

5th International Architectural Paint **Research Conference**

Interdisciplinary Innovation through Baseline Proficiencies

12-15 March 2014 in Stockholm, Sweden

Conference summary



















Swedish National Heritage Board 2014 Box 1114 SE-621 22 Visby www.raa.se registrator@raa.se

Photographs are taken by Helen Simonsson, unless otherwise stated. Copyright according to Creative Commons license CC BY. Terms on http://creativecommons.org/licenses/by/2.5/

Table of contents

rorword	5
The Conference Venue	6
Day 1 – Wednesday	
Keynote speech: Amer Rghei, An Exploration of the Architectural Paint Research through the Sahara Heritage	9
Helen Hughes, Baseline proficiencies for Architectural Paint Research (APR): Replacing the 'Goldilocks Standard'	10
Kathrin Hinrichs Degerblad, Promoting Architectural Paint Research in Sweden through accessibility of samples and results	10
Benjamin Haavik, Establishing Standards for Architectural Paint Research at Historic New England	11
Jennifer Cappeto, It's Open to Interpretation: A Study in Writing Paint Research Reports for the Entire Project Team	12
Anna Henningsson & Alexandru Babos, <i>Tracing the making of the painted stone portal of</i> Ryning Palace, Stockholm	12
Kirsten Travers Moffitt & Catherine Matsen, Identification of zinc-based paints in cross-section using autofluorescence, SEM-EDS elemental mapping, and TSQ fluorochrome stain	13
Barbro Wedvik, The use of fire retardant surface treatment in and on historic buildings	13
Max Laserna, Exterior colour schemes of dwellings in the historic centre of Visby 1860–1930: architectural paint research and the preservation of townscape	14
Day 2 – Thursday	
Keynote speech: Jon Brænne, Architectural Paint Research, APR – How to improve the interaction between client, commissioner and investigator	19
Bernice Crijns, Establishing the essential role of APR in building conservation, a shared challenge	19
Angelique Friedrichs, Architectural Paint Research: Exploring the architectural qualities of colour	20
Stephan Günther & Maria Höijer, Gunnebo House: Historic interiors research for conservation of architectural paint through an international, interdisciplinary collaboration following proposed APR standards	21
Kristin Fyrand, Architectural Paint Research on the ceiling of the Gallery of Charles XI – what we learned	21
Bryon Roesselet, Twelve Years in Topeka, Kansas: Struggles and Successes in a Phased Restoration	22
Line Bregnhøi, How communication of research findings resulted in reconstruction of Chipolin painted surfaces at the Hermitage Palace in Denmark	22

Ewa Björdell & Johan Rittsél, Gamla Riksarkivet / The Old National Archives, satisfactory conservation results through interdisciplinary APR	23
Craig Oleszewski, Addressing the Challenges of Modern Paint Materials	23
Day 3 – Friday	
Amanda Stauffer Park, Collaborating to Reveal, Interpret and Restore 1860s Decoration in Richard Upjohn's Grace Church (Brooklyn, New York)	27
Stephanie M. Hoagland, From Pauper to Prince: Re-interpreting St. John's Colonial Building through Decorative Finishes	27
Anke Scharrahs, Changing minds through sharing research: the preservation of historic Damascene 'ajami rooms	28
Karin V. Kristiansen, Danish church interiors, research into colour change, and knowledge of colour history used as tools in the decision-making process toward preserving church cultural heritage	28
Heli Tuksam, Tartu Art College's role in Historic Interior Research in Tartu, Estonia	29
Mariël Polman, Luc Megens, Paulo Martina and Arie Wallart, <i>The Van Doesburg Rinsema</i> project in Drachten and Amsterdam. An unorthodox consonant	29
Summary of final discussion	30
Posters	
Posters presented during the conference	35
Appendices	
Appendix 1. Conference Program	37
Appendix 2. Description of the Excursions Day 4	40

Foreword

The 5th International Conference on Architectural Paint Research (APR) was held in Stockholm 12-15 March 2014. The previous conferences on this subject (in London, Copenhagen, New York and Lincoln) have dealt with standards continuously, gradually widening the scope of APR to be about finishes in general – rather than restricted to paint. It has also been a goal of those earlier meetings to increase the number of competencies/professions participating. 145 delegates from 14 countries attended four days filled with presentations and excursions. Among the list of delegates are conservation officers, conservators, researchers, architects, chemists, paint producers, house painters and property managers.

On a national level, the Swedish National Heritage Board hopes to promote the possibilities of architectural paint research in Sweden as an important tool for making informed conservation/presentation decisions – the ultimate purpose being to enable future generations to understand and appreciate the colour history as an important part of the built heritage.

The title for this conference, *Innovation through baseline proficiencies*, suggests that only through defining the basic skills and tools necessary for professional results, can we hope to promote and move APR forward. The topics of the presentations varied from standards for APR to interdisciplinary collaboration among professionals. Ideas on education, the communication of results and promotion of APR were also presented.

