Prior to removal, the wallpaper was measured and photographed.

Since the whole conservation process was carried out *in situ*, a method for filling small lacunae in the wallpaper needed to be developed. First of all, a method of filling the lacunae with a mixture of non-acid paper pulp and an adhesive (such as Klucel G in ethanol) was tested. After the mixture had dried, it became clear that it left slight tide-lines around the lacunae and had an uneven surface, which would be complicated to retouch. (Fig. 158) A method described by Thomas K. McClintock in his article "Compensating for losses in historic wallpapers" (2009)⁴⁵⁴ was examined and chosen. In this case, the losses of wallpaper would be filled with original material, since its properties corresponded to those of the original.

In addition to the mentioned technique, a piece of Japanese paper (Gampi, 29 g/m²) was inserted and pasted behind the wallpaper as a supportive layer for a filling. A piece of original wallpaper was cut to size according to the shape of the *lacuna* and integrated into the cavity. The difference in tone between the filling and original was evened with watercolours or crayons.

Since the pieces removed from the wall were either too dark or too small to cover larger areas, the author decided to fill two larger *lacunae* on both sides of the oven with a reconstruction. However, the *lacunae* were considered too small for expensive and time-consuming techniques such as digital and screen printing. Digital reconstruction was out of the question, since it would have been necessary to remove a strip of wallpaper to scan the pattern. In addition, it would have been very time-consuming to retouch the file, set it into a repeating

⁴⁵⁴ McClintock, "Compensating for losses in historic wallpapers", 149.



Figure 157. Area of wallpaper from behind the radiator before its removal.



Figure 158. A few smaller losses were filled with a mixture of non-acid paper pulp and an adhesive.

pattern and find a matching printing paper. Screen-printing was not considered due to its high cost, the large amount of time it would have taken and the flat appearance of the result. It was decided to conduct the reconstruction process *in situ* with the aid of stencils and hand-colouring.

A paper (Ingres paper⁴⁵⁵) with similar embossed texture and tone was found for the base. It was cut into the shape of the *lacunae* and inserted into the cavities, which allowed for a smooth transition from old to new material. Although the wall-paper had been printed in 15 colours, it was decided to use only eight colours to mark the basic movement, shades and highlights of the pattern. First, stencils were cut to print the two main colours of the pattern: dark beige and bluish-green. **(Fig. 159)** An additional five or six colours were painted by hand to imitate the dynamics of the pattern. **(Fig. 160)** The background was toned with dry pastels by hand to leave a slightly patchy outcome similar to the appearance of the original. The patchiness would not have been easy to achieve with a screen-printed reconstruction. **(Fig. 161, Fig. 162)**

⁴⁵⁵ Zelluloos – Papers from the Whole World, Ingres Paper, accessed February 27, 2013, <http://www.zelluloos.eu/product/ingrespaper>.

Task of conservation. Case studies



Figure 159. Two main colours of the pattern were printed with stencils.



Figure 160. Additional colours of the reconstruction were painted by hand.



Figure 161. Missing area before and after reconstruction *in situ*.



Figure 162. Final outcome of the restored and reconstructed room.

6

METHODOLOGICAL
CONCLUSIONS

From the thesis research, it can be concluded that preserving a wallpaper in an interior does not always mean preserving it *in situ*. Clearly, the best solution is to preserve a historic wallpaper in the environment where it belongs. However, for the sake of better preservation it is sometimes justified to remove it and exhibit it in a new environment.

Depending on the level of decay and the aim of the treatment, several conservation scenarios can be developed. In addition, it should be kept in mind that a conservation scenario should allow for both the preservation of a historic wallpaper and for the further use of the space where it is exhibited.

In the case of numerous possible conservation scenarios, each one needs to be considered and analysed carefully. In wallpaper conservation, two types of decisions are made: methodological, about the materials and techniques, which mostly are objective considerations, and decisions about the aesthetics of an object, which are highly subjective. However, as mentioned above, subjectivity can be reduced by thorough knowledge of historic styles and interiors.

To decide between opposing approaches and to avoid mistakes caused by personal preferences, discussion among all of the parties involved in a conservation process should lead to an appropriate solution. Moreover, the negotiations should be held throughout the whole conservation process, as all relevant decisions cannot be made at the beginning of a project.

As only one overall conservation scenario can be chosen, others have to be excluded. Since each scenario leads to a certain visual impact, a choice is made on behalf of a certain appearance. Even though other scenarios are excluded, they should be described in the documentation to avoid a one-sided view of the whole process. To illustrate the possible impact of excluded solutions, the omitted appearances can be presented visually. Digital visualizations provide good comparative material for those in charge of making decisions during a conservation process, as well as for specialists of subsequent generations who might work on the same object. The visualizations illustrate the process of decision making and help to explain why a certain scenario was

preferred to others. As the visualization of scenarios and plain documentation photos cannot provide a thorough understanding of the process, they need to be accompanied by detailed explanation. Michelle Moore has emphasized the relevance of combining visual, textual and check-list style methods of documentation. Explanations of a particular concept are essential.

A conservator working with historic wallpapers should have an interdisciplinary education, which helps in understanding the relationship of wallpaper to other decorative details and architectural structures. In addition, a conservator should be able to communicate with various co-operating specialists. Dominant parties, such as building managers, sponsors and representatives of local municipalities, often have very strong personal opinions on what a historic interior used to look like and how it should be presented. Thus a conservator should act as an educator who explains the values of an object, as well as the aim of certain conservation decisions.

Wallpaper conservation contributes above all to the physical and aesthetic unity of an object, as well as to its setting. The conservation treatment of a wallpaper is thus beneficial for the appearance of the whole interior. According to contemporary conservation theory, separate conservation paradigms can seldom be applied alone. Thus, depending on the condition of an object and the expected result, principles of various conservation paradigms are commonly combined with each other.

To preserve a wallpaper in an interior, several options should be considered: preservation *in situ*, returning a conserved wallpaper to its original location or mounting a wallpaper in a completely new location. Wallpapers can be preserved in an interior either intact or in fragments. Naturally each option has its own advantages and disadvantages.

The least common and least demanding case is clearly a well-preserved historic wallpaper found in its original location. If both the wallpaper and the supporting structure are stable, it is reasonable to preserve the wallpaper *in situ*.

None of the eight wallpapers observed in detail in the given thesis were in such good condition that they did not need any

treatment. Of the eight, the wallpaper from the Estonian Literary Museum in Tartu was in the best condition. Since it had survived almost completely intact *in situ* and its condition was stable, it was decided to treat it locally without dismounting. Although dismounting would have permitted a more thorough treatment of the material, it would have also destroyed the unity of the object and its original mounting method, it might have caused further mechanical damage, and it would have increased the cost of the whole process.

Since people look for beauty in historic rooms, it is important to offer them an aesthetically appealing result. However, restoring an object's aesthetic appearance is not always the main aim of a conservation treatment. In the case of valuable historic interiors, it is necessary to develop a preservation conception which helps to preserve as much historic material as possible and at the same time presents a historically accurate outcome. The maintenance of a wallpaper that has survived only in fragments usually raises the most questions. The extent and character of a conservation treatment depend largely on the decorative value and amount of material that has survived. If the fragments are too large to be preserved in an archive, an effort should be made to preserve them *in situ*. Small fragments found underneath other decorative details, such as baseboards, over-doors and window frames, are often removed from their original locations. Although the fragments may reflect the extent, era and type of wall decoration, their removal and preservation in an archive is more reasonable than preservation *in situ*. If preserved *in situ*, they would most probably be covered up by decorative details. Such fragments, accompanied by thorough documentation, can be more informative than when they are preserved in their original location.

If a wallpaper has survived only in fragments and it does not provide enough material to re-create a full wall scheme, it can be documented, conserved and covered up by a new decorative layer instead. The new layer should seek to imitate the visual properties of the original. In such a case, research on analogue wall covers and their use in interiors can help to create a hypo-

thetical setting. For better preservation of the original material, a new layer should be easily removable and allow access to the original. A new layer of wallpaper can create a closed, humid environment, which does not permit further monitoring and may cause further damage.

Although it is not a common practice, fragments of wallpaper can be removed from their original location and returned after conservation treatment. If the fragments have lost their visual integrity, a decision needs to be made as to whether they are to be exhibited or not. Returning fragments of preserved wallpapers to their original location allows for the survival of the historic unity and function as research material for new generations.

Two of the wallpapers found in the Freyschlössl in Salzburg had survived only in fragments. Although they had lost their physical and aesthetic unity, they were handled as historic documents. Since they had clearly been created for the building, it was justifiable to preserve them in their original location despite their condition. Their preservation in an archive would have broken the historical unity and it would have raised the question of ownership. Moreover, the removed fragments and scraps of wallpaper would not have been as informative as they were *in situ*.

Depending on the conception and expectations of an owner, a modern interpretation of historic wall covers can be developed in co-operation with an interior designer. Such materials as glass, metal, plastic and wood veneer can be more easily removed from a wall to allow access to the original than a new layer of wallpaper. An imitation or an interpretation of the original decorative scheme can be printed, cut, etched or carved onto or into the mentioned materials. However, the new solution should not alter the dimensional properties and relation of the wall surface to other decorative details. Since a modern solution creates a new perception of a historic interior, the reasons for using modern materials need to be fully explained.

Although modern conservation theory emphasizes the importance of preserving as much original material as possible, the

use of reconstruction is justified if it helps to restore the visual unity of a historic object.

The wallpaper from the dining room of the Puurmani manor had survived only in fragments. Although the wallpaper covered only the lower half of three walls, it provided enough information to allow for the reconstruction of the fourth wall. The available information was even enough for the re-creation of the whole setting, but it was not carried out due to the tight budget. The renderings provided in the thesis show the appearance of the room if the whole reconstruction could have been carried out. Although only a part of the whole setting was reconstructed, the legibility of the whole decorative scheme improved considerably. Since reconstructed areas were printed with slightly cooler tones, they could be easily distinguished from the original.

If only a certain area of wallpaper is damaged (e.g. by mould, dark tide-lines or extensive tears caused by loose plaster), it is sometimes justified to remove the damaged segment and conserve it in a workshop. Naturally, the feasibility of the process depends on the method of mounting. The solution used should help to preserve a majority of the original unity and thus improve the aesthetic appearance of the whole object. It should, however, be taken into account that the treatment carried out on the removed segments should not alter their dimensions and other properties (such as texture, intensity of colour and the order of applications).

Removal of wallpaper from its original location destroys the original mounting system and the sequence in which separate strips and applications were mounted on the wall. Wallpapers that are removed to be conserved and are then remounted in their original location can be preserved either intact or in fragments. Commonly, wallpapers that have retained their physical and visual integrity are returned to their original location. As a result, they continue to fulfil their decorative function and form a unity with other decorative details.

On the other hand, removal of wallpaper allows for more thorough conservation. The solution is justified, firstly, if the supporting system of a wallpaper is damaged and it needs to be

consolidated and, secondly, if the wallpaper is in poor condition and conservation will improve both its physical condition and its aesthetic appearance. Thirdly, by leading to a more complete conservation treatment, an improved mounting system can be developed to prolong the life-span of an object. Ideally, a new mounting system should be an improved interpretation of the original mounting system. This should not alter the original dimensions of the supporting structure, because it would change the visual impact of the whole setting.

Four strips of heavily moulded wallpaper and a border were removed from the wall of the Puurmani manor's dining room. To preserve the unity of the wallpaper, it was decided to remove it in large segments instead of breaking it into separate strips. A majority of the removed material was returned to its original location after conservation. Heavily damaged, brittle areas needed to be replaced by reconstructions. Since only a segment of the wallpaper had been removed from the wall, it was not reasonable to make any considerable changes in the mounting system. While the wallpaper had been originally pasted onto a layer of lining-paper, the conserved segments were applied to two layers of thick Japanese paper.⁴⁵⁶ The method preserved the original dimensions of the historic setting and protected the original from the rough plastered surface of the wall.

A conservator faces a complicated task if numerous wallpaper layers are superimposed. If one of the layers is to be exposed, the decision depends largely on its significance. If the layers are going to be separated from each other, they can either be exhibited in a new location or preserved in an archive. Since earlier wallpaper layers are usually stripped from the wall prior to applying a new layer, it is possible that all the layers have survived more or less in fragments. In such a case, it is highly probable that a part of the decorative scheme needs to be reconstructed.

⁴⁵⁶ *Gampi*, 36 g/m².

If a well-preserved wallpaper needs to be dismantled and cannot be returned to its original location, it can be preserved either in an archive or in a new location.

The most common cause for reusing a historic wallpaper is its significance: it may be considered significant for its design, method of execution, history or origin, which means that it needs to be exhibited. Reused wallpapers create a different unity with other decorative details. It is not the original historic setting, but a historicizing solution, which aims to imitate and transmit certain information. Such wallpapers require a stylistically matching environment. Thus, prior to developing a preservation concept, it is necessary to research analogue wall covers and their use in interiors. The new result should not create a stylistic conflict between existing decorative details and the new wallpaper.

Both of the *chinoiserie* wall covers from the Esterhazy Palace can be categorized as reused wallpapers. In the case of panels depicting blooming trees and exotic birds, the wallpaper had been used twice, in the 1960s and in 2012, to create a decorative scheme. Although both of them could be considered new decorative schemes, they sought to follow certain principles of historic decoration and exhibit the significant wall covers in a suitable environment. As mentioned above, if an object has a history of relocation, it can be relocated again. Thus breaking the setting from the 1960s should not be seen as a destructive solution, since the original setting had already been broken. That means that the existing scheme may have been an unsuitable solution. Although altering an existing situation might seem to be undesirable, situations have a certain tendency to change.

Seven small painted silk wall covers found in the archive of the Esterhazy Palace were used to re-create the *chinoiserie* writing room of the Esterhazy princesses. Since the historical descriptions of the room referred only to the themes depicted on the wall covers, a new decorative conception needed to be created according to available analogues. The solution helped to restore the original function of the object, to emphasize its artistic and historical value and to restore the original conception of the room. Similarly to

the large *chinoiserie* panels, the decorative scheme of the small silk paintings could also be considered unstable.

If the plan is to remount a wallpaper, finding a room with matching dimensions may be the most demanding task. To fit an existing amount of material within the dimensions of a new room, often a compromise solution needs to be found. In such a case, either a segment of original material should be removed or additional material should be added. The additional material may be a reconstruction of a patterned wallpaper. However, to preserve a certain degree of authenticity, the original should be distinguishable from the reconstruction.

A wallpaper preserved in an archive loses a part of its original function. Although it may be preserved in a proper environment and monitored regularly, access to it is minimized. Furthermore, either separate fragments or large over-sized objects can provide the observer with information about a certain printing method, stylistic appearance and used materials, but seldom offer a complete understanding of the original setting.

To ensure the stability and longer existence of conserved wallpapers, it is necessary to preserve them in a proper environment that controls for temperature, amount of UV light and relative humidity. It is important to avoid improper maintenance conditions that may cause further damage. Since the main damage to wallpapers is caused by human activity, it is necessary to increase public awareness of the importance of historic wallpapers. In Estonia, not only common people, but also specialists working with historic interiors need to be educated about the importance of wallpapers, as well as various options to preserve them in interiors.

SUMMARY

This thesis has focused on issues dealing with the preservation of historic wallpapers as parts of interiors. According to modern conservation principles, historic objects, including wallpapers, should be preserved in their original location. Besides being merely decorative, wallpapers are also informative, revealing the function and importance of a room, the social background and financial level of its inhabitants, used materials, manufacturing methods and much more. Moreover, wallpaper forms a unity with other decorative details. If a wallpaper is removed from an interior and preserved in an archive, it loses a part of its ability to inform its observer about its former setting.

To allow for the preservation of a larger number of historic wallpapers in interiors, appropriate methodological guidelines need to be developed. Thus discussing possible preservation options and developing guidelines have been included in the thesis. The choice of the subject was above all triggered by the disturbing situation in Estonia, where the preservation of historic wallpapers is an extraordinary measure and is seldom undertaken. However, the methodology suggested is not limited to Estonia; it could be put to use elsewhere. It could contribute to the preservation of a variety of historic wallpapers, help make them aesthetically appealing and maintain them for future generations in their original locations.

According to the author's observations, a historic wallpaper can be preserved in an interior by implementing different conceptions. It can be preserved either *in situ* as an intact object or as a fragment, restored and remounted in its original location or exhibited in a new context by imitating or interpreting the ideas of the original historic decoration.

For a better understanding of the versatility of historic wallpapers and the principles of wall decoration, this thesis has offered a concise overview of the use of wallpapers from the middle of the 18th century until the beginning of the 20th century. The period was chosen according to the ages and types of the eight research objects.

The author has focused on the most frequently occurring wallpaper types and decorative schemes in three trend-setting countries: England, France and Germany. The ideas of fashionable decoration reached Estonia thanks to Russian and Baltic-German families, who had either family or business contacts in Central European countries. Since the mentioned countries can be considered the biggest influences on the decoration of Estonian interiors, giving an overview of general wallpaper history made it possible to compare and draw parallels between foreign and local interiors.

Due to its summarizing character, the text can be used as a basis for the development of preservation concepts and comparisons of analogues. The plan is to use the information subsequently as a basis for didactic material compiled for students and professionals working with historic interiors in Estonia.