We are greatly indebted to the 24 dedicated authors who presented their papers at the conference. The editors, Lisa Nilsen and Kathrin Hinrichs Degerblad, are especially grateful to the work by the peer-reviewers, who, by their diligence and accuracy helped both authors and editors to improve the end result. The posters added an extra quality to the conference. Project manager Maria Rossipal kept track of administration and budget for this conference.

Abstracts, titles and authors of posters and a summary of the last session's panel discussion are compiled in this downloadable publication. Program and descriptions of excursions are also included. The post-print with presented papers will be published and sent to all delegates and can be purchased from Archetype during the fall of 2014.

We also take this opportunity to acknowledge our sponsors and the contributions of our organizing partners in Sweden, Denmark, Norway and The Netherlands: the key to having made this conference happen lay in international and interdisciplinary collaboration – from start to finish.

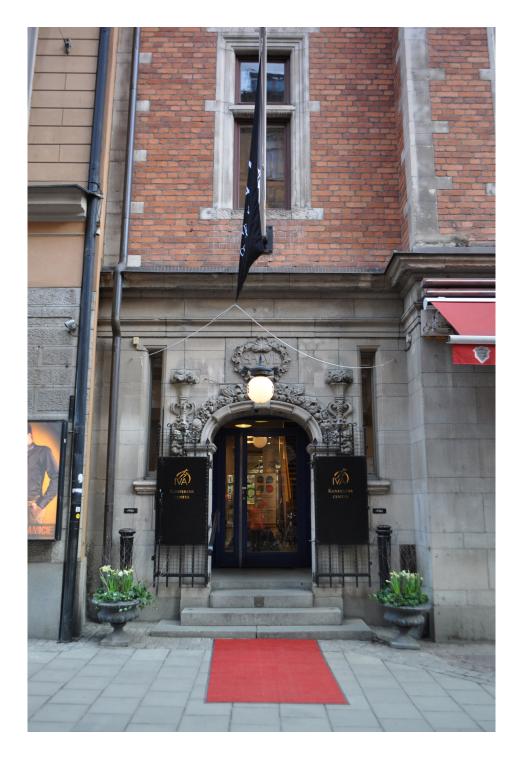
Stockholm, March 2014

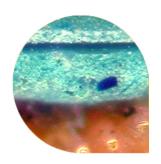
Lars Amréus, Director-General of the Swedish National Heritage Board

The Conference Venue

The conference was held at The Royal Swedish Academy of Engineering Sciences (Kungl. IngenjörsVetenskapsAkademien, IVA), Grev Turegatan 16 in Stockholm.

If you want to know more about the conference venue, see some photos or read about the history of the house, please visit their website: http://ivaskonferens.se/en/





Day 1 – Wednesday

Theme: Standards, working procedures, demands in tendering processes

Keynote speech:

An Exploration of the Architectural Paint Research through the Sahara Heritage

Amer Rghei, American University in Dubai, United Arab Emirates

The heritage with its architectural Paint in the Sahara region is potentially one of the most attractive places in the world. The many oases and historic caravan towns across the



Interior Painting, Ghadames. Photo: Amer Rghei.

Sahara region and places such as Ghadames in Libya combine natural and urban heritage, socio-economic, cultural significance and way of life. This paper is focusing on Ghadames which incorporates the most significant style of architecture and design in the area with interior painting of many homes. The interior homes in Ghadames are mostly characterized by its decorated walls, doors and furniture.

Yet presently, the heritage values in Ghadames and in the Sahara as a whole are currently facing serious challenges due to the limit of protection and the lack of apprecia-

tion of heritage planning, conservation and management. This means that the popular concept of their understanding is that "the new" is better. The objective of this presentation is to raise awareness of the heritage values of the adobe architecture in the Libyan Sahara. Consequently, the presentation is considering the modern challenges and providing a discussion for better practices along with the sustainable development perspective for the Libyan Sahara and Ghadames in particular.



Main Hall, home of Ghadames. Photo: Amer Rghei.

Baseline proficiencies for Architectural Paint Research (APR): Replacing the 'Goldilocks Standard'

Helen Hughes, Historic Interiors Research & Conservation, United Kingdom

This paper celebrates the interdisciplinarity of architectural paint researchers who are drawn from a wide range of disparate professional backgrounds, and recognises the different national, social and economic circumstances within which they operate. Self-defined standards are required to ensure that the discipline is not defined by the cost-cutting clients and acquiescent inexperienced APR practitioners. Instead of searching for a Goldilocks 'just right' standard it is suggested that APR agrees minimum 'good enough' baseline proficiencies for the discipline. The paper identifies the six stages of any APR project and suggests the minimum range of skills and basic equipment needed to carry out 'good enough' APR, to which beginners can aspire and experienced APR may transcend.

Promoting Architectural Paint Research in Sweden through accessibility of samples and results

Kathrin Hinrichs Degerblad, Swedish National Heritage Board, Sweden

This paper discusses the challenges and possibilities of revisiting results from previous conservation restoration projects that involved sampling and analysis of samples. It will concern results and sample material from paint research projects performed by the conservation department at the Swedish National Heritage Board (SNHB). The management, storage and documentation of samples as well as accessibility of analytical results will be discussed. The paper addresses the necessity of applying comparable sampling protocols, proposing to use and develop professional standards within the European Committee for Standardization (CEN).

Improved access to samples and results from architectural paint research projects could benefit the promotion of research in this working field in general. When project results are well documented and actually are compared with results from other projects, the investigation's usefulness increases. A sample, taken in one context, can give answers to a wider spectrum of questions in multiple future projects, if and when the sample is handled and documented correctly. Revisiting samples and results from previous projects may add information to ongoing projects.

Establishing Standards for Architectural Paint Research at Historic New England

Benjamin Haavik, Historic New England, USA

Historic New England, a regional preservation organization in the United States of America, uses architectural paint research for a variety of reasons to support the preservation and interpretation of the 36 historic properties it owns and operates. These historic properties, dating from the 1660s to the 1930s, are open to the public and used to interpret domestic life in New England. In 2011, after determining that the architectural paint research reports we had contracted out could vary widely from consultant to consultant, and information critical to the understanding or management of the property was not necessarily included or easy to find, staff reviewed thirteen previously written reports to determine if a more systemized approach could be detailed.

The resulting standards for architectural paint research that Historic New England developed outline the basic framework a consultant should use in creating a written report that will also be an effective management tool for the heritage manager. At the same time, Historic New England identified the areas of confusion a heritage manager might have when interpreting the results of an architectural paint research project. This paper explores these topics in an effort to assist both the creation and interpretation of architectural paint research.



The conference hall, The Wallenberg Auditorium.

It's Open to Interpretation: A Study in Writing Paint Research Reports for the Entire Project Team

Jennifer Cappeto, Higgins Quasebarth & Partners, USA

What makes a good paint-color investigation report? What do building owners, architects, decorative painters and regulatory agencies look for when reviewing these reports? How much analysis should be done and what is the most pertinent information to include in a paint report? To find out, we interviewed paint-color investigation report users in New York City and the northeastern United States, including building owners who commission paint analyses, architects and preservation consultants who convey the findings into construction documents, decorative painters who replicate the findings, and staff members of a local regulatory agency who review reports and issue permits based on the findings. The results of this study offer numerous suggestions for how architectural paint researchers can best convey their findings and improve the quality of their reports.

Tracing the making of the painted stone portal of Ryning Palace, Stockholm

Anna Henningsson, Disent AB, & Alexandru Babos, National Property Board of Sweden, Sweden

The potential knowledge that can be obtained from the remaining traces of paint found on stone façades has often been underestimated, and far from investigated to a desirable extent. In 2010 the Swedish Property Board applied a new investigative approach to examine two stone portals built in 1644 at Ryning Palace with the aim of understanding the painter's application process and the materials that were used. This study was novel in a Swedish context because it utilized a six step on-site approach to examine the stratigraphy of the paint layers.

The main purpose of this approach was to increase the information about the original application process prior to sampling and further laboratory analysis.

The results are interesting because they reveal two painting techniques. The findings from the sandstone of the east portal show that the binding medium did not consist solely of oil. The finding of binding media such as oil tempera paint and lime-casein contradicts the common belief that sandstone in Sweden was painted mainly with linseed oil. The results highlight that different stone types were sometimes painted with different materials in the 17th century.

Identification of zinc-based paints in crosssection using autofluorescence, SEM-EDS elemental mapping, and TSQ fluorochrome stain

Kirsten Travers Moffitt, Colonial Williamsburg Foundation & Catherine Matsen, Winterthur Museum, USA

Five architectural paint samples were examined under reflected ultraviolet (UV) light and analyzed with scanning electron microscopy – energy dispersive spectroscopy (SEM-EDS) to explore the distinct bluish and/or 'starry-like' autofluorescence of zinc-based pigments in cross-section. These results were also used to evaluate the reliability of the fluorochrome stain TSQ (N-(-6-methoxy)-8-quinolyl-1-toluene sulfonamide), as a zinc identification method. Micro-Raman spectroscopy was also carried out to differentiate between zinc white (ZnO) and lithopone (BaSO₄+ZnS) but analysis was not always successful due to poor scattering properties of the pigments. This study provides instrumental data to support the observation that zinc- based paints exhibit a bluish autofluorescence, but do not always have a 'starry-like' appearance when viewed in cross-section with UV light. Factors that can affect this autofluorescence are discussed. These findings assess the use of UV cross-section analysis alone to identify zinc-based pigments.

The use of fire retardant surface treatment in and on historic buildings

Barbro Wedvik, NIKU, Norway

The demand for fire retarding (FR) treatment arises when a need for risk mitigation or a higher fire safety level for a building are recognised. For historic buildings the application of FR paint or varnish can be part of an upgrading that represents an alternative to replacement of authentic architectonic features. However, the effects of FR chemicals on aged surfaces are not fully understood. Also, the aesthetic qualities of FR products are rather poor, and both the preparation work and maintenance of the products' structure differ from traditional paints and varnishes.