Since historic interiors are interdisciplinary objects, a combination of various conservation principles should be applied to improve their condition and prolong their life-spans. Similarly to interiors, all known conservation principles, such as preservation, conservation, restoration and reconstruction, can be applied to preserve historic wallpapers. The choice of a suitable methodology depends on various factors. First of all, it depends on the outcome of research, not only research on physical and chemical properties of an object, but also its historical background and relationship to other decorative details. Secondly, it is important to consider values attributed to an object. In the case of wallpapers, these are most commonly aesthetic and historical values, but additional values such as educational and monetary values should be considered. Other important aspect in the development of a conservation concept are the expectations of the owner and his/her financial possibilities.

Besides history, other aspects conservation specialists working with historic wallpapers should take into account are the used materials, methods of production and mounting. Proper knowledge of these subjects will help to understand the age and financial value of a wallpaper and the possible type and extent of a decorative scheme. Moreover, such information will

enable a conservator to understand the architectural changes carried out in a building and to create an appropriate preservation concept.

Since a conservator might not be knowledgeable about all the aspects of a conservation project, it is important to include specialists from other fields. Depending on the object, issues concerned with its preservation and its environment, the array of specialists who should be included in the discussion may be very wide. For example, to research the history of an object and its relation to other decorative details, an (art) historian should be included. In co-operation with an interior designer or architect, an appropriate decoration scheme which takes all the decorative details into consideration can be developed. While planning the order of the work done by various specialists, consulting a building-manager may be necessary.

Similarly to any other material, the conservation process of historic wallpapers aims to consolidate their physical condition and improve their aesthetic properties. Depending on the conservation concept and its expected result, different conservation methods and principles can be used. Most paper conservation methods can be applied to conserve historic wallpapers. However, since wallpapers form parts of interiors and should be aesthetically appealing, it is sometimes necessary to implement methods usually used in related fields, for example in the conservation of painted surfaces. These methods most commonly include the consolidation of printed/painted surfaces and retouching.

To show the possibility of applying the methodological guidelines to a very wide range of objects, the author chose eight historic wallpapers in various stages of decay. Preservation issues of each object were discussed in separate case studies at the end of the thesis.

Six of the objects were conserved under the supervision of Markus Krön from the *Institut für Papierrestaurierung* in Vienna and two were conserved independently. A number of supplementary wallpaper conservation projects carried out by other conservators in Estonia, Finland, Croatia and Germany were

briefly discussed to complement the chosen research objects.

The chosen wallpapers were produced from the middle of the 18th until the beginning of the 20th century. They include various wallpaper types and wall decoration schemes, all of which were preserved in one or another way as part of interiors.

The oldest of the eight objects were two *chinoiserie* wall covers from the Esterházy Palace in Eisenstadt. They date back to the middle of the 18th century and were integrated into two Rococo wall schemes.

The six remaining objects exemplify the versatility of wallpapers and decoration schemes characteristic to historicist rooms in the first and second half of the 19th century. The objects were in various stages of decay, and involved a variety of conservation problems, aims and possible concepts in the preservation of wallpapers in interiors.

Two of the objects had survived intact. One of them was conserved *in situ* and the other one in a workshop as a dismantled object. The wallpaper from the Estonian Literary Museum was preserved *in situ*. It represents a type of wallpaper typical of a lady's boudoir in the second half of the 19th century. Another object that had survived intact was the wallpaper from the Theodor Aman Museum in Bucharest. It was returned to its original location after it had been removed and conserved by a local conservator. The object was a fine example of an embossed wall cover that imitated gilt-leather and was highly popular in the second half of the 19th century.

Only fragments of the other four wallpapers had survived. Three of them were discovered in a small private castle, the Freyschlössl in Salzburg, Austria, and one in the dining room of the Puurmani manor in Estonia. The conservation methods used varied depending on the stage of decay and the amount of available material revealing the original appearance.

All of the conservation projects had three common tasks: firstly, to improve the physical condition of a wallpaper and preserve a unity of appearance, secondly, to preserve and emphasize the values attributed to it and, thirdly, to ensure its preservation in an interior. The concepts depended on various

criteria, such as the physical, historical and aesthetic properties of the object, as well as the expectations of its owner and his/her financial capabilities.

Since conservation treatment may alter certain qualities of a wallpaper and its current condition, it is important to document the object, its properties and the whole conservation treatment in detail. In addition to the descriptions and analyses of each research object and conservation conceptions, a documentation form was developed to allow for more detailed recording of a historic wallpaper.

As a result of the thesis research, one can conclude that through a combination of conscious and consistent actions, more historic wallpapers can be preserved in interiors and the historic aesthetic unity of various rooms can be preserved or re-created. To offer a larger and richer range of historic interiors for future generations, more attention should be given to thorough research on paper wall covers and options should be sought to preserve them as parts of interiors. Greater versatility in decorative materials in interiors offers a greater variety of visual pleasure and education. The preservation concepts used on the eight objects have shown this potential.

PART II: DOCUMENTATIONS

I

DOCUMENTATION
OF THE WORK ON THE
PUURMANI MANOR

Documentation of the work on the Puurmani Manor

WALLPAPER DOCUMENTATION FORM

OBJECT

Name of object:	Wallpaper of Puurmani manor dining-room
Location of object:	Puurmani manor / Puurmani Secondary School Tartu mnt 1, Puurmani, Jõgeva County, Estonia
Manufacturer/author:	Unknown manufacturer
Date:	I layer: 1880s II layer: 1890–1910
Paper:	Hand-made: Machine-made: X
Paint:	Distemper: X Oil: Ink: Other:
Technique:	Block-printing: X (I layer) Surface-printing: X (II layer) Stencilling: Hand-painting: Flock: Other:
Measures:	Surface to restore: 53,6 m ² Surface to reconstruct: 8,6 m ²
Owner/manager:	Puurmani Commune Administration / Puurmani Vallavalitsus
Start of the project:	February 2010
End of the project:	June 2010
Conservator(s):	Kadri Kallaste, Kristiina Ribelus
Object is being preserved:	In archive: Exposition: Original location: X New location:
Recommendation for preserving and displaying the object:	Recommended temperature: 18–25 C° Recommended RH: 45–50% Recommended lux: 50 lux Avoid sudden changes in the temperature and humidity levels, e.g. room must be moderately heated during the cold and wet seasons. The windows should be kept closed. – Do not touch or lean against the surface of the wallpaper, since it might cause grease stains, pigment loss, mechanical damage and similar damage. – Do not place furniture too close to the wall – it might scratch the surface of the wallpaper. – Examine the surface of the wallpaper regularly to avoid

Documentation of the work on the Puurmani Manor

- damaged caused by insects, rodents or mould on time.
- Special care must be taken of the walls nr. 1–5 (exterior walls on the park side), that are most vulnerable to damage caused by humidity.
- If too much dust accumulates on the surface of the wallpaper, it needs to be cleaned with soft brushes.
- It is recommended:
- to keep windows closed
 - to cover windows with a layer of UV protection sticker
 - to protect the surface sided by doors with a layer of transparent plexiglass
 - not to touch the surface of the wallpaper
 - not to place furniture too close to the wall
 - not to take photographs with flash
- In case of any problems concerning preserving the wallpaper, a conservation specialist should be contacted.

LOCATION OF OBJECT:

Building:	Puurmani manor
Floor:	First floor
Room:	Dining-room
Wall/ceiling:	Wall
Location on wall/ceiling:	Wallpaper covers three walls of the room (wallsegments 1, 3, 4, 5, 6, 7, 8, 9, 10, 14; see Figure 163) from floor moulding up to the height of 174 cm. It is not known how much of the first wallpaper layer has been preserved.
Layers:	I and II layer
Dismounted by and when:	Wallpapers were partially dismantled by Kadri Kallaste and Kristiina Ribelus in February 2010.
Reasons for dismantling:	Dismounted strips were heavily moulded and needed to be treated in a restoration workshop. One of the strips was scanned in to make reconstructions.
Remounted by and when:	Remounted by Kadri Kallaste and Kristiina Ribelus in June 2010.
Method of remounting:	The wall under the original wallpaper was adhered with two layers of methylcellulose and covered with japanese paper (kozo, 36 g/m ²). For attaching the wallpaper onto the wall, methylcellulose was used.

DESCRIPTION OF A LARGE-SCALE FRAGMENT OR A WALLPAPER PRESERVED IN INTERIOR:

Number of wallpaper layers:	Two layers
Measures of wallpaper sheet or strip:	I layer: width of strip 46,8 cm II layer: width of strip 47 cm

Documentation of the work on the Puurmani Manor

Selvedge:	I layer: right edge of the strip had been cut off. The left edge was about 1 cm wide. One could see control-margins characteristic for block-printing and a number 6 or 9. II layer: right edge of the strip had been cut off. The left edge was about 1 cm wide. One could see a control strip of 11 printing-colours and the number of pattern model, 559.
Size of pattern repeat:	I layer: ca 50 cm II layer: 47 cm
Type of pattern:	I layer: half-drop II layer: linear
Description of pattern:	I layer: pattern is made up of polygonal cartouches, that integrate a composition of objects or beings referring to hunting (deer, grouse, guns, container for gunpower, bugle etc.). The cartouches create a half-drop pattern. The pattern has golden and brown tonality. II layer: pattern depicts lush foliage, variety of blossoms (rose, lily, lily of the valley etc.), berries, bugs, butterflies and two types of parrots.
Method of mounting:	I layer: wallpaper was adhered onto a layer of thin lining-paper, that was pasted straight onto a plastered wall. II layer: wallpaper was pasted onto a wallpaper underneath.
Substrate of wall:	Plastered brick-wall
Adhesive used for mounting:	Not known. Most probably an organic glue such as starch paste.
Additional application(s):	Ceiling-border: X Chair-rail border: Dado: Corner-piece: X Other: X (mono-chrome paper)
Description of additional applications:	I layer: additional applications were not found II layer: originally the main wallpaper was surrounded by a border and one-colored paper strip from four sides – above, below, left and right. The border depicts a linear composition of twisted roses, small blue blossoms and baroque cartouches. Background of the border is printed with two different shades of gold. Eight corners, formed by the crossing of borders, were embellished with matching decorative squares. Their dimensions were matching the ones of the border. The monochrome paper strip had a colour of the Umber of Ardennes.
Measures of application(s):	Border: width 19,8 cm Corner piece: 19,8 × 19,8 cm Monochrome paper strip: 10 cm
Method of production:	Border and corner pieces: surface print Monochrome paper: Grounded by machine

Documentation of the work on the Puurmani Manor

ADDITIONAL INFORMATION:

Signs of manufacturer/author:	I layer: not found II layer: number of pattern model, 559 on the left side of the panel, control-strip of 11 printing colours
Signs on lining:	No signs found
Legend:	–
Bibliography/archive sources:	Not found. There are no historic photographic evidence of Puurmani manor interiors.
Data/signs of earlier restoration:	Wallpapers have not been restored before.

DESCRIPTION AND TESTING OF USED MATERIALS

Surfacematerials:

Paint: I layer: distemper
II layer: distemper

Lacquer: I layer: shellac lacquer
II layer: not lacquered

Comments:

Substratematerials:

Paper: I layer: mechanically produced cellulose paper
II layer: mechanically produced cellulose paper

Watermark: –

pH: –

Fiber: –

Lining: I layer: thin light brown cellulose paper
II layer: not found

Additional tests/work: A. testing water resistance of the printing colours
B tests for dry cleaning (Wishab Sponge Soft, Faber-Castell Kneaded Eraser)
C. searching for historic photos of the Puurmani manor in EAM and ERM archives in Estonia

Comments:

DESCRIPTION OF DAMAGE:

Description of object's general condition: The size of the surface that needed to be restored was 53,6 m². 21 m² of it was damaged by mold, humidity, splashes of paint, marks and numbers written with a pencil, insect holes). One needed to reconstruct 8,6 m² of wallpaper, 10,3 m of border and 44,5 m of one-coloured paper strip. Paper and colours of the wallpaper and borders are generally

Documentation of the work on the Puurmani Manor

well preserved and could sustain mechanical treatment, e.g. dry cleaning.

The surface of wallpaper is covered with spider-webs, loose surface dirt, splashes of chalk paint, random oily marks (e.g. candlewax).

The wallpaper was heavily damaged by humidity on the walls 1 and 2 (see Figure 163). It was rotten, billowy and had been partially detached from the wall. Because of the brittleness of the adhesive, wallpaper, border and lining-paper could be detached from each other easily. Pigments have faded and paper had become brittle. One could see damage caused by insects (holes and tunnels) and a foamy matter left by a mold. The surface of plaster was covered with dark spots caused by the growth of mold.

There are several losses in the wallpaper on the walls 1, 2, 5, 6, 8 and 14 (see Figure 163). They could be filled with wallpaper fragments removed from the wall (e.g. fragments behind the supraportes) or with reconstructions. Occasionally one could notice smaller losses and damages, e.g. nailholes, cracks, furrows and superficial damages.

There are several deep holes along the upper edge of the wallpaper and on the surface between windows. They have been made to install a wooden dado or pipes. Wallpaper and border have been mechanically damaged around these areas, there are great losses. (See the maps of damage, Figures 164–168).

Wallpaper has been completely destroyed on the walls 11 and 12. They need to be covered with reconstructed wallpaper, border and one-coloured paper strip.

Borders on the walls 1–6 and 14 have large cracks. Borders have been heavily damaged by the installation of pipes. There are only fragments of wallpapers, that have been framing the wallpaper from the side. Borders on other walls are in a good condition.

There is only one original decorative corner-piece. One could find it on the wall 14.

One-coloured paper strip is in a poor condition. Its surface had been mechanically and biologically damaged. Gradual water and mold damage had left its surface patchy.

Summary / overall rating of the object's state:

* Wallpaper is largely well preserved, but there is also rather damaged areas (molded, patchy, mechanically damaged, covered with colour splashes etc.).

Borders have been maintained satisfactorily. Some of the strips need to be dismantled. Part of them could be restored in a workshop; part of them need to be replaced with reconstructions.

One-coloured paper strips are badly damaged or completely destroyed. For the best result, all of them need to be replaced with a reconstruction.

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Mechanical damage:	Scratches, cracks, parts of wallpaper had been ripped off mechanically, numbers and crosses drawn on the wallpaper with a pencil, heavily rubbed area,
Chemical damage:	Candle-wax, an unknown undissolable adhesive, chalk paint
Biological damage:	Mold, insect holes
Other damage:	Dust

CONSERVATION AND RESTORATION PROCESSES:

Date:	Conservation process:	Used materials:	Used time:
22 February 2010	Documenting and measuring	–	2 hours
22 February 2010	Making dry-cleaning samples	Wishab Sponge (Soft/Medium), Faber & Castell charcoal eraser	1 hour
22 February 2010	Dismounting moulded and heavily damaged parts of wallpaper	restorer's spatula, brush made of deer hair, distilled water, buverizator	3 hours
22–23 February 2010	Conservation and backing of heavily damaged and moulded wallpaper and border	Japanese paper (Gampi, 36 g/m ²), wheat starch paste, water-colours	10 hours
24 February – 5 March 2010	Dry-cleaning of wallpapers from dust and dirt <i>in situ</i>	Faber & Castell charcoal eraser, soft brush of deer hair, brush of pig hair	48 hours
4 March 2010	Choosing a matching one-colored wallpaper for the upper part of the wall	Wallpaper from Pihlgren & Ritola OY	4 hours
8 March 2010	Exposing a small area of lower wallpaper	Restorer's spatula, distilled water, cotton, acetone	2 hours
8–9 March 2010	Consolidation and repair of paper damages	Japanese paper (Gampi, 36 g/m ²), metylcellulose	16 hours
10–16 March 2010	Filling smaller losses of wallpaper	Japanese paper (Gampi, 36 g/m ²), Klucel G, ethanol, metylcellulose, fragments of original wallpaper	24 hours

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17–22 March 2010	Preparing the wall for filling larger losses	Japanese paper (Gampi, 36 g/m ²), metylcellulose	16 hours
13–14 / 20–21 March 2010	Mending wallpaper and border with fragments of the original wallpaper	Fragments of original wallpaper, metylcellulose	32 hours
April – May 2010	Making reconstructions: A. scanning of wallpaper, border and square decoration and their digital retouching B. choosing the matching material for one-coloured strips C. preparing colour samples D. preparing the one-coloured strips by hand E. choosing the matching paper for printing reconstructions F. printing the reconstructions	A. Adobe Photoshop XP B. Graham & Brown. 1000 Lining Paper. Single. Pattern No. 81035 C. Arden Umbra, ocher yellow, casein D. Arden Umbra, casein, Graham & Brown paper E. Enhanced Matte Paper (24in x 30m) 194g F. Printer Epson 9600 Professional. Printing-ink: pigment-inks. Paper: Enhanced Matte Paper (24in x 30m) 194g. – 15 strips (47cm x 157 cm) together 11,1 m ² – border (wide) 14 pieces (157 cm x 19,5 cm) or together 3 m and 61,5 cm – border (narrow, 3cm) together 25 m – corner pieces (19,5 cm x 19,5cm) 7 pieces, 5 were mounted on the wall	64 hours
3–10 May 2010	Retouching and partial repainting of the pattern	Watercolour, acrylic colour	40 hours
17 May 2010	Covering wall with lining	Japanese paper Gampi, 36 g/m ² (for originals), newspaper (for reconstructions), metylcellulose	4 hours
2–3 June 2010	Remounting conserved strips of wallpaper	Original wallpaper and borders, metylcellulose	16 hours