Can FR surface treatment be recommended from a heritage professional's point of view? Which precautions should be taken? With more stringent *fire safety requirements,* it is important that APR practitioners are familiar with, and can communicate, the conservation options available to heritage decision-makers.

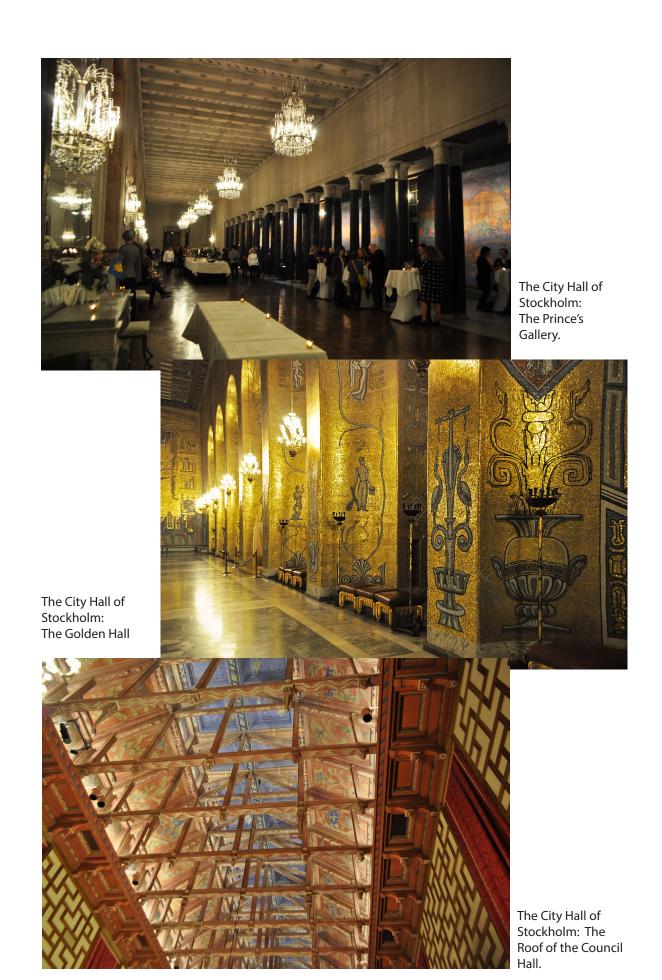
This paper presents and discusses FR mechanism, where to use FR coatings, work procedures and standard practices including fire classification, technical approval and quality control, application methods, service lifetime, adverse effects on the substrate, reversibility and the aesthetic quality of coating application.

Exterior colour schemes of dwellings in the historic centre of Visby 1860–1930: architectural paint research and the preservation of townscape

Max Laserna, Sweden

Traditionally, architectural paint research (APR) has been carried out on relatively unique objects, and in most cases with interiors as the main focus. The investigations seldom seem to extend to the exteriors of more commonplace buildings, and probably even less often with the aim of finding general colour schemes. Still these exteriors may be of both historical and architectural significance, and essential to the identity of place. This paper presents an example of an approach to the interpretation of a historic townscape, and how the application of APR could help to establish preservation restrictions and guidelines for exterior colours and colouring within historic areas.

The methods consist of a study of various sources, with cross sections as a basis, supported by other sources such as interviews, iconographical material, scraping, photographs, archive and literature studies. A representative selection of paint samples was analysed using scanning electron microscopy (SEM), in order to identify the pigments prevailing in the historic centre of Visby 1860–1930. The paper also emphasises the need for simple, but scientifically grounded documentation, to be employed as a standard work procedure when dealing with restoration work of a wider range of historical exteriors.





Day 2 – Thursday

Theme: Interdisciplinary communication between professionals

Keynote speech: Architectural Paint Research, APR – How to improve the interaction between client, commissioner and investigator

Jon Brænne, Vel Bevart!, Norway

Conservation of buildings involves several professions and stages of work processes. One of the most relevant tools for widening the knowledge of a building's history is architectural paint research, APR. APR is a profession executed with great variety. In some countries, APR involves only a superficial survey of painted and decorative surfaces. In other countries, APR is called "Building and colour archaeology", and the examination involves the examination of interior details, and examination of the changes in the structure or plan of the building. In some countries, APR is regarded as compulsory if the object is listed or assumed to have historic value. APR is then to be undertaken before any other measure with the aim of refurbishment or conservation is carried out on the building or interior.

Doing APR as part of a building conservation project, we soon realise that the researcher will have to communicate with several stakeholders involved in addition to the client, commissioner and the executive professional.

Sharing information between the different professions involved in the process is often a challenge when APR is used as an instrument for achieving a better understanding of the object.

The objective of improved communication is to achieve a targeted process and better results, both for the APR and the conservation-restoration of the building.

Establishing the essential role of APR in building conservation, a shared challenge

Bernice Crijns, Cultural Heritage Agency of the Netherlands, the Netherlands

Architectural Paint Research (APR) is still not fully recognised as the logical method for reaching good, well-informed decisions in building conservation. This article is written from a government official's perspective. It addresses a proactive attitude necessary for APR to be taken seriously and used to its full potential. This paper provides a choreographed approach for communications that might improve this situation using tools (like a forum, occupational groups, agreed standards and the Internet) to share case studies, best practices and experiences with the professionals performing APR, the client or a larger public. To succeed with the goal of promoting APR, proactive interdisciplinary communication between professionals is vital.

Architectural Paint Research: Exploring the architectural qualities of colour

Angelique Friedrichs, SRAL, the Netherlands

The architectural significance of colour expressed in paint and building materials should be explored more fully to engage stakeholders and encourage interdisciplinary communication between professionals. Architects and heritage professionals may be more inclined to consider architectural paint research when they are aware that colour is an indispensible part of architecture and part of the original design intent. To illustrate this point the architectural qualities of colour are explored and examined using three examples: the reintroduction of a dark brown colour on the window frames of the Royal Palace in Amsterdam, the reconstructed paint scheme in one of the interiors of The Maastricht Train Station (1915) and the paint research of the modernistic Tilburg Train Station dating from 1965.



Luncheon in the Banquet Hall.

Gunnebo House: Historic interiors research for conservation of architectural paint through an international, interdisciplinary collaboration following proposed APR standards

Stefan Günther, Gunnebo House & Gardens & Maria Höijer, University of Gothenburg, Sweden

This paper outlines the possibilities of improving the development of Historic Interiors Conservation through the interdisciplinary collaboration of property owners, conservators, restoration architects, painters, heritage agencies, and architectural historians. This ongoing research and conservation project at Gunnebo House uses APR as a platform to communicate between different professions within the heritage field. It tries to prove that no discipline can reach its goals without cooperation.

The object of interest is the historic interior of Gunnebo House (1796) with one of the most English influenced interiors in Sweden. After a long time of decay, the house was commissioned by local authorities and opened as a museum in 1952, when conservators created an artificially aged interior in oil paint. In some places there are no traces left of original paint as it has been removed – how could it be reconstructed?

The managers of Gunnebo are specialised in the heritage field and are working to secure funding to develop new knowledge of the site. The restoration project started with an international workshop in 2013, followed by individual investigations by different disciplines, which will result in a seminar and a proposal for conservation in early 2014. It is planned to carry out conservation of the first room in late 2014.

Architectural Paint Research on the ceiling of the Gallery of Charles XI – what we learned

Kristin Fyrand, Stockholms Målerikonservering AB, Sweden

The Gallery of Charles XI in The Palace of Stockholm was both restored and conserved in 2007. As part of the documentation an architectural paint research (APR) was executed. In this paper I will be giving an example of an APR which was not planned in advance and as a consequence we had a far from the ideal situation. Later on I realised that we missed a rare opportunity to gather some valuable information about the painting techniques in one of the most splendid baroque mirror galleries in Northern Europe where more than 90 % of the surface of the ceiling we see today is original. From the experiences gained I will, at the end of this paper, make suggestions for the ideal conditions for the successful accomplishment of an APR.

Twelve Years in Topeka, Kansas: Struggles and Successes in a Phased Restoration

Bryon Roesselet, EverGreene Architectural Arts, USA

Long term architectural paint restoration at the Kansas State Capitol in Topeka began with the unexpected discovery of a face on the ceiling of the House Chamber. Straight painters conducting basic prep work revealed a portion of a long forgotten ceiling mural. This discovery led to the state contracting to discover what else lay beneath the overpaint campaigns. The successful conservation of the murals and restoration of the elaborate historic decorative painting in this room came at the front end of intended phased restoration and modernization of the entire Capitol building and provided the impetus for further APR in the restoration.

How communication of research findings resulted in reconstruction of Chipolin painted surfaces at the Hermitage Palace in Denmark

Line Breanhøi, National museum of Denmark, Denmark

The small Hermitage Palace in Denmark dates from 1736. When performing APR the original paint schemes were found. Some colours were black and white and the paint technique was shown to be Chipolin, a varnished distemper. The paint technique is described by the French painter Watin in his paint recipe book from 1772. It is the first time the use of this paint technique has been discovered in Denmark.

During restoration of the palace it was decided to reconstruct the original paint schemes, after many discussions among the stakeholders. The reconstructions were carried out by a paint firm in close collaboration with conservators and scientists.





Gamla Riksarkivet / The Old National Archives, satisfactory conservation results through interdisciplinary APR, APR 2014

Ewa Björdell, Stockholms Målerikonservering AB & Johan Rittsél, AIX Arkitekter AB, Sweden

Dating from 1890 the Old National Archives in Stockholm were restored and partly rebuilt in 2009-2011. Only a few changes have been carried out since they were built. The building has unique original surfaces that have never been repainted. A special feature of the renovation is the exceptionally high degree of conservation of the original surface layers. The result is that the buildings' aged and weathered character has been greatly preserved.