Documentation of the work on the Puurmani Manor

7-8 June 2010	Mounting reconstructions and borders, that had been removed from the wall	Reconstructions, original borders, metylocellulose	16 hours
10 June 2010	Filling the documentation		4 hours

DRAWINGS/SKETCHES:

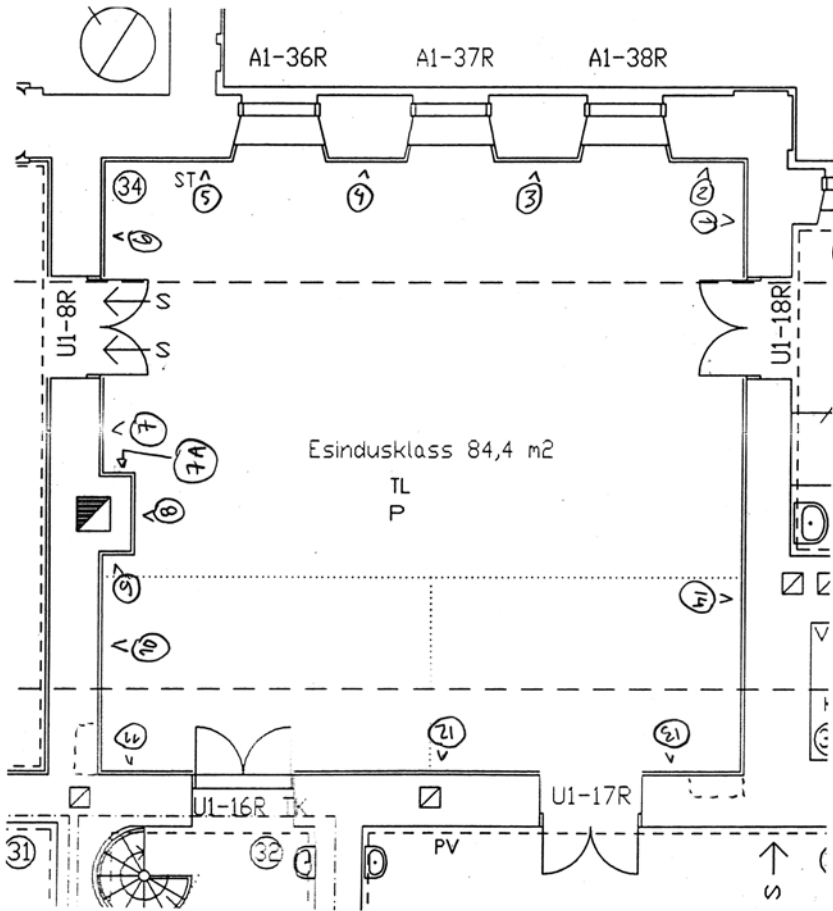


Figure 163.

Documentation of the work on the Puurmani Manor

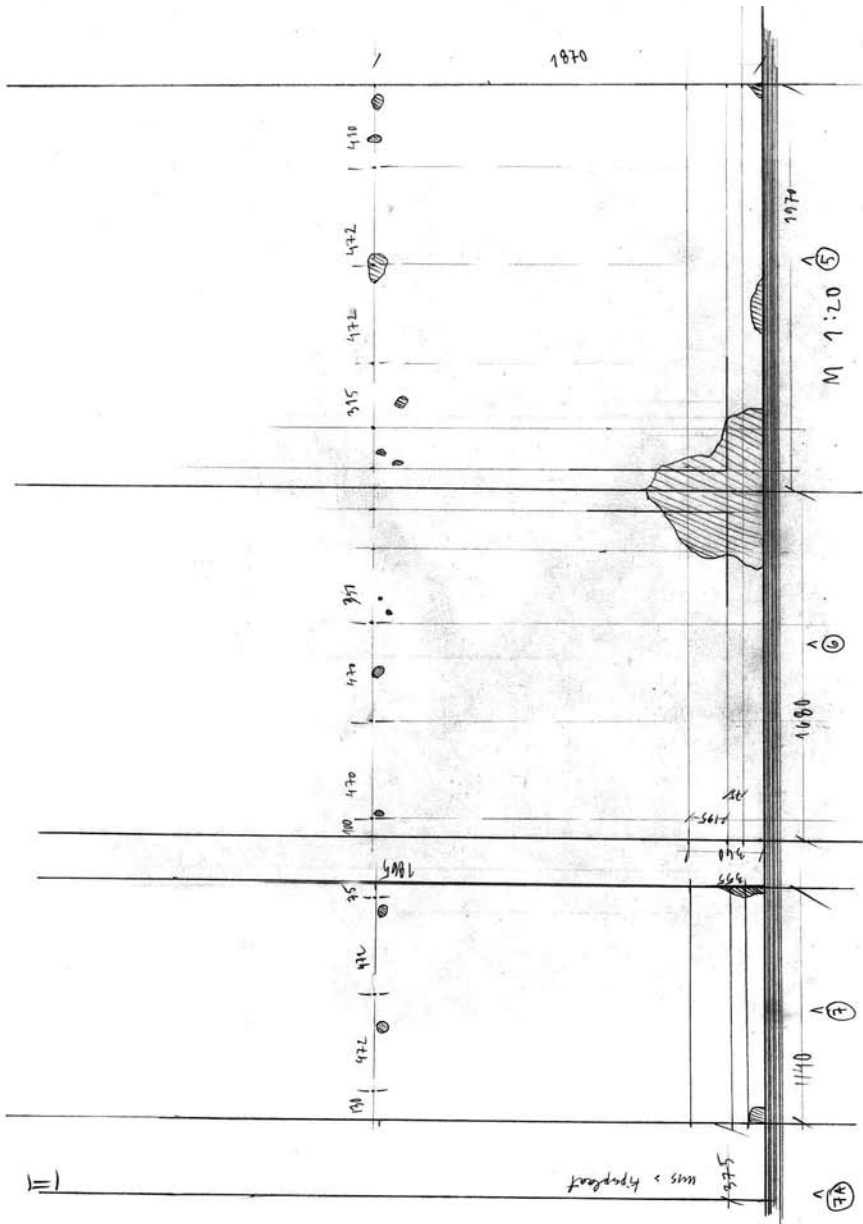


Figure 165.

Documentation of the work on the Puurmani Manor

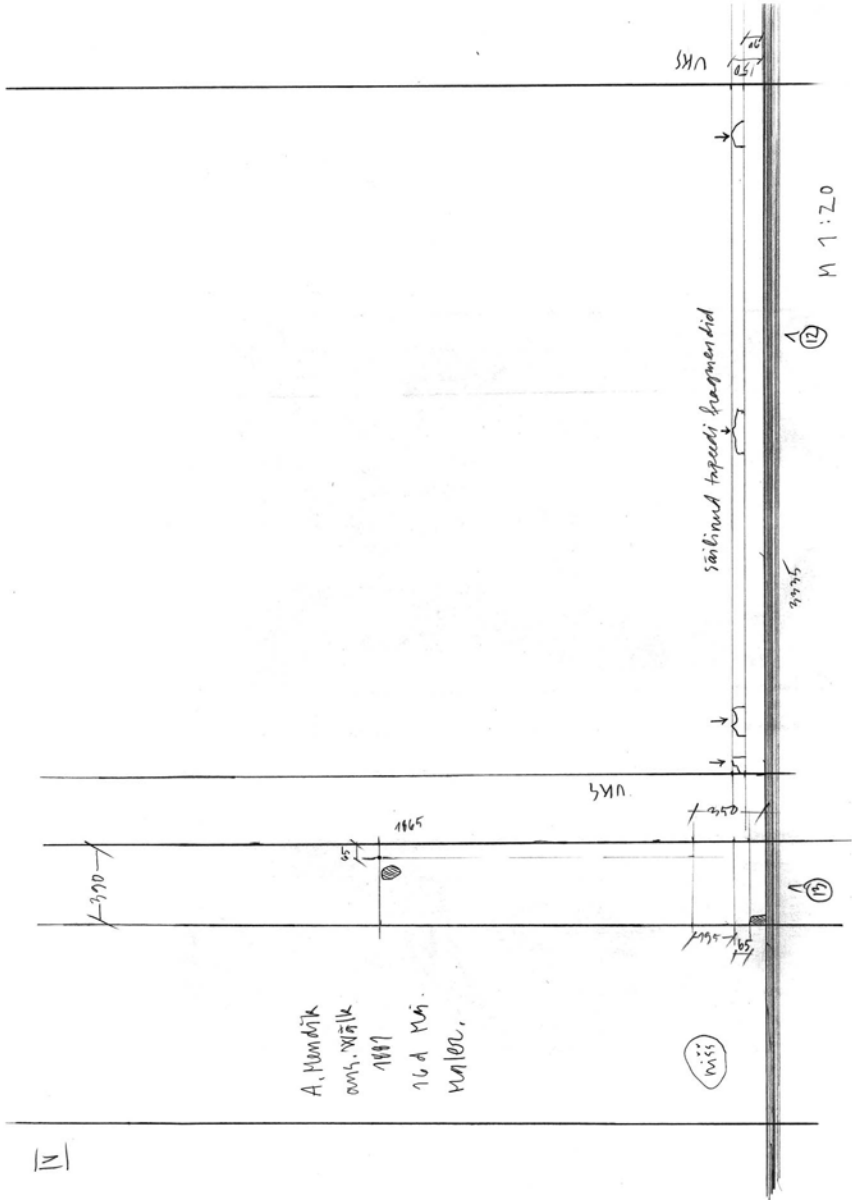


Figure 167.

Documentation of the work on the Puurmani Manor

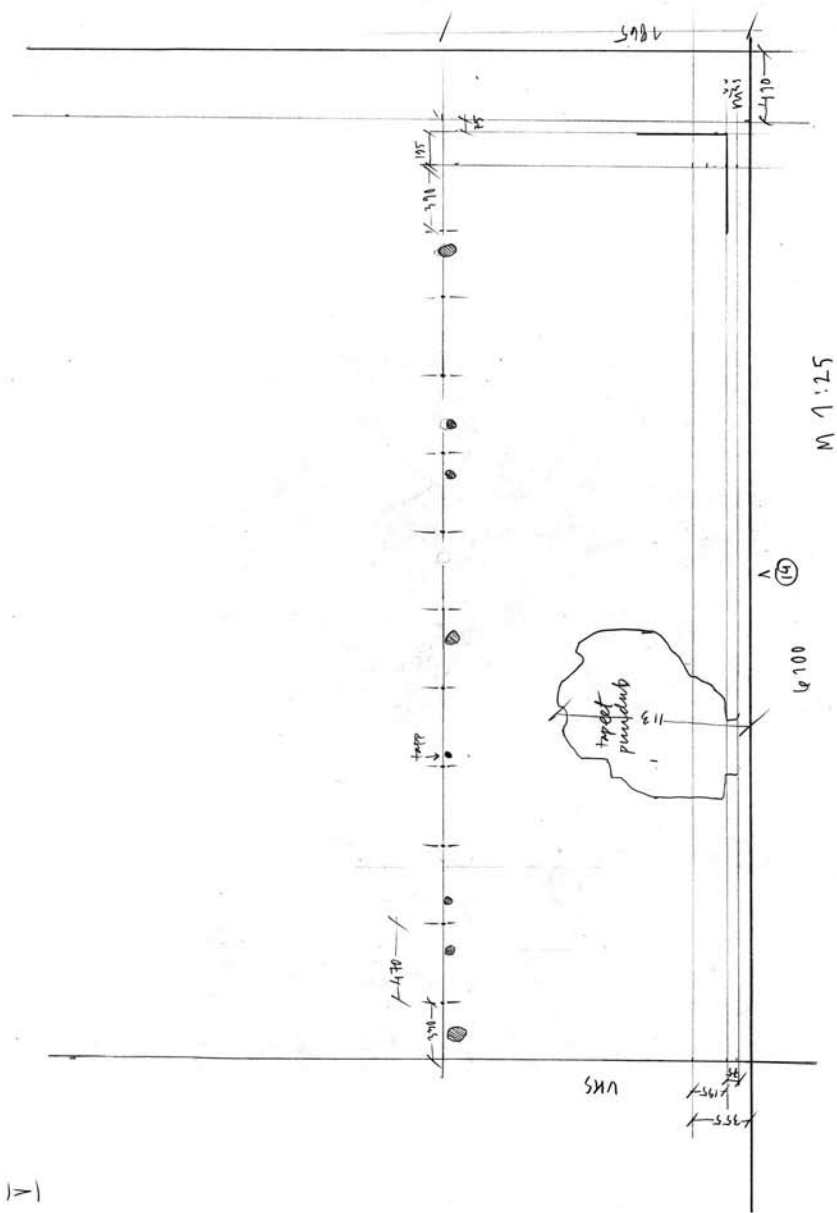


Figure 168.

ADDITIONAL DOCUMENTATION:

Process: –

Performer: –

Date: –

OUTCOME OF THE CONSERVATION/RESTORATION PROJECT:

During the project 53,6 m² of wallpaper was restored. Large losses of wallpaper on the walls 5, 6, 8 and 14 were filled with wallpaper removed from behind three overdoors. Walls 1, 2, 7a, partially 8, 11 and 12 were partially completed with reconstructions. Original borders were remounted on the walls 3, 4 and 5. Fragments of an original border were used to complete the border of wall 14.

In order to give the room a visual unity, the one-coloured paper strip was replaced throughout the rooms with reconstructions. The originals weren't removed, but covered with reconstructions.

Since the original wallpaper had been preserved only up to the height of 172 cm above the floor, the rest of the wall needed to be covered with a wallpaper of neutral tone. One chose a beige wallpaper with slight texture from a Finnish manufacturer, OY Pihlgren & Ritola. The separation line of old and new was covered with a narrow strip cut from the reconstructed border.

Reconstructions were left tonally slightly colder than originals to recognize new part from old. The result restores the visual unity of the original wallpapers and presents the three-partite wall-decoration scheme. Although less than a half of the wallpaper has preserved, it still gives an idea how the room originally looked. Restorers wish to make a digital reconstruction of the whole three-partite wallscheme, present it in the old dining-room of Puurmani manor nad add it to the documentation of the restoration project.



Figure 169. Dining-room of the Puurmani manor before restoration treatment.



Figure 170. Condition of the wallpaper after the removal of the wooden paneling.



Figure 171. Heavily moulded area.



Figure 172. Large area of missing wallpaper.



Figure 173. Discoloured and mechanically damaged area.



Figure 174. Fragments of the border.



Figure 175. Two historic wallpaper layers of the dining-room seen on a corner.



Figure 176. Segment of the older wallpaper after the removal of the upper layer.



Figure 177. Older wallpaper layer after cleaning and retouching.



Figure 178. Fragments of the border before restoration.



Figure 179. Two historic borders after reassembling and lining.



Figure 180. Small missing areas were filled with the wallpaper fragments found behind the wooden overdoors.

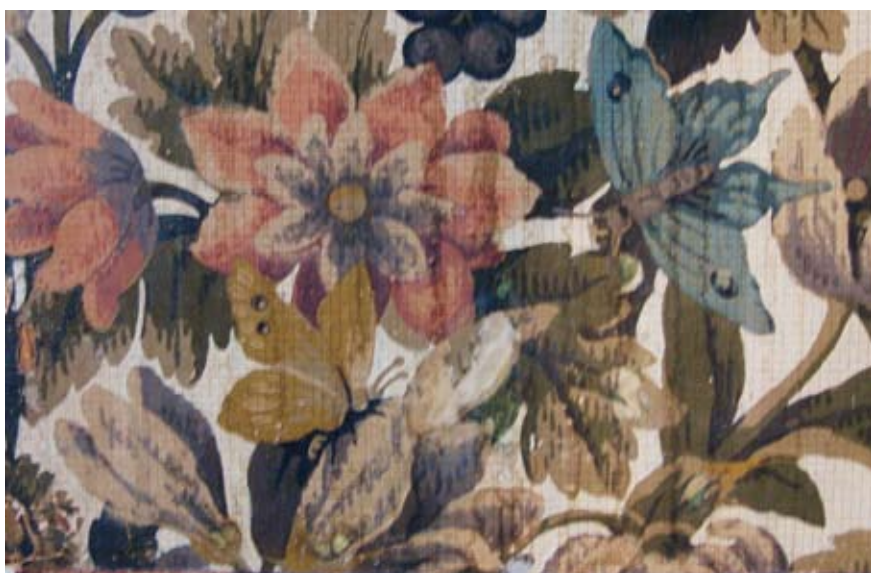


Figure 181. Tiny holes made by insects were filled with a fine layer of paper paste.

Documentation of the work on the Puurmani Manor



Figure 182. Final outcome after the restoration treatment and partial reconstruction.



Figure 183. Segment of a wall with newly assembled and remounted historic border.

II

DOCUMENTATION OF THE WORK ON THE ESTONIAN LITERARY MUSEUM

Documentation of the work on the Estonian Literary Museum

WALLPAPER DOCUMENTATION FORM

OBJECT

Name of object: Wallpaper and border in the Estonian Literature Museum

Location of object: Estonian Museum of Literature / Eesti Kirjandusmuuseum
Vanemuise 42, Tartu, Estonia

Manufacturer/author: Unknown manufacturer

Date: 1894

Paper: Hand-made:
Machine-made: X

Paint: Distemper: X
Oil:
Ink:
Other:

Technique: Block-printing:
Surface-printing: X
Stencilling:
Hand-painting:
Flock:
Other:

Measures: Surface to restore: 73,6 m²
Surface to reconstruct: 0,75 m²

Owner/manager: Estonian Museum of Literature / Eesti Kirjandusmuuseum

Start of the project: 6 October 2012

End of the project: 30 November 2012

Conservator(s): Kadri Kallaste, Kristiina Ribelus, Marju Paal, Kelly Luht

Object is being preserved: In archive:
Exposition:
Original location: X
New location:

Recommendation for preserving and displaying the object: Recommended temperature: 18–25 C°
Recommended RH: 45–50%
Recommended lux: 50 lux

Avoid sudden changes in the temperature and humidity levels, e.g. room must be moderately heated during the cold and wet seasons. The windows should be kept closed.

- do not touch or lean against the surface of the wallpaper, it might cause grease stains, pigment loss, mechanical damage.
- do not place furniture too close to the wall, it might scratch the surface of wallpaper.
- examine the surface of the wallpaper regularly to avoid damaged caused by insects, rodents or mould on time.

Special care must be taken of the corner B/C (see sketches),

Documentation of the work on the Estonian Literary Museum

since is the most vulnerable to damage caused by humidity. If too much dust accumulates on the surface of the wallpaper, it needs to be cleaned with soft brushes.

If there might be any problems maintaining the wallpaper, contact a conservation specialist.

LOCATION OF OBJECT:

Building: Estonian Museum of Literature, Eesti Kirjandusmuuseum (Vanemuise 42, Tartu)

Floor: First floor

Room: Salon / storage-room for forbidden literature

Wall/ceiling: Wall

Location on wall/ceiling: Wallpaper covers all four walls of the room from floor moulding up to the height of 3,75 cm. It is topped with a 10 cm wide border.

Layers: I layer

Dismounted by and when: Not dismounted

Reasons for dismounting: –

Remounted by and when: –

Method of remounting: –

DESCRIPTION OF A LARGE-SCALE FRAGMENT OR A WALLPAPER PRESERVED IN INTERIOR:

Measures of wallpaper sheet or strip: Width of strip: 46,9 cm

Selvedge: Left one, no margins found

Size of pattern repeat: Ca 50 cm

Type of pattern: Half-drop

Description of pattern: Wallpaper has shimmering skin-toned background with slight embossed texture. The pattern is formed by large red, pink and yellow blossoms of pink and winding fine stems with green leaves.

Method of mounting: Wallpaper was adhered onto a layer of thin lining-paper, that has been pasted straight onto the plastered wall. The lower edge of the wallpaper is covered by a wooden floor-moulding and the upper edge by a border.

Substrate of wall: Plastered brick-wall

Adhesive used for mounting: Not known. Most probably an organic glue such as starch paste.

Documentation of the work on the Estonian Literary Museum

Number of wallpaper layers:	1 layer
Additional application(s):	Ceiling-border: X Chair-rail border: Dado: Corner-piece: Other:
Measures of application(s):	Width of ceiling-border: 6,5 cm
Description of additional applications:	Border is block-printed with distemper colours. It depicts blossoms of lilies in two colours (beige and blue) and various palm-leaves. The paper is considerably thinner than the one of wallpaper.
Method of production:	Block-printed
Description of the wall scheme:	All four walls are covered with a light satin wallpaper from the wooden floor moulding up to the border on the height of ca 3,70 cm. The borders, that runs around the room, is adhered underneath the a painted cornice. The border is then succeeded by a historicist ceiling-painting. Besides walls, also all three sides of 2 doors and a window are papered. Although it is not seen anymore, wallpaper was slightly pasted over a ceramic oven. The latter characteristic no longer exists, since it was destoried, by an uninformed construction-worker.

ADDITIONAL INFORMATION:

Signs of manufacturer/author:	Not found
Signs on lining:	Thin paper adhered on wall sheet by sheet.
Legend:	It is most probable that this room was used as a salon by a Baltic-German family von Grote, who owned the building until 1920. Starting from the end of the II World War this room has been used as a storage for forbidden literature. Since it needed to house hundreds of books, the room was filled with bookshelves filling the space from floor up till the ceiling. Before all the shelves could be removed from the room, no-one knew, how much of the original wallpaper still exists.
Bibliography/archive sources:	There is no photographic evidence of this particular room.
Data/signs of earlier restoration:	Although wallpaper has not been restore before, one could notice small repairs (wallpaper patches glued over damaged spots, hints of retouching).

DESCRIPTION AND TESTING OF USED MATERIALS

Surfacematerials:	
Paint:	Distemper
Lacquer:	Not lacquered

Documentation of the work on the Estonian Literary Museum

Comments:

Substratematerials:

Paper: Mechanically produced cellulose paper with slight embossed relief

Watermark: –

pH: –

Fiber: –

Lining: Thin brown cellulose paper in sheet form.

Additional tests/work:

- A. Testing water resistance of printing colours
- B. Testing various materials for dry cleaning (Wishab Sponge Soft, Faber-Castell Kneaded Eraser, latex sponge)
- C. Testing adhesives Klucel G (solutions 2,5%, 5% and 10% in ethanol) and methyl cellulose
- D. Testing colours for restouching (crayons, watercolour crayons, dry pastel, watercolour, gouasche)
- E. searching for historic photos of the building in EAM and ERM archives in Estonia

DESCRIPTION OF DAMAGE:

Description of object's general condition: Walls are covered from the height of about 3,75 m with with satin wallpaper depicting large red and yellow nelgi blossoms. A narrow and dark border depicting exotic blossoms and palmleaves runs along the upper edge of the wallpaper. The lower edge of the wallpaper is covered with wide wooden floor moulding.

An area to be restored (wallpaper + border) cover 67,7 m² of the wall. About 1 m² of wallpaper and 1,5 m of border is missing.

Majority of wallpaper and border is in a very good condition and resistant to dry cleaning.

On the wall B, dark outlines of two large rectangles and several horizontal lines had been left by painting bookshelves.

On the wall D, on an area between ceramic heater and door leading to the main-hall, about 0,5 m² of wallpaper is covered with dark yellow archival paper.

Wallpaper is damaged by moisture and has loosened from the wall in the corners A/B, B/C and C/D. The whole corner B/C is damaged by moisture. The area of damage is visually darker than rest of the wallpaper, its outlines are marked with dark brownish-yellow outlines.

There are three major losses in the paper fabric and a large amount of small losses (such as deep scratches, nail holes, holes made by metal or wooden tenons), that are scattered around on the surface of the wallpaper. The whole surface of wallpaper is covered with spider-webs and loose dirt.

Documentation of the work on the Estonian Literary Museum

Mechanical damage:	Scratches, cracks, holes, parts of wallpaper has been ripped off mechanically, occasional pencil marks, water-marks,
Chemical damage:	Candle-wax, an unknown undissolable adhesive, chalk paint
Biological damage:	Insect holes, spider-nets
Other damage:	Dust on surface, unremovable dirt, discoloration,

CONSERVATION AND RESTORATION PROCESSES:

Date:	Conservation process:	Used materials:	Used time:
27 September 2012	Documenting, measuring, mapping damages	Nikon D3000	3 hours
27 September 2012	Making dry-cleaning samples	Soft brushes of deer hair, Wishab Sponge (Soft/Medium), Faber & Castell Kneaded Eraser, latex sponge, scalpel	2 hours
8 October 2012	Removal and cleaning of damaged wallpaper behind a radiator	Scalpel, paper-knife, soft brushes, Wishab Sponge Soft	2 hours
8–11 October 2012	Dry-cleaning	Soft brushes, Wishab Sponge Soft, Faber & Castell Kneaded Eraser	40 hours
15 October 2012	Removal of nails, wooden tenons and metal hooks from the wall*	–	4 hours
15 October 2012	Filling holes formed in the plaster*	–	4 hours
16–17 October 2012	Consolidation and repair of paper damages	Japanese paper (Gampi, 29 g/m ²), Klucel G, methyl cellulose, bone spatula	40 hours
17 October 2012	Adhering ripped edges and pieces of wallpaper back to their original location	Methyl cellulose, bone spatula	16 hours

* Carried out by another company

Documentation of the work on the Estonian Literary Museum

18 October 2012	Filling minor losses with mixture of paper pulp and adhesive	Finely milled light and acid-free Ingres paper, Klucel G (15% in ethanol)	8 hours
6–8 November 2012	Filling larger losses with original wallpaper (removed from the wall above an oven and behind a radiator)	Original wallpaper, border, Klucel G (15% in ethanol), methyl cellulose	32 hours
6–9 November 2012	Mechanical removal of dark paint or lacquer	Scalpel, hard brush of pig's hair	24 hours
12–14 November 2012	Treating dark watermarks	Cotton, saliva, distilled water, ethanol	24 hours
16–19 November 2012	Mending wallpaper fragments ripped from the wall A. Systemizing and mapping wallpaper fragments B. Drycleaning C. Removal of lining paper D. Blotter-washing E. Pressing F. Preparing wall-surface G. Adhering fragments on the wall H. Filling missing areas I. Retouching	A. Pencil and paper B. Soft brushes, Wishab Sponge (Soft), spatula C. Hollytex, distilled water, spatula D. Hollytex, blotter paper, distilled water E. Hollytex, blotter paper, wooden board F. Japanese paper (Gampi, 29 g/m ²), methyl cellulose G. Klucel G (15% in ethanol), bone spatula H. Original wallpaper, Klucel G (15% in ethanol) I. Faber & Castell watercolour crayonsz	32 hours
20–22 November 2012	Making reconstructions: A. Preparing wall-surface B. Filling missing areas with Ingres paper with matching tone and texture C. Preparing two stencils D. Toning background E. Stenciling and painting the missing pattern	A. Japanese paper (Gampi, 29 g/m ²), methyl cellulose B. Beige Ingres paper, methyl cellulose C. Thin stencil foile, stencil pen, scalpel D. Dry pastels, Faber & Castell watercolour crayons E. Gouasche	32 hours

Documentation of the work on the Estonian Literary Museum

26–29 November 2012	Retouching	Dry pastels, crayons, Faber & Castell watercolour crayons, gouasche, watercolours	40 hours
29 November 2012	Continuing the border above the oven	Paper in matching colour, methyl cellulose	2 hours
2 December 2012	Documentation		4 hours

DOCUMENTATION PHOTOS:

Color Control Patches

Used : -

DRAWINGS/SKETCHES:

ADDITIONAL DOCUMENTATION:

Process:

Performer:

Date:

OUTCOME OF THE CONSERVATION/RESTORATION PROJECT:

During the project 73,6 m² of wallpaper was restored. Three missing areas, which formed together about 0,75 m² were filled with reconstructions. To fill smaller losses, wallpaper was removed from behind the radiator and above the oven. The removal of wallpaper was fully documented. The corner B/C was heavily damaged by moisture and had strong tide-lines, which could not be removed completely during the conservation treatment in situ. The strong tidelines were covered with opaque glazing to unify the overall appearance of the corner.

The large rectangles and horizontal lines on the wall B were removed mechanically. Of three large missing areas, one was filled with original material removed from the wall or found in the archive of the Estonian Literary Museum. Two other areas were filled with reconstructions, that were carried out in situ. Since they are not reconstructions made one-on-one with the original, they should be rather called imitations or adaptations. The difference between the original and the adaptation could be detected through close examination.

Also other decorative details of the room (painted ceiling, oiled wooden-floor, ceramic oven) were restored and form a fine unity with the wallpaper. The conservation process restored the visual unity of wallpaper. However, the original appearance of the room is damaged by modern applications, such as white plastic electricity covers and modern ceiling-lamp.

ADDITIONAL COMMENTS:



Figure 184. Papered room before restoration.



Figure 185. Large area covered by an archival paper.



Figure 186. Different types of damages.



Figure 187. Corner damaged by humidity and dark tidelines.



Figure 188. Test patch of dry-cleaning.



Figure 189. Last area to be dry-cleaned.



Figure 190. Smaller missing areas could be filled with the material removed from behind of the radiator.



Figure 191. Large missing area was revealed after the removal of the archival paper.



Figure 192. The missing area was reconstructed in situ by using stencils and painting.



Figure 193. Final outcome of the restoration treatment.



Figure 194. Final outcome of the restoration treatment.

KOKKUVÕTE

**AJALOOLISTE TAPEETIDE SÄILITAMINE INTERJÖÖRIS.
AJALOOLISTE TAPEETIDE KONSERVEERIMISE
PROBLEMAATIKA KÄSITLUS AUSTRIAS, EESTIS
JA RUMEENIAS LÄBIVIIDUD PROJEKTIDE PÕHJAL.**

Tapeete on nii koduste kui avalike interjööride kaunistamiseks kasutatud juba vähemalt nelisada aastat. Sarnaselt vaipadele ja tekstiilidele kaunistasid need siseruume ning andsid mööbli- esemetele ning kunstiteostele sobiva tausta. Võrreldes vaipade, tekstiilide ning muu liigutatava varaga on tapeete väga harva nende algselt asukohalt eemaldatud ning uude interjööri integreeritud.

Üks esimesi samme, mida uus koduomanik tegi, oli oma eluruumide ümberkujundamine, mis eeldas vanemate kihistuste eemaldamist või ülekatmist.⁴⁵⁷ Sellest tulenevalt on üllatav kui palju on säilinud ajaloolisi tapeete nende algsel asukohal. Põhjusteid selleks on mitmeid. Näiteks on tapeete teadlikult säilitatud, need on veel hilisemate kihistuste all peidus või moodustavad nad osa mõne muuseumi kogust.

Tänapäeval võib ajalooliste tapeetide säilitamises eristada kahte suunda: muuseumides või arhiivides fragmentide ja ka terviklike objektide säilitamine ning tapeetide säilitamine interjööris. Muuseumides leiduvaid tapeete saab käsitleda kui eraldiolevaid objekte, mida on võimalik ladustada võrdlemisi väikesel pinnal, ühest-kohast teise liigutada ning eksponeerida selleks sobilikus keskkonnas. Teisalt, kui objekt on selle algselt asukohalt eemaldatud, kaotab see osa oma identiteedist ning võime informeerida uurijaid objekti esmasest keskkonnast.

Kaasaegne restaureerimisteooria rõhutab ajalooliste tapeetide algsel asukohal säilitamise tähtsust. Ajalooliste tapeetide säilitamist *in situ* ehk algsel asukohal peetakse jätkuvalt sobivamaks lahenduseks kui nende eemaldamist või rekonstruktsiooniga asendamist, sest tervikut loovate detailide muutmise toob kaasa kogu ajaloolise terviku teisenemise.⁴⁵⁸ Olenemata kaasaegse restaureerimisteooria soovitustest pole ajalooliste

⁴⁵⁷ Woods, introduction to *Walls are Talking: Wallpaper, Art and Culture*, 13.

⁴⁵⁸ Hansar, "Linnast muinsuskaitsealaks. Linnaehituslike struktuuride muutused...", 27.

tapeetide säilitamine nende algsel kohal siiski alati võimalik. Tapeedi seisukord ning muutused seda ümbritsevas keskkonnas võivad viia seinakatte eemaldamiseni. Olenevalt erinevatest kriteeriumidest, saab ajaloolise tapeedi ennistada selle algele asukohale, eksponeerida mujal või säilitada muuseumis. Siiski on säilitamise kõige tähtsam eesmärk peatada objekti edaspidine kahjustumine ja kindlustada selle edasikestmine. Seoses sellega on ajaloolise tapeedi eemaldamine õigustatud vaid siis kui see kindlustab objekti edasise säilimise ning võimaldab põhjalikumat restaureerimist. Selleks, et säilitada ajalooline tervik, tuleb objekt ennistada tema esialgsel asukohale. Kui see pole erinevatel põhjustel võimalik, tuleb kõne alla ka ajaloolise tapeedi eksponeerimine uues sobilikus keskkonnas või osana muuseumi kollektsioonist.

20. sajandi keskpaiku oli tavaks, et ajalooliste interjööride taastamisel püüti ruumist jätta võimalikult värske mulje. See põhimõte eeldas näiteks värskelt ülevärvitud puitdetaille ja rekonstrueeritud seinakatteid. 18. ja 19. sajandi interjööride seinad värviti tihti ühetooniliseks.⁴⁵⁹ Sellise lahenduse tõttu hävitati suur hulk väärtuslikku materjali, mis viis ajaloolistest interjööridest vale ettekujutuse tekkeni. Viimase neljakümne aasta jooksul on järk-järgult hakatud rohkem tähelepanu pöörama ajalooliste seinkatete uurimisele ning säilitamisele. Suurenenud erialasele huvile viitab hulk uuringuid ning teaduslikke artikleid, mis alates 1970ndate aastate lõpust sagedamini rahvusvaheliselt tunnustatud restaureerimisajakirjades ilmuma hakkasid. Neist kaks tuntumat väljaannet olid *Journal of the American Institute for Conservation (JAIC)* ja *Journal of Paper Conservation*, mida annab välja paberirestauratorite ühing, *Internationale Arbeitsgemeinschaft von der Archiv-, Bibliothek- und Grafikrestauratoren (IADA)*.