The few rooms that had been totally repainted, between 1930 and 1960, show many problems with poor conditions, unlike the majority of the rooms with original paint, which are in good technical condition. In these repainted rooms the original colours have been documented and reconstructed with various results. APR has been carried out both by architectural conservators and painting conservators, the latter being clients of the former. Several different disciplines interact, architects, architectural conservators, painting conservators, painters and project managers. The restoration of the Old National Archives is an interesting example of how different disciplines influence the results of the reconstruction of the original colours. In this paper we try to describe these issues and especially the interaction between architectural conservator and painting conservator. In our conclusion we summarize what we believe is important when working with these kinds of huge projects.

Addressing the Challenges of Modern Paint Materials

Craig Oleszewski, National Park Service, USA

A common goal of paint investigation is determining the correct color for presenting a building in its proper interpretive context. Due to environmental restrictions in the US, paint selections are increasingly limited to water-based acrylic latex products, although soya-alkyd products remain available in some areas. While it is normally possible for these materials to achieve a satisfactory color match that meets all of the characteristics of hue, value, chroma and gloss that are identified in a thorough paint investigation, reproduction paints frequently fall short of meeting all of the qualities of the historically painted surfaces. Investigators often are faced with this dilemma: The repainted surface is the correct color and gloss, but it just doesn't *look right*. This paper examines the difference between modern and traditional paint formulations that may be producing these results such as pigment selection, base-tinting techniques, medium and pigment diffraction characteristics.

Day 3 – Friday

Theme: Promoting APR to users and public, empowering and educating decision makers



Collaborating to Reveal, Interpret and Restore 1860s Decoration in Richard Upjohn's Grace Church (Brooklyn, New York)

Amanda Stauffer Park (presented by Kim Lovejoy), EverGreene Architectural Arts, USA

The interior restoration of Grace Church in Brooklyn Heights, NY, was a co-cooperative process that required a series of compromises at each phase: adaptation of the initial design concept and its inherent preservationist aims, reduction of the projected budget, and revision of the treatment plan to accommodate HVAC (heating, ventilation and air conditioning) and acoustic upgrades. A multi-pronged approach entailing conservation, replication, and new design was required to meet the financial, functional, and aesthetic constraints, while still placing a primacy on the production of a historically consistent interior. By educating the congregation about its church's rich and significant visual history, and by engaging the community in an open dialogue about proposed designs and executed mock-ups, the final appearance of the interior was at once sympathetic to conservation ideals and community needs.

From Pauper to Prince: Re-interpreting St. John's Colonial Building through Decorative Finishes

Stephanie M. Hoagland, Jablonski Building Conservation, Inc., USA

This paper considers how the discovery of decorative finishes, demonstrating a high level of skill, during the restoration of St. John's Colonial Building in Newfoundland, Canada affected the interpretation of this Provincial Historic Site. Located in Canada's poorest province, surrounded by a rugged landscape, exposed to harsh winters and with a community of hardscrabble workers - where the only interior finishes that anyone remembered were institutional greens and pinks – the last thing anyone expected to find was Venetian plaster, wood graining and delicate stencils.

Changing minds through sharing research: the preservation of historic Damascene 'ajami rooms

Anke Scharrahs, freelance, Germany

In many of the 3-4,000 historic private houses in the Old City of Damascus built mainly in the 17th to 19th centuries, opulent interiors with beautifully adorned wall, ceiling and floor decoration are preserved. The paper describes the current appearance of the houses with their typical alterations and discusses selected research results into the original interior decoration of Damascene homes. Among the wide variety of materials and decoration techniques used to adorn the architectural features of these homes, two techniques stand out as particularly famous and popular characteristics. The Arabic term ablaq stands for decorative plastered stripes in three colours and finely patterned paste-work inlays. The name 'ajami is used to describe polychrome wooden decoration that is embellished with pastiglia patterning. Metal foils and leaf were applied over the pastiglia, than overlaid with variously tinted transparent glazes, and the spaces between painted with flowers, fruit bowls, and small cityscapes. The author provides insight into the experiences over fifteen years of study and practical conservation of Damascene interiors and introduces the efforts to promote the preservation of the original decoration by convincing the house owners, as well as public and private consumers, of the importance of these works of art.

Danish church interiors, research into colour change, and knowledge of colour history used as tools in the decision-making process toward preserving church cultural heritage

Karin Vestergaard Kristiansen, National Museum of Denmark, Denmark

This paper presents new knowledge of the colour history of Danish church furniture and interiors, and the shifting colour schemes used on furnishings, walls and vaults since the mid. 16th century. The paper reviews the results of a doctoral thesis that has used paint archaeological information in a database methodology. The results have made it possible to classify historic colour schemes as nationally unique and worth preserving. In addition, the paper discusses how knowledge of colour history can be communicated as a tool in the decision-making process toward preserving historical colour schemes as part of church cultural heritage.