Ajalooliste tapeetide uurimine ja säilitamine Eestis on hoogustunud alles viimastel aastatel. Siiani on kirjutatud neli ajaloolistele tapeetidele keskendunud bakalaureuse lõputööd. Sellele lisaks on üksikud restaureerimisfirmad ning eraisikud

⁴⁵⁹ Nylander, *Fabrics and Wallpapers for Historic Buildings*, 14.

ajaloolistest hoonetest tapeetide fragmente kogunud. Kahjuks pole siiani loodud aga süstemaatilist ülevaadet ega ka korralikku dokumentatsiooni, mis aitaks nii leide kui nende algset asukohta põhjalikumalt uurida. Selle lünga täitmiseks tegeleb doktoritöö autor hetkel tapeetide digitaalse andmebaasi loomisega.

Lisaks mõningatele fragmentidele, on Eestis seni restaureeritud vaid piiratud hulk interjööris säilinud tapeete. Nende hulka kuuluvad Viimsi mõisa fuajee tapeet, Puurmani mõisa *chinoiserie* stiilist riietumistoa ning historistsitliku söögitoa tapeet ja ka Eesti Kirjandusmuuseumi salongi tapeet. Kõige tähelepanuväärsem Eestis säilinud tapeet on Prantsuse panoraamtapeet „Don Quixote” ainetel (trükitud Pariisi manufaktuuris Jacquemart & Bénard), mis enne seinalt eemaldamist ja restaureerimist Lohu mõisa saali kaunistas ning hetkel Eesti Ajaloomuuseumi kogusse kuulub.

Käesoleva **doktoritöö teema valik** oli põhjustatud eelkõige murettekitavast olukorrast Eestis ning autori igapäevasest tööst paberi restauraatorina. Ajaloo keerdkäikudest ning hoolimatust käsitlemisest tingituna on tänaseni väga vähe tapeete nende algse asukohal säilinud. Hulganisti ajaloolisi ülesvõtteid, tapeedi fragmente ning viimistlemata krohvitud seinad viitavad ulatuslikule tapeetide kasutusele kohalikes interjöörides. Hoolimata külluslikust materjalist, mis viitab tapeetide kasutusele, kaetakse ajalooliste ruumide seinad siiski tihti pahtli ja värviga. Steriilne modernne viimistlus tekitab ajaloolisest interjöörist aga vale ettekujutuse ning takistab edaspidist seinapinna uurimist.

Kui ajalooline tapeet on minetanud oma esteetilise väärtuse või terviku, otsustatakse see tavaliselt seinalt eemaldada, säilitada arhiivis või minema visata. Ajaloolisi tekstiile ja paberist seinakatteid säilitavad muuseumid ja arhiivid seisavad silmitsi mitme väljakutsega. Näiteks vajab lahendamist küsimus, kuidas eksponeerida ja säilitada suurt hulka suuremõtmelisi objekte, mis vajavad paremaks säilimiseks sobilikku keskkonda ning eksponeerimiseks piisavalt ruumi.⁴⁶⁰ Lisaks sellele on uurijatel keeruline vaadelda kogutud objekte, eriti kui neid hoiustatakse erinevates kogudes.⁴⁶¹

⁴⁶⁰ Self, “Changing Papers – Saving Options”, 175.

⁴⁶¹ Ibidem.

Eestis ei ole aga muuseumi ega arhiivi, mis koguks ja säilitaks seinalt eemaldatud tapeedinäiteid. Eesti Ajaloomuuseum on ainus asutus, mis säilitab mõningaid 20. sajandil toodetud tapeete ning juba mainitud prantsuse panoraamtapeeti. Erakogudel puuduvad aga tavaliselt õiged ladustamistingimused ning need on raskelt ligipääsetavad.

Antud olukorrast tingituna püüab doktoritöö autor leida erinevaid viise, kuidas ajaloolisi tapeete nende algsel asukohal paremini säilitada ning põhjendada selle vajalikkust. Selline lähenemine võimaldaks suurema hulga väärtusliku materjali säilitamist selle algselt asukohal, selle põhjalikumat uurimist, vaatajaskonna paremat ligipääsu ning ajalooliste tapeetide väärtustamist interjööri osana.

Enamus siiani publitseeritud ajalooliste tapeetide säilitamisele keskendunud artikleid keskenduvad kindlale objektile, selle säilitamiskontseptsioonile või restaureerimismeetodile. Ajalooliste tapeetide interjööris säilitamise metodoloogiaid ja kontseptsioone võrdlevat tööd pole aga siiani koostatud.

Käesoleva **doktoritöö eesmärk** oli väljatöötada metodoloogilised juhtnöörid, mis võimaldaksid säilitada suuremat hulka ajaloolisi tapeete interjööri osana. Autor ei paku aga välja ühte universaalset lahendust, vaid pigem erinevate säilituskontseptsioonide kogumit, mis oleks laiendatav suuremale objektide valikule. Väljatöötatud juhtnööre saab kasutada sarnaste olukordade lahendamiseks ja selleks sobiva restaureerimiskontseptsiooni väljaarendamiseks. Töö üheks eesmärgiks on teavitada ajalooliste interjööridega tegelevaid spetsialiste erinevatest seinakatete säilitamisvõimalustest. Väljapakutud lahendused vähendaksid tapeetide põhjendamatu hävitamist, nende algselt asukohalt eemaldamist ning üksikute tapeedi fragmentide säilitamist arhiivides.

Selleks, et ajaloolisi tapeete edaspidi võimalikult objektiivselt dokumenteerida saaks, koostas doktoritöö autor olemasolevate dokumentatsiooni vormide põhjal tapeedi omadusi arvestava vormi. Tööle on lisatud kahe restaureeritud objekti dokumentatsioon. Selleks valitud objektid on Puurmani mõisa söögitoa tapeet ja Eesti Kirjandusmuuseumi tapeet.

Doktoritöö **uurimisobjektideks** valiti kaheksa erinevas seisukorras olevat tapeeti. Restaureerimisprojektid viidi läbi kas doktoritöö autori eestvedamisel või töö kaasjuhendaja, Markus Kröni (*Institut für Papier Restaurierung*, Viin) juhendamisel nelja viimase aasta jooksul.

Objektid on järjestatud vastavalt restaureerimistöode läbiviimise ajale vanimast uuemani:

- Söögitoa tapeet, Puurmani mõis, Puurmani vald, Eesti
- Kolm käsitsi maalitud ja trükitud tapeeti, Frey Schlössl, Salzburg, Austria (Markus Kröni juhendamisel)
- *Zirbenstube* tapeet
- *Wappentapete* tapeet
- *Schablonentapete* tapeet
- Reljeefse mustriga tapeet, Theodor Aman Museum, Bukarest, Rumeenia (Markus Kröni juhendamisel)
- Kaks *chinoiserie* seinakatet, Schloss Esterhazy, Eisenstadt, Austria (Markus Kröni juhendamisel)
- Käsitsi maalitud hiina tapeedi paneelid
- Käsitsi maalitud olustiku vaated siidil
- Tapeet ja bordüür, Eesti Kirjandusmuuseum, Tartu, Eesti

Objektide valiku põhjused olid järgmised. Esiteks, iga valitud objekt kõnetab ajalooliste tapeetide säilitamisel interjööri erinevat säilitamisprobleemi. Need viitavad neljale erinevale kaasageelse säilitamiskontseptsioonile: säilitamine, restaureerimine, konserveerimine ja rekonstrueerimine. Teiseks, kõik objektid olid erinevas säilivusstaadiumis. See andis töö autorile võimaluse kirjeldada tapeetide restaureerimises kasutatavaid põhietappe ja meetodeid. Kolmandaks, valitud objektid esindasid lisaks erinevatele säilitamiskontseptsioonidele ka erinevaid tapeetide tüüpe ja dekoratiiv-skeeme. Sellest hoolimata, et objektid on üksteisest mitmeti erinevad, on neil siiski ka teatud sarnasusi. Vastupidiselt kaasageelse põhimõttele, et tapeedid on ajutised tööstuslikud tooted, võib antud objektidele omistada erinevaid lisaväärtusi. Need olid seinakatted, mida otsustati kas nende esteetilise või ajaloo-

lise väärtuse tõttu restaureerida. Sellele lisanduvalt oli enamuse projektide eesmärk rõhutada restaureeritava objekti esteetilist väärtust. Iga objekti restaureerimise käigus tehtud olulisemaid otsuseid on kirjeldatud lühiuuringute raames ning võrreldud üksteisega. Valitud uurimisobjektid defineerivad töö ajalisi piire ja mitme peatüki struktuuri. Igast uurimisobjektist on koostatud ülevaatlik fotodega illustreeritud kirjeldus, mis sisaldab lühiülevaadet objekti ajaloost, selle seisukorrast enne restaureerimist ning tööde käigus tehtud olulisemate otsuste põhjendust.

Selleks, et viidata objektide ja säilituskontseptsioonide mitmekesisusele ning põhjendada tehtud otsuseid, on töös ülevaatlikult kirjeldatud ka mitmeid Eestis, Soomes, Horvaatias ja Saksamaal läbiviidud projekte.

Töö sissejuhatav osa kirjeldab **doktoritöö struktuuri**, konserveerimise ülesannet, selle eesmärke ja väljavalitud uurimisobjekte. Sellele lisanduvalt antakse ülevaade töö koostamiseks kasutatud allikatest.

Töö teoreetiline osa on jagatud alapeatükkideks, mis keskenduvad teatud perioodile omastele tapeetidele ning levinu seinaskeemidele, kasutatud materjalidele ning tootmismeetoditele. Teoreetiline osa analüüsib tapeetide restaureerimise põhjuseid ning erinevate kontseptsioonide mõju restaureerimisobjektile.

Doktoritöö esimene peatükk tutvustab erinevaid tapeedi tüüpe ning skeeme. See ei kata kogu tapeedi ajalugu, vaid keskendub pigem teatud perioodile, mis ulatub 18. sajandi keskpaigast kuni 20. sajandi alguseni. Perioodi valik oli tingitud erinevatest teguritest, eelkõige aga uurimiseks valitud objektide vanusest ning tüübist. Kuna vanim objekt, Esterházy palee käsitsi maalitud *chinoiserie* tapeet pärines 18. sajandi keskpaigast, algab antud peatükk kirjeldusega rokokoo interjööride seinakujundusest. Peale seda antakse ülevaade 19. sajandile omastest tapeetidest ning dekoratiivskeemidest, sest enamus töös käsitletud objektidest pärineb just antud perioodist. Tapeediajaloo käsitus lõpetatakse ülevaatega 20. sajandi alguse seinakatetest.

Kuna Eestis on ajaloolisi tapeete vähe ning juhuslikult säilinud, tuleb kohalike leidude paremaks analüüsimiseks tugineda

kolmes suundaandvas riigis, nimelt Inglismaal, Prantsusmaal ning Saksamaal toodetud ja kasutatud tapeedi näidetele. Selleks, et töö koostamisel tekkinud lünki täita, on autoril soov ajalooliste interjööride säilitamisele keskenduvatele tudengitele ning juba töötavatele spetsialistidele täiendav didaktiline materjal koostada. Lisaks sellele soovib autor põhjalikumalt vaadelda ka tapeetide kasutust eesti interjöörides.

Doktoritöö teine peatükk keskendub valitud ajajärgu tehnoloogilisele arengule. Olenemata sellest, et paberist seinakatteid toodeti ka mujal, levisid Euroopas ning Ameerikas just Inglismaal ning Prantsusmaal alguse saanud ideed. Tänu Eestis elanud balti-saksa ning vene päritolu perekondade poliitilistele, kultuuri- või haridusalastele sidemetele Venemaa ning Saksamaa, eriti Preisimaaga jõudsid sealsed kujunduspõhimõtted ka Eestisse.

Ajalooliste tapeetide ning seinakujundusskeemide tundmine on oluline igale interjööridega tegelevale spetsialistile, samas tuleb restaureerimiskontseptsiooni loomisel peale kujunduse arvesse võtta ka muid omadusi. Ajaloolise objekti uurimisel ning tõlgendamisel on vajalik tunda ka ajaloolisi tootmismeetodeid, kasutatud materjalide omapära ning monteerimisviise. Tapeetide tootmiseks kasutatud pigmentide ning kiudude määramine on lihtne teaduslik protsess, kuid nende ajaloolisse konteksti paigutamine nõuab omajagu teadmisi kui kogemusi.⁴⁶² Informatsiooni valdamine aitab kaasa õige metoodika valikul ning ennetab lisakahjude tekkimist.

Doktoritöö kolmas peatükk püüab põhjendada tapeetide säilitamise tähtsust ning kirjeldada selleks sobilikke säilitamiskontseptsioone. Ajalooliste interjööride interdistsiplinaarse iseloomu tõttu, tuleb nende säilitamiseks tavaliselt rakendada kombinatsiooni erinevatest säilitamispõhimõtetest. Need lähtuvad aga objektile omistatud väärtustest. Kaks põhilist väärtust, mida tapeedile omistatakse on esteetiline ning ajalooline väärtus. Olgugi, et kõiki tapeete saaks käsitleda kui kunsti või ajaloo mälestisi, pole võimalik kõiki siiski säilitada. Sobiva restauree-

⁴⁶² McDermott, "Investigating Wallpapers: the Potential of Integrated Research Within Historic Interiors", 63.

rimislahenduse väljatöötamisel tuleb arvestada ka muude lisaväärtustega, sealhulgas rahaline, hariduslik ning haruldusväärtus. Säilitustegevuse eesmärk on kindlustada ajaloolise objekti seisund ning selle järgnevatele põlvkondadele edasikestmine. Seoses ajalooliste tapeetide säilitamisega analüüsitakse antud doktoritöös kõiki restaureerimises rakendatavaid põhiprintsiipe, sealhulgas säilitamine, konserveerimine, restaureerimine ja rekonstrueerimine.

Doktoritöö neljandas peatükis tulevad vaatluse alla erinevad tapeedile omased kahjustused, nende põhjustajad ning erinevad tapeetide säilitamiseks vajalikud restaureerimisprotsessid. Restaureerimisprotsesside kirjeldamiseks on töö autor konsulteerinud nii kaasjuhendaja, Markus Kröniga kui ka teiste samal erialal töötavate spetsialistidega.

Tapeetide säilitamiseks saab rakendada kõiki paberi restaureerimises tuntud põhimeetodeid. Kuid selleks, et neid interjööri osana säilitada, tuleb rakendada teistele materjalidele omaseid säilituspõhimõtteid. Näiteks sarnaselt maalingutele, tuleb tapeetide esteetilise välimuse taastamiseks neid retužeerida. Tapeeti selle algsele asukohale tagasi monteerides, tuleb arvesse võtta selle algset kinnitusviisi ning ruumile omaseid parameetreid. Kuna restaureerimine võib muuta objekti välimust, on vajalik koostada põhjalik dokumentatsioon, mis annab võimaldab tulevastel restauraatoritel tõlgendada tehtud töid. Lisaks kasutatud restaureerimismeetodite ning materjalide fikseerimisele, peab dokumentatsioon sisaldama ka kirjeldusi välistatud säilituslahendustest.

Doktoritöö viiendas peatükis analüüsitakse iga valitud uurimisobjekti restaureerimisprotsessi eesmärki ning selle saavutamiseks kasutatud metodoloogiat. Restaureerimistöde käigus tehtud otsuseid püütakse põhjendada tuginedes kaasagsetele säilitamisepõhimõtetele.

Vastavalt väitekirja uurimistöole võib järeldada, et tapeedi säilitamine interjööri osana ei tähenda alati selle säilitamist *in situ*. Sõltuvalt objekti kahjustumise astmest ning restaureerimise eesmärgist on võimalik väljapakuda mitmeid erinevaid lahendusi. Sellele lisanduvalt tuleb silmas pidada, et restauree-

rimiskontseptsioon peaks võimaldama objekti säilimise kui ka selle asukoha ruumi edaspidise funktsionaalsuse.

Mitme võimaliku lahenduse korral tuleks iga tööetappi ning tulemust eraldi vaadelda ning analüüsida. Selleks, et vältida isiklikest eelistustest tingitud vigu ning leida objekti säilitamiseks sobivaim lahendus, tuleks kaasata kõik restaureerimisprotsessist osavõtvad pooled diskussiooni.

Kuna objekti säilitamiseks on võimalik vaid ühe lahenduse kasuks otsustada, tuleb teised välistada. Iga stsenaarium viitab teatud visuaalsele tulemusele, seega lõpliku lahenduse valikul, otsustatakse teatud välimuse kasuks. Selleks, et näidata teiste lahenduste võimalikku tulemust, on soovitatav need esitada visuaalselt. Digitaalsed visualiseeringud pakuvad head võrdlusmaterjali nii restaureerimisprotsessis osalevatele osapooltele kui ka järgmise põlvkonna restauraatoritele, kes sama objektiga töötavad.

JÄRELDUSED

Tapeetide restaureerimine panustab objektide füüsilisele ja esteetilisele ühtsusele aga ka kogu ruumi terviku säilimisele. Seega on tapeetide restaureerimine kasulik interjööri kui tervikule. Lähitudes kaasaegsest restaureerimisteooriast, rakendatakse erinevaid säilitamis-paradigmasid harva eraldi. Nende kombinatsioon sõltub objekti seisukorrast ning oodatavast tulemusest.

Tapeetide säilitamiseks interjööri osana on võimalik kaaluda erinevaid variante: *in situ* säilitamine, restaureeritud objekti paigaldamine selle algsele asukohta ning tapeedi paigaldamine teisele asukohta. Tapeet võib interjööris säilida nii tervikliku kui fragmentaarne objektina. Loomulikult on igal valikul omad eelised ja puudused.

Kõige haruldasemad on terviklikuna algsele asukohal säilinud ajaloolised tapeedid. Kui seinakate ning seda toetav struktuur on stabiilsed, on mõistlik seda *in situ* säilitada. Kuigi seinalt eemaldatud objekti oleks võimalik põhjalikumalt restaureerida, hävitaks selle demonteerimine objekti ajaloolise ühtsuse, algse paigaldamismeetodi ning sellele lisanduvalt tekitada täiendavaid mehaanilisi vigastusi, mis suurendaksid kogu protsessi kulusid.

Kõige rohkem küsimusi tekitavad tavaliselt asukohal leiduvad tapeedi fragmentid ning nende säilitamine. Sel juhul sõltub restaureerimisprotsessi ulatus säilinud materjali hulgest ning selle dekoratiivsest väärtusest. Juhul kui tapeedi fragmendid on liiga suured, et neid muuseumis säilitada, tuleks võimalusel neid algsele asukohal säilitada.

Väikesed fragmendid, mida leitakse dekoratiivsete detailide, näiteks põrandaliistude, ukse- ja aknaraamide alt, eemaldatakse tavaliselt nende algsele asukohalt. Olgugi, et fragmendid võivad viidata tapeedi kasutuse ulatusele, tüübile ja muustrile, tuleks siiski eelistada nende seinalt eemaldamist ning arhiivis säilitamist. Juhul kui neid *in situ* säilitatakse, võidakse need uuesti teiste dekoratiivsete detailidega ülekatta. Leitud fragmentidest koostatud põhjalik dokumentatsioon võib olla tunduvalt informatiivsem, kui nende säilitamine algsele asukohal.

Kui säilinud fragmendid ei anna objekti rekonstrueerimiseks piisavalt informatsiooni, tuleks need dokumenteerida, konser-

veerimine ning seinad uue dekoratiivse kihiga katta. Uus kiht peaks jälgendama ajaloolise originaali omadusi. Sel juhul loob analoogsete seinakatete kasutamine nii-nimetatud hüpoteetilise keskkonna. Ajaloolise objekti paremaks säilimiseks peaks uus kiht olema eemaldatav ning võimaldama juurdepääsu originaalile. Selleks ei sobi aga uus tapeedikiht, kuna see looks suletud, niiske keskkonna, mis ei võimaldaks objekti edasist järelvalvet ning võiks täiendavat kahju põhjustada.

Kuigi see pole väga levinud lahendus, saab seinalt eemaldatud tapeedi fragmendid peale restaureerimist nende algsele asukohale ennistada. Kui fragmendid on oma visuaalse terviku ning esteetilise väärtuse kaotanud, tuleb otsustada, kas neid eksponeerida või mitte. Fragmentide ennistamine nende algsele asukohale võimaldab ajaloolise terviku edasikestmist ning tulevastel põlvkondadel objekti objektiivsemalt uurida.

Olenevalt ruumikontseptsioonist ning omaniku ootustest saab koostöös sisekujundajaga väljatöötada innovatiivse lähenemise ajaloolistele seinakatetele. Selleks saab kasutada klaasi, metalli, plastikut või vineeri, mida on uuest tapeedi kihist tunduvalt lihtsam seinalt eemaldada. Neist materjalidest on võimalik luua ajaloolise seinaskeemi modernne jälgend või interpretatsioon. Uus lahendus ei tohi siiski ruumi parameetreid ega seost teiste dekoorielementidega muuta. Kuna kaasaegne lahendus loob teisenenud arusaama ajaloolisest interjöörist, tuleb modernsete materjalide kasutust kindlasti põhjendada.

Olgugi, et tänapäeva restaureerimisteooria rõhutab originaalmaterjali säilitamise tähtsust, on teatud tingimustel õigustatud seinakatte rekonstrueerimine.

Kui tapeet on osaliselt kahjustunud, võib antud osa teatud tingimustel seinalt eemaldada ning töökojas restaureerida. Selle protsessi teostatavus sõltub loomulikult tapeedi kinnitusviisist. Valitud lahendus peaks aitama säilitada objekti tervikut ning seega parandama ka selle esteetilist väljanägemist. Tähtis on aga silmas pidada, et läbiviidud restaureerimisetapid ei muudaks eemaldatud osade mõõtmeid ega muid omadusi (tekstuuri, värvide intensiivsust ning lisadetailide paigutust).

Tapeedi eemaldamine selle algselt kohalt hävitab aga algse kinnitusviisi ning tapeedi paanide ja lisanduvate aplikatsioonide järjestuse. Tapeedid, mis on oma füüsilise ja visuaalse terviku säilitanud, ennistatakse tavaliselt nende algsele asukohale. Selle tulemusena jätkavad tapeedid oma algse dekoratiivse funktsiooni täitmist ning moodustavad teiste dekoratiivdetailidega taaskord ühtse terviku.

Teisalt võimaldab tapeetide seinalt eemaldamine neid tunduvalt põhjalikumalt restaureerida. Selline lahendus on põhjendatud kolmel tingimusel. Esiteks, kui tapeete toetav struktuur on ebastabiilne ning seda tuleb toetada. Teiseks, põhjalikum restaureerimine parandaks tapeedi seisukorda ning esteetilist väärtust. Kolmandaks võimaldab see luua uue vastupidavama kinnitussüsteemi, mis pikendaks objekti eluiga. Uuesti loodav kinnitussüsteem peaks küll järgima ajaloolise süsteemi eripärasid, kui ennetama sarnaste kahjustuste tekkimist. Sel juhul ei tohiks uus süsteem ruumi parameetreid muuta, millest tulenevalt muutuks ka ruumi mõju.

Mitme ülestikku säilinud tapeedikihil puhul seisab restauraatoril ees keeruline ülesanne. Valik ühe teatud ajaloolise kihistuse kasuks, sõltub selle väärtusest. Mitme ajalooliselt silmapaistva kihil puhul tuleb kõne alla kõikide kihtide eraldamine, nende eksponeerimine uues keskkonnas või säilitamine muuseumi objektina. Kuna enne uue tapeedi kinnitamist eemaldati tavaliselt vanemate kihtide lahtised kohad, võivad varasemad kihid olla fragmentaarselt säilinud. Sel juhul tuleb osa väljavalitud ajaloolisest seinakattest võib-olla rekonstrueerida.

Kui terviklikuna säilinud tapeet tuleb seinalt eemaldada ning seda pole võimalik enam algsesse asukohta ennistada, võib tapeeti säilitada kas arhiivis või selleks sobilikus uues keskkonnas.

Tapeetide taaskasutamine on tavaliselt tingitud neile omistatud väärtusest, milleks on eriline kujundus, trükimeetod, ajalooline taust või päritolu. Taaskasutatud tapeedid loovad teiste dekoratiivdetailidega enneolematu koosluse. See pole ajalooline tervik, vaid pigem enneolematu ajaloostav lahendus, mis püüab teatud informatsiooni edastada. Väärtuslikele ajaloo-

listele tapeetidele on vaja stiililiselt sobivat keskkonda. Seega, enne säilitamiskontseptsiooni loomist, tuleks tutvuda analoogsete seinakatetega ning vastavate interjööridega. Uus tulemus ei tohiks olemas olevate dekoratiivdetailide ning lisatava tapeedi kombineerimisel stililist konflikti tekitada.

Tapeetide taaskasutamisel on kõige keerulisem sobivate parameetritega ruumi leidmine. Originaalist erinevate mõõtmetega ruumi puhul tuleb jõuda objektile sobiva kompromissini. Seljuhul võidakse osa ajaloolisest tapeedist eemaldada või hoopis rekonstruktsiooniga täiendada.

Arhiivis säilitatav tapeet kaotab osa selle algsest funktsioonist. Olenemata sellest, seda säilitatakse sobilikus kontrollitud keskkonnas, on ligipääs selle juurde piiratud. Muuseumides säilitatavad tapeedi fragmendid või terviklikud objektid annavad informatsiooni vaid nende tootmiseks kasutatud trükimeetodist, materjalidest ning kujunduslikust eripärast, mitte nende algsest asukohast ning ruumitervikust.

Antud doktoritöö tulemustest võib järeldada, et teavustatud ning eesmärgipärase tegevuse abil on võimalik suuremat hulka ajaloolisi tapeete interjööri osana säilitada ning ruumi esteetiline väärtus taastada. Tapeetide põhjalikum uurimine ning nende eksponeerimine interjööri osana, võimaldab tulevastel põlvkondadel ajaloolisi interjööre paremini mõista. Dekoratiivsete materjalide mitmekesisus ajaloolistes interjöörides harib ning pakub suuremat visuaalset naudingut. Doktoritöö uurimisobjektideks valitud kaheksa tapeedi säilitamiskontseptsioonid kinnitavad uurimisülesande õigsust ning arengupotentsiaali.

SOURCES AND BIBLIOGRAPHY

ARCHIVAL SOURCES

Ajalooarhiiv / EAA 4924.1.5499. Permission of Estonian Provincial Government. Department Store „Thomas Clayhills & Son” is Permitted to Open a Wallpaper Factory in a Villa Belonging to Artur Girard de Soucanton in Tallinn, 1877.

Ajalooarhiiv / EAA 4924.1.5510. Tapeedivabriku arved ja kirjavahetus kaubatellijatega tapeedi realiseerimiseks, 1880–1883.

Riigiarhiiv / ERA.5025.2.5624. A – 4596. Järva maakond, Albu vald, Albu küla. Albu mõisa peahoone arhitektuuri-ajaloolised uuringud, 2000.

Tallinna Linnaarhiiv / TLA.R. 347.2.618. Olevimägi 12, 14 varasemate tapeetide näidised hoonest, 1979.

UNPUBLISHED MANUSCRIPTS

Bayerova, Tatyana. Farbenchemie für Restauratoren. Conservation Department, University of Applied Arts Vienna, 2010.

Kallaste, Kadri, Krön, Markus. Two Approaches to Mounting and Dismounting of Historic Wallpapers on Example of Conservation Projects Carried Out in Austria. Submitted, but not chosen article for the IIC Congress Vienna 2012 (2011).

Leivo, K., Kunstiteose esteetilise terviku taasloomise vajadustest ja ideedest: Elmar Kitse seinamaali restaureerimise lugu. Bachelor thesis, Estonian Academy of Arts, 2005.

Matteus, K., Tallinna Vanalinna maalitud talalagede inventeerimise taustauuringud ja katalogiseerimine. Bachelor thesis, Estonian Academy of Arts, 2006.

Nõmmemaa, M., Muinsuskaitse eritingimused Eesti Kirjandusmuuseumi hoone rekonstrueerimise ja laiendamise projekti koostamiseks, ARC Projekt OÜ arhiiv töö nr 2010-042, 2010.

Пантелеева, С., Исторические бумажные обои – начала века в интерьере старого Таллинна. бакалаврская работа. Таллинский Педагогический Университет, Таллинн, 1997.

CORRESPONDENCE

Margit Kopp, Researcher in the Esterházy Palace, Eisenstadt
(25. X 2011 /15. I 2013)

Merike Kiipus, Head of the Archival Library, Estonian Literary Museum
(18. XII 2012)

Mari Nõmmemaa, Interior Designer of the Estonian Literary Museum
(20. XII 2012)

Simona Predescu, Painting Conservator at the Theodor Aman Museum,
Bucharest (23. XII 2012)

Kristiina Ribelus, Interior Conservator Responsible for a Wallpaper Project
in the Käsnu Church (18. I 2013)

INTERVIEW

Interview with Simona Predescu, Conservator in Theodor Aman Museum, Bucharest, Romania on September 26, 2011.

INTERNET SOURCES

Adelphi Paper Hangings, Makers of Custom & Historic Wallpapers. Accessed February 12, 2012, <http://www.adelphipaperhangings.com/overview.html>.

Australia ICOMOS Charter for Places of Cultural Significance. – The Burra Charter 1999. Accessed January 18, 2013, http://www.heritagecouncil.ie/fileadmin/user_upload/IWTN_2012/BURRA_CHARTER_1999.pdf.

Basic Conservation of Archival Materials, Chapter 6 – Collections, Revised Edition, Canadian Council of Archives, 2003. Accessed December 7, 2012, http://www.cdncouncilarchives.ca/RBch6_en.pdf.

Chinese Pavilion, Swedish Royal Court. Accessed January 5, 2013, <http://www.kungahuset.se/royalcourt/royalpalaces/thechinesepavilion/thepavilion/history.4.396160511584257f21800011172.html>.

Conservation Resources UK Ltd., L2 Archival Interleaving Tissue. Accessed February 20, 2013 http://www.conservation-resources.co.uk/index.php?main_page=product_info&products_id=162.

Conservation Resources UK Ltd., Wishab Dry Cleaning Sponge – Soft. Accessed February 20, 2013, http://www.conservation-resources.co.uk/index.php?main_page=product_info&products_id=738.

Cool Conservation, Lining. Accessed February 20, 2013, http://cool.conservation-us.org/coolaic/sg/bpg/pcc/29_lining.pdf.

Das Appartement der Fürstin, Schloss Esterházy. Accessed January 5, 2013, <http://esterhazy.at/de/ausstellungen/696330/Das-Appartement-der-Fuerstin>.

Deffner & Johann, Restaurierungsbedarf und Denkmalpflege seit 1880, Lascaux Hollytex 3257. Accessed February 20, 2013 <http://www.deffner-johann.de/lascaux-hollytex-3257-34-gm-rolle-120-cm-x-25-m.html>.

Deffner & Johann, Restaurierungsbedarf und Denkmalpflege seit 1880, Parafil RT 20 Polyester-Spinnvlies. Accessed February 20, 2013 http://www.deffner-johann.de/parafil-rt-20-polyester-spinnvlies-rolle-100-cm-x-50-m.html?__store=shop_en&__from_store=shop_de.

Deffner & Johann, Restaurierungsbedarf und Denkmalpflege seit 1880, Tylose[®] MH 300 P2. Accessed February 20, 2013 <http://www.deffner-johann.de/tylose-mh-300-p2.html>.

Esterházy Palace. Accessed January 5, 2013, http://esterhazy.at/de/schlossesterhazy/666785/Das-Schloss-Esterhazy?_vl_backlink=/de/schlossesterhazy/index.do.

Estonian Literary Museum. Accessed December 18, 2012, <http://www.kirmus.ee/>.

Freyschlösschen, Wikipedia. Accessed December 19, 2012, <http://de.wikipedia.org/wiki/Freyschl%C3%B6ssl>.

GMW für Papierrestauratoren, Funori. Accessed June 7, 2013, <http://www.gmw-shop.de/shop-uk/klebstoffe---klebstoffbereitung/funori.php>.

GMW für Papierrestauratoren, Klucel G. Accessed February 20, 2013 <http://www.gmw-shop.de/shop/klebstoffe---klebstoffbereitung/klucel-g.php>.

GMW für Papierrestauratoren, Sturgeon Glue. Accessed June 7, 2013, <http://www.gmw-shop.de/shop-uk/klebstoffe---klebstoffbereitung/stoerleimchips.php>.

Henkel, Product Categories, Moment Raw Parket Adhesive. Accessed February 26, 2013, http://www.henkel-cee.com/1820_2847_CEE_HTML.htm.

Heritage Stewardship, Distemper on Wallpaper – Case Study, Adelphi Paper Hangings. Accessed June 5, 2013, http://philipmarshall.net/hs/techniques/systems/finishes/media/distemper_wallpaper.htm.

Indianische Kabinett, Schloss Eggenberg. Accessed January 5, 2013, http://www.museum-joanneum.at/de/schloss_eggenberg/prunkraeume/interieurs/indianische-kabinette.

International Charter for the Conservation and Restoration of Monuments and Sites. – The Venice Charter, 1964. Accessed January 18, 2013, http://www.icomos.org/charters/venice_e.pdf.

Japico Yokohama Ltd., Our Products – Technical Washi Paper. Accessed February 20, 2013 <http://www.japicoyokohama.com/index.php/products/technical/>.

Journal of the Paper Conservation, IADA. Accessed January 18, 2013, http://cool.conservation-us.org/iada/pr_fra.html.

Kultuurimälestiste Riiklik Register, Aaspere mõisa peahoone. Accessed June 1, 2013, <http://register.muinas.ee/?menuID=monument&action=view&id=15626>.

Kultuurimälestiste Riiklik Register. Accessed December 17, 2012, <http://register.muinas.ee/?menuID=monument&action=view&id=23988>.