Tartu Art College's role in Historic Interior Decoration Research in Tartu, Estonia

Heli Tuksam, Tartu Art College, Estonia

Two educational institutions provide restoration training in Estonia – Tartu Art College (TAC), at the level of applied higher education and the Estonian Academy of Arts, which provides restoration training at all academic levels. TAC educates restorers in the fields of wall paintings and interiors, furniture, sculpture and leather arts. TAC is situated in the centre of the local historical district Karlova in Tartu. The district is characterized by wooden buildings and a historical setting, and is attractive to heritage protectors and restorers for its authenticity, including historical interiors. TAC has aimed to raise the awareness of the local community through lectures, consultations and training.

The Department of the Restoration of Paintings has in recent years investigated and restored several objects in Karlova. Direct contact with the house or apartment owners provides an opportunity to explain the values of historical interiors and possibilities of restoration. Today we can see that our long-term steady explanatory work is paying off: the initiative to gather and preserve information often comes from the local community itself. By training students and restoration specialists and supporting the local community, TAC tries to help encourage the preservation of cultural heritage and development of sustainable historical environment.

The Van Doesburg Rinsema project in Drachten and Amsterdam. An unorthodox consonant

Mariël Polman, University of Amsterdam, Luc Megens, Cultural Heritage Agency, Paulo Martina, Museum Drachten & Arie Wallert, Rijksmuseum Amsterdam, the Netherlands

In the Van Doesburg Rinsema Project concerning the 1921 middle-class housing project on Torenstraat in Drachten by architect Cees Rienks de Boer, with colour design by artist Theo van Doesburg, Architectural Paint Research plays an important role. In this project, where colour is the key factor, Museum Drachten, restoration architects and occupants of the houses worked together and needed the expertise of specialized architectural paint researchers to return the houses to their original colour. In the recently acquired museum house the interior colour schemes will also be reconstructed.

Although not present during the execution of the work, Van Doesburg not only made the colour designs, but also gave clear instructions about the materials that were to be used to obtain the right colours. A first investigation by the APR specialists showed that original paint layers were still present. Further research will have to show whether his strict instructions were followed. Therefore, the material record can be used together with the extant design drawings for the reconstruction of the colour schemes. Through the Museum Drachten the progress and results of the project will be shared with the occupants and local population by means of various activities.

Summary of final discussion

The concluding session started with a panel discussion between the organising partners who had each chaired one of the sessions of the conference. Comments and issues posted by delegates during the three days were projected onto the screen (see figure below).

This chapter is a brief summary of the views and ideas put forth by the panel and audience during this open dialogue.

The initial reflections circled around the possibilities available for promoting APR, the need to develop standards, and ways to collaborate on improving education in this field.

Promoting APR

The question of how to make the benefits of APR known to a wider audience was central to all participants of the conference. Initiatives dealing with establishing websites for APR, both on a regional and a national scale, had been described in some of the presentations. But could they be linked together or should we aim for a global website promoting all kinds of activities within APR? Which organisation would take on the responsibility for managing the homepage of APR and would the APR community be prepared to finance the management of such a website? One suggestion put forth was to establish a platform to access lists of protected buildings from the different

Summary of commentaries posted and collected during the conference

Standards

- Procedure, methodology publication, keywords
- Report: aim, limitations, methods, results and future research

Access and promotion

- Access to reports
- · National web-site or International web-site?
- How can we help improve knowledge about APR in the world?
- · How do we promote the next conference?
- Theme for next APR?

Regulations and education

- What is relevant for the decision on colours?
 Use the exact compounds of the original or try to imitate?
- What about the EU regulations on toxic paints?
- Education international interdisciplinary collaboration?
- Master classes, international workshops?

countries of the APR community. This should be a joint task for the national heritage boards. Equally it was deemed a governmental responsibility to collect and showcase examples of best practise APR. Researchers publishing their findings could also help promote the advantages of thorough investigations.

Accessing archives

The digitalization of "hidden archives" turned out to be an urgent matter. The discussion concerned the growing demand for digitalization of archives and the dissemination of information about already executed paint analyses and existing archives. The need for a means of handing over and documenting archives from the currently growing numbers of consultants in private practice to following generations was also pointed out. Ideas about donating archives to the cultural heritage authorities were put forward. An existing example of a web site as possible inspiration from the field of dendrochronology was mentioned (http://dendro.dans.knaw.nl/).

Developing standards

Standardization was a particularly important topic and consequently much discussed during the final session. Some presentations had dealt with various attempts at establishing general guidelines and standards for methodology. The ongoing standardization work within the European Committee for Standardization, CEN/TC 346 Conservation of

Cultural Heritage was emphasized. It was suggested to create a working group within CEN/TC 346 dedicated to developing standards for APR practice. Experts for this working group could be recruited from those European countries present and collaboration from the North American continent was offered. A minimum of five European countries, providing experts who actively work on drafting the documents, is required by CEN. The baseline procedures for APR involving 6 stages, presented by Helen Hughes, were generally accepted as a good starting point. The process of APR and documentation of results as reports was put forth as a possible first focus area.

Education

Another important question concerned the education of students and researchers. Many countries totally lack APR-education. Today many teachers turn to the APR-network for advice and support in connection with the education of their students. The printed publications from earlier conferences on the subject of APR are used as literature and reference in educational programs. In some countries APR is part of basic training for paint conservators but is not taught at university level to architects, engineers and other relevant professions. One way for long term implementation of APR in management strategies is to arrange courses aiming towards a master's degree in APR for all professions involved in managing built heritage. It was also pointed out that most practitioners of APR have an educational background in at least two professions making the need to address more than one educational program obvious.

Establishing an International Association

Returning to the question of how to promote APR, the idea of organizing an international association for APR practitioners (IAAPR) involving all related professions was put forth. Large and influential international organizations such as ICCROM and ICOMOS where mentioned as possible "umbrellas" to seek association with. ICCROM is currently preparing for a new program period aiming to enhance strategic issues. This could also help strengthen APR as it would connect us to a wider spectrum of heritage managers working at both the local and international level.



The panel discussion.

It was noted that the key to promoting APR lies in informing the managers of cultural property. There could however be a possible gender issue to also be considered. Reflecting on the case studies and presentations at the conference most researchers were female whilst the commissioners and decision makers were mostly male. If APR practitioners want to improve the impact of APR, structural obstacles at system level may have to be considered.

Upcoming conference topics

Looking to the future and possible topics for upcoming conferences it was suggested to continue discussing pigments and textures considering the never ending development of modern paint systems and the ongoing suppression or banning of traditional paints and binders due to environmental issues.

Conclusions

- APR needs to become better known both generally and internationally. This includes reaching out to increase participation in conferences like this from South America, Southern Europe and other parts of the world. The benefits of well-executed APR work needs to be communicated to other sectors dealing with built heritage. The experts wish to organize an international group, preferably associated with ICCROM or ICOMOS. An International Association of Architectural Paint Researchers (IAAPR) could also address issues of education and foster access to archival documentation.
- Common international guidelines or standards need to be developed. A working group is going to draw up a proposal for the next APR-conference. Representatives from Holland, Belgium, Great Britain, Norway, Denmark and Sweden indicated an interest in providing experts to collaborate on a first draft. Kathrin Hinrichs Degerblad, Bernice Crijns and Helen Hughes registered their interest to participate in this group.
- The next APR conference, according to plan, should take place in 2016 in New York, USA. Mary Jablonski offered to be part of the organizing team for the next meeting.



Poster sessions Conference program Excursions



Posters presented during the conference

Session 1 (Wednesday and Thursday morning)

Karin Keutgens & Bernard Delmotte, *Material technical study of the St. Christopher wall painting (XVIA) in the Grote Kerk of Breda, the Netherlands, in function of its restoration.*

Kristin Solberg & Geir Thomas Risåsen, A dining room reconstructed to anno 1814.

Nynne Raunsgaard Sethia, An early multimedia house. Splendor lost and regained.

Vibeke Rask & Anja Liss Petersen, The forgotten nineteenth century wall decorations in the convent, Odense Adelige Jomfrukloster.

Edwin Verweij, A colour scheme chart with the use of digital image processing and analysis.

Jessica Hensel, Toxic Pigments in Historic Interiors.

Karin van der Lem, Petrified Paint. 'Reversible' retouching media in the conservation of mural paintings on porous substrates made with Keim silicate paint.

Kumiko Hisano, Missing Soldiers Office: Restoring the lost decorative designs.

Session 2 (Thursday afternoon and Friday)

Nancy E. Binnie, Alastair Fox & Elizabeth A. Moffatt, *Restoring the colour of Fredericton City Hall National Historic Site: A Successful communication of paint archaeology findings for windows and associated decorative elements.*

Kim Lovejoy, The Harlem Hospital Murals: Preserving Art in Modern Medical Facilities.

Anna Boomgaarden, PR and APR: Public communication about architectural paint research.

Anne Simonsen, *The Chinese Room at Frederiksberg Castle, Copenhagen. Colour research and painting techniques.*

Kim Lovejoy, *Grace Church: Revealing and Restoring 1860s Decoration.*

Gemma Smart, Starting at the beginning: Investigating the Commissioning of Architectural Paint Research – The Clients & Apprentice Perspective.

Anne Apalnes Ørnhøi & Tone Marie Olstad, *Picturing the Past - when the colour is not the colour.*

Tone M. Olstad & Einar Mørk, "Dating Map" – Communication of information based on APR, and an interdisciplinary approach to dating.

TSJ Art Conservation & Restoration Co., Ltd., Research, Learning and Rescue: Conservation of Taiwan Traditional Polychrome on Wood Panel – Door Gods.







5th International Architectural Paint Research Conference APR, Stockholm 12-15 March 2014

Wednesday March 12th

1st day's theme: Standards, working procedures, demands in tendering processes

08:30	