Large Chinese Salon, Schloss Esterházy. Accessed January 5, 2013, http://esterhazy.at/en/esterhazypalace/680059/Esterhzy-Palace-in-detail?direct=680066&_vl_backlink=/en/esterhazypalace/680057/index.do&selChannel.

Lincrusta-Walton & Anaglypta, Bradbury & Bradbury Art Wallpapers Blog, February 13, 2009. Accessed February 20, 2013, <http://bradbury.com/blog/?p=408>.

Lohu Manor, Wikipedia. Accessed June 21, 2013, http://et.wikipedia.org/wiki/Lohu_m%C3%B5is.

Natural Pigments, Rare Artists Colours and Pigments. Accessed February 12, 2012, http://www.naturalpigments.com/detail.asp?PRODUCT_ID=417-11M.

Online Dictionary seadict.com, Verditer. Accessed June 1, 2013, <http://www.seadict.com/en/en/verditer>.

Online Ethymology Dictionary. Accessed January 3, 2013, www.etymonline.com.

Paccin – Preparation, Art Handling and Collections Care Information Network, Abaca Tissue. Accessed February 20, 2013 <http://www.paccin.org/content.php?64-Abaca-Tissue>.

Paper Conservation Catalogue. Accessed January 8, 2013, <http://cool.conservation-us.org/coolaic/sg/bpg/pcc/>.

Pigments through the Ages. Accessed December 9, 2012, <http://www.webexhibits.org/pigments/intro/history.html>.

Preservation Australia, Akapad Drycleaning Sponges. Accessed December 7, 2012, <http://www.preservationaustralia.com.au/products/range/cleaning/akapad>.

Preventive Conservation. Terminology to Characterize the Conservation of Tangible Cultural Heritage, International Council of Museums – Committee for Conservation. Accessed January 24, 2013, <http://www.icom-cc.org/242/about-icom-cc/what-is-conservation/#.UQGy0x26drM>.

Prochem Europe, Prochem Dry Chem Sponge. Accessed February 20, 2013 <http://www.prochem-uk.com/product.php?xProd=243&xSec=26>.

Puurmani Gümnaasium. Accessed December 17, 2012, <http://www.puurmani.edu.ee/>.

Raamatukahjustuste atlas , Paberi pH määramine. Accessed December 7, 2012, http://paber.ut.ee/ET/kategooriad/sisuplokk/paberi_ph_maaramine.

Saint Petersburg Encyclopaedia, The Banknotes Factory. Accessed June 21, 2013, <http://www.enspb.ru/object/2855743646?lc=en>.

Salzburg Wiki, Carl von Frey. Accessed December 17, 2012, http://www.salzburg.com/wiki/index.php/Carl_von_Frey.

Schloss Esterházy, Wikipedia. Accessed January 5, 2013, http://en.wikipedia.org/wiki/Schloss_Esterh%C3%A1zy.

Schönbrunn Porzellanzimmer, Österreichisches Institut für China- und Südostasienforschung. Accessed January 5, 2013, <http://www.china-kultur.at/content/Detail.aspx?CatalogItemID=28141>.

Silk Tissue on Reels without Buffer, KLUG Conservation. Accessed December 8, 2012, <http://www.klug-conservation.com/?site=produkte&id=532>.

Some Notes on Distemper: Traditional Hide Glue Bound Distemper. – Heritage Stewardship. Accessed December 9, 2012, http://philipmarshall.net/hs/techniques/systems/finishes/media/distemper_wallpaper.htm.

Tartu linna ja maakonna turismiinfo, Aadlielamu Vanemuise 42. Accessed December 17, 2012, http://www.visitartu.com/49804?set_lang_id=1.

Theodor Aman Museum, Romguide Feeling Romania. Accessed December 17, 2012, http://www.romguide.net/Visit/Theodor-Aman-Museum_vt4c3.

University Products, The Archival Company, Dry Cleaning Sponges. Accessed December 8, 2012, [http://www.universityproducts.com/cart.php?m=product_list&c=1166&primary=1&parentId=&navTree\[\]=1262&navTree\[\]=1296&navTree\[\]=1166](http://www.universityproducts.com/cart.php?m=product_list&c=1166&primary=1&parentId=&navTree[]=1262&navTree[]=1296&navTree[]=1166).

Zelluloos – Paberid kogu maailmast, Ingrespaber. Accessed February 27, 2013, <http://www.zelluloos.eu/product/ingrespaber>.

BIBLIOGRAPHY

A Decorative Art. 19th Century Wallpapers in the Whitworth Art Gallery. Whitworth Art Gallery, Manchester, 1985.

Aaslava, E., Moodsad tapetid ja nende mõte. – Moodne kodu sisustus. Juhiseid ja pilte. Eesti Naise Kirjastus, Tallinn, 1932.

Ackerl, I., Vienna Modernism 1890–1910. Accessed January 3, 2013, <http://www.bka.gv.at/DocView.axd?CobId=5035>.

Althöfer, H., Straub, R. E., Willemsen, E., Beiträge zur Untersuchung und Konservierung mittelalterlicher Kunstwerke. Deutscher Kunstverlag, Baden-Württemberg, 1974.

Applebaum, B., Conservation Treatment Methodology. Elsevier Ltd., Oxford Burlington, 2007.

Arnold, A., Die Réveillon Tapete à l'étrusque. Antike auf Papier „nach Hamiltons bekanntem Werke“. Basler Kostbarkeiten 27. Historisches Museum Basel, Baumann & Cie, Banquiers, Basel, 2006.

Banham, J., The English Response: Mechanization and Design Reform. – The Papered Wall. The History, Patterns and Techniques of Wallpaper. Edited by Lesley Hoskins. Thames and Hudson Ltd., London, 2005.

Berger, G., Chinoiserien in Österreich-Ungarn. Peter Lang GmbH Europäischer Verlag der Wissenschaften, Frankfurt am Main, 1995.

Blackman, C., Interview with Salvador Muñoz-Viñas about New Horizons for Conservation Thinking. Accessed February 21, 2013, <http://www.e-conservationline.com/content/view/627/195/>.

Blakemore, R. G., History of Interior Design and Furniture. From Ancient Egypt to Nineteenth-Century Europe. Van Nostrand Reinhold, New York, 1997.

Brandi, C., Theory of Restoration. Edited by Giuseppe Basile. Nardini Editore, Firenze, 2005.

Brandi, C., Teoría de la Restauración. Alianza Editorial, Madrid, 1963 quoted in Murray, N., Vazquez, E., Lacuna Restoration: How to Choose a Neutral Colour? Accessed February 17, 2013 http://www.create.uwe.ac.uk/norway_paperlist/murray.pdf.

de Bruignac, V., La Hogue, Arabesques and Allegories: French Decorative Panels. – The Papered Wall. The History, Patterns and Techniques of Wallpaper. Edited by Lesley Hoskins. Thames and Hudson Ltd., London, 2005.

Chang, Y.-S., Imperial Designs and Enlightened Tastes: Motifs from Nature on Chinese Export Wallpapers. – The Wallpaper History Review, 2008.

Clapp, A. F., The Examination of Winterthur Wallpapers and a Progress Report, April 1980, on a Group of Papers from the Fisher House, Philadelphia. – JAIC Online, Article 4, Number 2, Volume 20, 1981. Accessed December 6, 2012, <http://cool.conservation-us.org/jaic/articles/jaic20-02-004.html>.

Collier, A., *Wallpaper – In and Out of Context. – The Conservation of Decorative Arts*. Edited by Velson Horie. Archetype Publications, London, 1999.

Curteis, T., *Working Buildings: The Effect of Building Use on the Conservation of Wall Paintings and Polychrome Surfaces. – Conservation of Historic Buildings and Their Contents. Addressing the Conflicts*. Edited by David Watt and Belinda Colston. Donhead Publishing Ltd., Shaftesbury, 2010.

Davis, R. T., *Exhibition of Wall Paper. Historical and Contemporary*, The Buffalo Fine Arts Academy. Exhibition catalog. Albright Art Gallery, Buffalo, New York, 1937.

Dragojevic, A., *Croatia: the Story Continues. – The Wallpaper History Review*, 2008.

Edwards, J., *Conserving Cardiff Castle – Planning for Success. – Conservation of Historic Buildings and Their Contents. Addressing the Conflicts*. Edited by David Watt and Belinda Colston. Donhead Publishing Ltd., Shaftesbury, 2010.

Entwisle, E. A., *The Book of Wallpaper. A History and an Appreciation*. Arthur Barker, London, 1954.

Etlin, R. A., *Symbolic Space: French Enlightenment Architecture and Its Legacy*. University of Chicago Press, Chicago, 1996.

Evans, E., *Funori: A Short Description, Recipe and Source. – JAIC Online, Volume 3, The Book and Paper Group ANNUAL, 1984*. Accessed December 8, 2012, <http://cool.conservation-us.org/coolaic/sg/bpg/annual/v03/bp03-05.html>.

von Falke, J., *Die Kunst im Hause. Geschichtliche und kritisch-ästhetische Studien über die Decoration and Ausstattung der Wohnung*. Druck und Verlag von Carl Gerold's Sohn, Wien, 1883.

Fitzgerald, J., *The Georgian Print-Room Explored. – The Wallpaper History Review*, 2008.

Flink, S., *Runebergin koti – rakentamisesta restaurointiin*. Gummerrus Kirjapaino Oy, Jyväskylä, 2006.

Frangiamore, C. L., *Wallpapers in Historic Preservation*. Technical Preservation Services Division, Office of Archeology and Historic Preservation, National Park Service, U.S. Department of the Interior, Washington D.C., 1977.

Futernick, R., *Conservation of Scenic Wallpapers: Sauvages de la Mer du Pacifique. – JAIC Online, Article 12, Number 2, Volume 20, 1981*. Accessed May 5, 2011, <http://cool.conservation-us.org/jaic/articles/jaic20-02-012.html>.

Geldhof, E., *Hope in Haarlem: the Welgelegen Pavilion. - The Wallpaper History Review*, 2008.

Gilmore, A. M., *Wallpaper and Its Conservation – an Architectural Conservator's Perspective. – JAIC Online, Article 5, Number 2, Volume 20, 1981*. Accessed November 6, 2012, http://cool.conservation-us.org/jaic/articles/jaic20-02-005_idx.html.

Guillemard, D., *Éditorial*. In *3^e Colloque International de l'ARAAFU*. ARAAFU, Paris, 1992. Quoted in Muños Viñas, S., *Contemporary Theory of Conservation*. Elsevier Butterworth – Heinemann, Oxford, 2005.

Gordon, R., The 'Paradigmatic Art Experience'? Reproductions and Their Effect on the Experience of the 'Authentic' Artwork. – Art, Conservation and Authenticities: Material, Concept, Context. Edited by Erma Hermens and Tina Fiske. Archetype, London, 2009.

Grenda, M., *Tratteggio* Retouch and Its Derivates as an Image Reintegration Solution in the Process of Restoration. Case Study: Restoration of a 20th Century Lithograph Film Post by Stefan Norblin, CeROArt Conservation, Exposition, *Restauration D'Objets D'Art Revue électronique*. Accessed December 8, 2012, <http://ceroart.revues.org/1700>.

Grundmann G., Klée-Gobert, R., Die Bau- und Kunstdenkmale der Freien und Hansestadt Hamburg. Altona – Elbvororte. Volume 2. Christian Wegner Verlag, Hamburg, 1959.

Haemmerle, A., Hirsch, O., Buntpapier. Herkommen, Geschichte, Techniken, Beziehungen zur Kunst. Verlag Georg D.W. Callvey, München, 1961.

Hagemann, A. P., Wilhelmine von Lichtenau (1753–1820). Von der Mätresse zur Mäzenin. Böhlau Verlag, Weimar, 2007.

Hamburg, D. A., The *in situ* Conservation Treatment of a Nineteenth-Century French Scenic Wallpaper: *Les Paysages de Télémaque Dans L'île de Calypso*. – JAIC Online, Article 7, Number 2, Volume 20, 1981. Accessed December 8, 2012, http://cool.conservation-us.org/jaic/articles/jaic20-02-007_indx.html.

Hamlin, T., Architecture through the Ages. G. P. Putnam's Sons, New York, 1940 quoted in Etlin, R. A., Symbolic Space: French Enlightenment Architecture and Its Legacy. University of Chicago Press, Chicago, 1996.

Hamm, P. and Hamm, J., The Removal and Conservation Treatment of a Scenic Wallpaper, *Paysage A Chasses*, from the Martin van Buren National Historic Site. – JAIC Online, Article 10, Number 2, Volume 20, 1981. Accessed December 8, 2012, http://cool.conservation-us.org/jaic/articles/jaic20-02-010_indx.html.

Hankey, D., Management of the Historic Environment – The Broad Nature of the Process. – Conservation of Historic Buildings and Their Contents. Addressing the Conflicts. Edited by David Watt and Belinda Colston. Donhead Publishing Ltd., Shaftesbury, 2010.

Hansar, L., Linnast muinsuskaitsealaks. Linnaehituslike struktuuride muutused Eesti väikelinnades 13.–20. sajandil. PhD. diss., Eesti Kunstiakadeemia, Tallinn, 2010.

Harris, J., Survey of World Textiles. – 5000 Years of Textiles. Edited by Jennifer Harris. British Museum Press, London, 2003.

Hedinger, B., Berger, J., Karl Friedrich Schinkel: Möbel und Interieur. Deutscher Kunstverlag, München, 2002.

Hein, A., Eesti mõisad. Kirjastus Tänapäev, Tallinn, 2002.

Hein, A., Eesti mõisaarhitektuur. Historitsismist juugendini. Kirjastus Hattorpe, Tallinn, 2003.

Hein, A., Mõisaarhitektuur 18. sajandi algul ja keskpaigas. – Eesti kunsti ajalugu II 1520 – 1770. Edited by Krista Kodres. Eesti Kunstiakadeemia, Tallinn, 2005.

Hein, A., Mõisate vananaistesuvi. - Eesti kunsti ajalugu, 5 1900–1940. Edited

Krista Kodres, Mart Kalm and Elo Lutsepp. Eesti Kunstiakadeemia, Kultuurileht, Tallinn, 2010.

Helme, S., Kangilaski, J., Lühike eesti kunsti ajalugu. Kirjastus Kunst, Tallinn, 1999.

Hill Stoner, J., Rushfield, R., Conservation of Easel Paintings. Routledge, Oxon, New York, 2012. Accessed February 19, 2013, http://books.google.ee/books?id=1msM3h9mbaoC&pg=PA376&lpg=PA376&dq=tea-bag+tissue,+conservation&source=bl&ots=UMkxfXN6ii&sig=_HMOj5sBCsax2JbPtZkhB5s370&hl=en&sa=X&ei=9KEmUbPzO4qX1AXH5oGIAQ&redir_esc=y#v=onepage&q=tea-bag%20tissue%2C%20conservation&f=false.

Hoskins, L. (ed.), The Papered Wall. The History, Patterns and Techniques of Wallpaper. 2nd Edition. Thames & Hudson Ltd., London, 2005.

Ingemann, B., Object Images and Material Culture – the Construction of Autenticity and Meaning. – Present on Site: Transforming Exhibitions and Museums. Visual Memory Press, Lejre, 2012. Accessed January 30, 2013, http://www.present-on-site.net/21_rubbish.html.

Jacqué, B., Luxury Perfected: The Ascendancy of French Wallpaper 1770–1870. – The Papered Wall. The History, Patterns and Techniques of Wallpaper. Edited by Lesley Hoskins. Thames and Hudson Ltd., London, 2005.

Jacqué, B., Why Use Borders? – The Wallpaper History Review, 2008.

Jacqué, B., From '*papier en feuille*' to '*decór*': the Industrialisation of Decoration. – New Discoveries, New Research. Papers from the International Wallpaper Conference at the Nordiska Museet, Stockholm 2007. Edited by Elisabet Stavenow-Hidemark. Nordiska Museet Vörlag, Stockholm, 2009.

Jessen, P., Der Ornamentstich. Geschichte der Vorlagen des Kunsthandwerks seit dem Mittelalter. Verlag für Kunstwissenschaft GmbH, Berlin, 1920.

Joel et al., The Measurement and Significance of pH in Paper Conservation. – Bulletin of the American Group – IIC 12, No. 2, April, 1972. Accessed December 7, 2012, <http://www.jstor.org/discover/10.2307/3179136?uid=3737920&uid=2129&uid=2&uid=70&uid=4&sid=21101350589173>.

Jokilehto, J., A History of Architectural Conservation. Elsevier Ltd., Oxford, 2006.

Jokilehto, J., Arhitektuuri konserveerimise ajalugu. Eesti Kunstiakadeemia, Tallinn, 2010.

Kalm, M., Eesti 20. sajandi arhitektuur. Prisma Prindi Kirjastus, Tallinn, 2001.

Kelly, R. M., Historic Paper-hanging Techniques: A Bibliographic Essay. – Presented at the International Preservation Trades Workshop, Lancaster, PA, Aug. 2–6, 2011, 2. Accessed November 2, 2012, <http://www.wallpaperscholar.com/docs/HistoricPaperhangingTechniques.pdf>.

King, J., Aesthetic in Integrated Conservation Planning: A Consideration of Its Value. – Urban Space and Urban Conservation as an Aesthetic Problem. Lectures presented at the international conference in Rome 23rd – 26th October 1997. Edited by Gregers Algreen-Ussing et al. L'Erma di Bretschneider, Rome, 2000. Accessed February 26, 2013, http://books.google.ee/books?id=4WoeN37LonYC&pg=PA22&lpg=PA22&dq=alouis+riegl,+conservation&source=bl&ots=tHgs9nYKMz&sig=_DgHGtNNN3JI46PSSfxDZpcdDEc&hl=en&sa=X&ei=4RI

tUa-2JcbFOQXLxIHwBA&redir_esc=y#v=onepage&q=alouis%20riegl%2C%20conservation&f=false.

Klein, A., *Moodne elamu ja ruumide sisustamine*. Vaba Maa, Tallinn, 1932.

Kodres, K., Mis saab interjööri? – *Sirp ja Vasar*, 22. veebruar, 1985.

Kodres, K., *Ilus maja, kaunis ruum. Kujundusstiile Vene-Egiptusest tänapäevani*. Prisma Prindi Kirjastus, Tallinn, 2001.

Konsa, K., *Konserveerimisbioloogia*. AS Pakett, Tallinn, 2006.

Kopp, M., *The Apartement of the Princess*. Esterházy Privatstiftung, Eisenstadt, 2012.

Kotšenosvki, O., *Elamu, nüüd Kirjandusmuuseum Vanemuise 42*. – Eesti arhitektuur 4. Tartumaa, Jõgevamaa, Valgamaa, Võrumaa, Põlvamaa. Edited by Villem Raam. Valgus, Tallinn, 1999.

Kroupa, P., *The Idea of Heritage Values: Czech Experience*. Accessed January 30, 2013, http://www.fondazione-delbianco.org/seminari/progetti_prof/progview.asp?id=290.

Kruth, L. M., *Paper Conservation Update: Bleaching and Fumigation*. – *Abbey Newsletter*, September, Number 5, Volume 13, 1989. Accessed December 7, 2012, <http://cool.conservation-us.org/byorg/abbey/an/an13/an13-5/an13-516.html>.

Le Normand, S., *Annales de l'Industrie nationale et étrangère*, 46 quoted in de Bruignac, V., *La Hougue, Arabesques and Allegories: French Decorative Panels*. – *The Papered Wall. The History, Patterns and Techniques of Wallpaper*. Edited by Lesley Hoskins. Thames & Hudson, London, 2005.

Leiss, J., *Papiers panoramiques*. Klassische französische Bildtapeten aus dem Deutschen Tapetenmuseum Kassel. Sonderausstellung 26.3.–28.6.1970. Exhibition catalog. Museum für Kunst und Kulturgeschichte Dortmund, Schloss Cappenberg, Westfalkendruck Dortmund, Broschek-Verlag, Hamburg, 1970.

Loos, A., *Ornament and Crime. Selected Essays*. Ariadne Press, Riverside, CA, 1998.

Lüse, L., *Wallpaper Through the Ages from the Collection of the Architectural Investigation Group: a Brief History from the 18th to the 20th Century*. – *Architectural Finishes in the Built Environment*. Edited by Mary A. Jablonski and Catherine R. Matsen. Archetype Publications, London, 2009.

Luthmer, F., *Werkbuch des Dekorateurs. Eine Darstellung der gesamten Innendekoration und des Festschmuckes in Theorie und Praxis*. Union Deutsche Verlagsgesellschaft, Stuttgart, 1897.

Lynn, C., *Colors and Other Materials of Historic Wallpaper*. – *JAIC Online*, Article 3, Number 2, Volume 20, 1981. Accessed January 18, 2013, http://cool.conservation-us.org/jaic/articles/jaic20-02-003_idx.html.

Maiste, J., *Eestimaa mõisad*. Kirjastus Kunst, Tallinn, 1996.

Maiste, J., *Toompea aadlilinn*. – *Eesti kunsti ajalugu. II osa, 1520–1770*. Edited by Krista Kodres. Eesti Kunstiakadeemia, Tallinn, 2005.

Mapes, P., *Historic Wallpaper Conservation*. – *The Building Conservation*

Directory, 1997. Accessed September 7, 2011,
<http://www.buildingconservation.com/articles/wallpap/wallpap.html>.

Martin, J.-B., *Wallpaper Reconstructions in Historic Interiors: Balancing the Aesthetic with Authenticity*. – Art, Conservation and Authenticities. Material, Concept, Context. Proceedings of the International Conference held at the University of Glasgow, 12–14. Edited by Erma Hermens and Tina Fiske. Archetype Publications Ltd., London, 2004.

McClintock, T. K., *Compensating for Losses in Historic Wallpapers*. – Architectural Finishes in the Built Environment. Edited by Mary A. Jablonski and Catherine R. Matsen. Archetype Publications, London, 2009.

McDermott, A., *Investigating Wallpapers: the Potential of Integrated Research within Historic Interiors*. – Paint Research in Building Conservation. Edited by Line Bregnhøi et al. Archetype Publications, London, 2006.

McDermott, A., *Wallpapers in the Historic Interior*. – The Building Conservation Directory, 2004. Accessed December 7, 2012,
<http://www.buildingconservation.com/articles/wallpapers/wallpapers.htm>.

Melucco Vaccaro, A., 'The Emergence of Modern Conservation Theory' Introduction to Part III. – Historical and Philosophical Issues in the Conservation of Cultural Heritage. Readings in Conservation. Edited by Nicholas Stanley Price, M. Kirby Talley Jr. and Alessandra Melucco Vaccaro. The Getty Conservation Institute, The J. Paul Getty Trust, Los Angeles, 1996.

Meredith, P., Sandiford, M., Mapes, P., *A New Conservation Lining for Historic Wallpapers*. – Preprint from the 9th International Congress of IADA, Copenhagen, August 15–21, 1999. Accessed December 8, 2012,
http://cool.conservation-us.org/iada/ta99_041.pdf.

Michel, F. et al., *Funori, ein japanisches Festigungsmittel für matte Malerei*. Accessed December 8, 2012, http://www.empa.ch/plugin/template/empa/*/20447.

Miller, J., *The Style Sourcebook. The Definitive Illustrated Directory of Fabrics, Paints, Wallpaper, Tiles, Floorin*. Stewart, Tabori & Chang, New York, 1998.

Moore, M., *Conservation Documentation and the Implications of Digitisation*. – Journal of Conservation and Museum Studies, Issue 7, 2001, 1. Accessed January 7, 2013, <http://cool.conservation-us.org/jcms/issue7/0111Moore.pdf>.

Muñoz Viñas, S., *Contemporary Theory of Conservation*. Elsevier Butterworth – Heinemann, Oxford, 2005.

Murray, N., Vazquez, E., *Lacuna Restoration: How to Choose a Neutral Colour?* – Computer Vision Centre, Universitat Autònoma de Barcelona. Accessed January 8, 2013, http://www.create.uwe.ac.uk/norway_paperlist/murray.pdf.

Nicolaus, K., *The Restoration of Paintings*. Könemann, Cologne, 1999.

Nicolaus, K. *Handbuch der Gemälderestaurierung*, Könemann Verlagsgesellschaft mbH, Köln, 2001.

Nouvel, O., *Wallpapers in France, 1800–1850*. Rizzoli, New York, 1981.

Nouvel-Kammerer, O., *French Scenic Wallpapers 1795–1865*. Flammarion, Paris, 2000.

Nouvel-Kammerer, O., *Wide Horizons: French Scenic Papers. – The Papered Wall. The History, Patterns and Techniques of Wallpaper.* Edited by Lesley Hoskins. Thames and Hudson Ltd., London, 2005.

Nylander, R. C., *Fabrics and Wallpapers for Historic Buildings. A Guide for Selecting Reproduction Fabrics.* Preservation Press, John Wiley & Sons, Inc., New Jersey, 2005.

Olligs, H. (ed.), *Tapeten : Ihre Geschichte bis zur Gegenwart. Fortsetzung Tapeten-Geschichte. Band II.* Klinkhardt u. Biermann, Braunschweig, 1970.

Page, A.-C., *Mystery in Geneva. – The Wallpaper History Review,* 2008.

Parissien, S., *Adam Style.* Phaidon Press Limited, Hong Kong, 1996.

Pazaurek, G. E., *Die Tapete. Beiträge zu ihrer Geschichte und ästhetischen Wertung. Schöne Reihe,* Walter Hädecke, Stuttgart, 1922.

Peets, H., (ed.), *Metoodiline juhend, Nr. 1, Tsüklodekaan ja selle kasutamine paberi konserveerimises.* Accessed on June 17, 2013, http://www.kanut.ee/juhendid/broschyrr_tsyklododekaan.pdf.

Pile, J., *A History of Interior Design.* 2nd edition. John Wiley & Sons Inc., Hoboken, New Jersey, 2005.

Reepen, I. et al., *Chinoiserie – Möbel und Wandverkleidungen. 5. Bestandskatalog der Verwaltung der Staatlichen Schlösser und Gärten Hessen.* Verlag Ausbildung + Wissen, Bad Homburg und Leipzig, 1996.

Riegl, A., *The Modern Cult of Monuments: Its Essence and Its Development. – Historical and Philosophical Issues in the Conservation of Cultural Heritage. Readings in Conservation.* Edited by Nicholas Stanley Price, M. Kirby Talley Jr. and Alessandra Melucco Vaccaro. The Getty Conservation Institute, The J. Paul Getty Trust, Los Angeles, 1996.

Ruskin, J., *The Seven Lamps of Architecture.* Century Hutchinson Ltd., London, 1988.

Saunders, G., *Wallpaper in Interior Decoration.* Watson-Guption Publications, New York, 2002.

Schoeser, M., *World Textiles. A Concise History.* Thames & Hudson, World of Art, London, 2003.

Schoeser, M., *The Octagon Room at Danson: Evidence for a Restoration with Wallpaper. – New Discoveries. New Research. Papers From The International Wallpaper Conference at the Nordiska Museet.* Edited by Elisabet Stavenow-Hidemark. Nordiska Museet Vörlag, Stockholm, 2009.

Self, J. J., *Changing Papers – Saving Options. – New Discoveries, New Research. Papers from the International Wallpaper Conference at the Nordiska Museet, Stockholm, 2007.* Edited by Elisabet Stavenow-Hidemark. Nordiska Museet Förlag, Stockholm, 2009.

Sjöberg, U., *Adam Petter Holmberg and the Etruscan Style. – New Discoveries. New Research. Papers From The International Wallpaper Conference at the Nordiska Museet.* Edited by Elisabet Stavenow-Hidemark. Nordiska Museet Vörlag, Stockholm, 2009.

Stavenow-Hidemark, E., Textile design and furnishings, c. 1780–1914. – The Cambridge History of Western Textiles II. Edited by David Jenkins. Cambridge University Press, Cambridge, 2003.

Suuder, O., Puurmani mõis. – Eesti arhitektuur 4. Tartumaa, Jõgevamaa, Valgamaa, Võrumaa, Põlvamaa. Edited by Villem Raam. Valgus, Tallinn, 1999.

Taylor, C., Chinese Papers and English Imitations in 18th Century Britain. – New Discoveries. New Research. Papers From The International Wallpaper Conference at the Nordiska Museet. Edited by Elisabet Stavenow-Hidemark. Nordiska Museet Vörlag, Stockholm, 2009.

Teemus, M., Reisisõid toas : pano-, kosmo- ja dioraamadest Tallinnas ja Tartus (1826–1850). Tartu Ülikooli Kirjastus, Greif, Tartu, 2005.

Teynac, F., Nolot, P., Vivien, J.-D., Die Tapete. Raumdekoration aus fünf Jahrhunderten. Geschichte. Material. Herstellung. Verlag Georg D. W. Callwey, München, 1982.

Thümmler, S., Die Geschichte der Tapete. Französische Raumkunst aus Papier. Edition Minerva, Eurasburg, 1998.

Troschke, K., Der Blaue Salon im Schloss Schönbrunn – zur Restaurierung und klimagerechten Montage chinesischer Tapeten. – Malerei auf Papier und Pergament in den Prunkräumen des Schlosses Schönbrunn. Band 3. Edited by Karin K. Troschke. Wissenschaftliche Reihe Schönbrunn, Vienna, 1997.

Seemann, T., Die Tapete, ihre ästhetische Bedeutung und technische Darstellung sowie kurze Beschreibung der Bunt-Papier Fabrikation. U. Hartleben's Verlag, Wien, Pest, Leipzig, 1882.

Smith, A. W., Bleaching in Paper Conservation. – Restaurator. International Journal for the Preservation of Library and Archival Material. Band 22, Heft 2-4, Seiten 223–248. Edited G. Banik and I. Brückl, 2012. Accessed January 3, 2013, <http://www.degruyter.com/view/j/rest.2012.33.issue-3-4/res-2012-0011/res-2012-0011.xml>.

Soodla, A., Ideaalsema kodu poole! - Oma Kodu, Weebruar 1938.

Untera, A., Maarjamaa rokokoo. Gottlieb Welté (1745/49–1792). Exhibition catalog. Edited by Kadi Polli and Renita Raudsepp. Kadrioru Kunstimuseum, Tallinn, 2007.

von Dellingshausen, E., Kodumaa teenistuses: Eestimaa rüütelkonna peamehe mälestused. Eesti Päevaleht, Tallinn, 2011.

von Rosen, C., Bau-Handbuch für Landwirthe in Ehst- und Liefland. Kluge & Ströhm, Reval, 1851.

von Savigny, B., Tapeten und Dekorationsstoffe. – Jugendstil in Freiburg. Begleitbuch zur Ausstellung "Jugendstil in Freiburg" 2. März – 13. Mai 2001 im Augustinermuseum Freiburg. Exhibition catalog. Edited by Saskia Durian-Ress. Rombach Verlag, Freiburg, 2001.

Wells-Cole, A., Flocks, Florals and Fancies: English Manufacturer 1680–1830. – The Papered Wall. The History, Patterns and Techniques of Wallpaper. Edited by Lesley Hoskins. Thames and Hudson Ltd., London, 2005.

Wells-Cole, A., Wallpapers and the Restoration of Temple Newsam House. – New Discoveries, New Research. Papers from the International Wallpaper

Conference at the Nordiska Museet, Stockholm, 2007. Edited by Elisabet Stavenow-Hidemark. Nordiska Museet Förlag, Stockholm, 2009.

Welsh, F. S., Investigation, Analysis, and Authentication of Historic Wallpaper Fragments. – JAIC Online, Volume 43, Number 1, Article 7. Accessed June 5, 2013, <http://cool.conservation-us.org/jaic/articles/jaic43-01-007.html>.

Wehser, A., Anna Wilhelmine von Anhalt und Ihr Schloss in Mosigkau. Idee und Gestaltung eines Gesamtkunstwerks. Verlag Ludwig, Peter-Hirschfeld-Stiftung, Kiel, 2010.

Wisse, G., Manifold Beginnings: Single-Sheet Papers. – The Papered Wall. The History, Patterns and Techniques of Wallpaper. Edited by Lesley Hoskins. Thames and Hudson Ltd., London, 2005.

Woods, C., Kosuda Warner, J., Jacqué, B., Proliferation: Late 19th Century Papers, Markets and Manufacturers. – The Papered Wall. The History, Patterns and Techniques of Wallpaper. Edited by Lesley Hoskins. Thames and Hudson Ltd., London, 2005.

Woods, C., Introduction. – Walls Are Talking: Wallpaper, Art and Culture. Edited by Gill Saunders, Dominique Heyse-Moore and Trevor Keeble. KWS Publishers, London, 2010.

Zeller, T., Let's Teach Art with Originals. – Art Education, Vol. 36, Issue 1, January 1983 quoted in Gordon, R., The 'Paradigmatic Art Experience'? Reproductions and Their Effect on the Experience of the 'Authentic' Artwork. – Art, Conservation and Authenticities: Material, Concept, Context. Edited by Erma Hermens and Tina Fiske. Archetype, London, 2009.

Киселев, И. А., *Архитектурные детали в русском зодчестве XVIII–XIX веков : справочник архитектора-реставратора*. Academia, Москва, 2005.



Kadri Kallaste (b. 1983) trained as a 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 has 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. Kadri Kallaste's main area of study is the research and practical preservation of historic wallpapers in situ. She has worked on numerous wall-paper preservation projects in Estonia and abroad, including objects in Austria and at the German Wallpaper Museum in Kassel, Germany.

Preservation of wallpapers as parts of interiors.

Addressing issues of wallpaper conservation on the basis of projects carried out in Austria, Estonia and Romania

Although wallpapers form a unified whole with other decorative details of interiors, very few of them are preserved in their original locations. At the same time, contemporary conservation theory emphasizes the importance of preserving wallpapers in their primary locations. Obviously, conflicts arise between practical preservation options, expectations of the public or owners and widely acknowledged preservation principles.

If in preserving historic wallpapers in their original location in situ is not feasible, other solutions should be considered carefully. Depending on several criteria, wallpapers can be returned to their original locations after conservation treatment, integrated into new appropriate environments or preserved in museums.

The goal of the thesis is to discuss and develop a set of methodological guidelines helpful in maintaining historic wallpapers, preserved either intact or in fragments, as parts of interiors.

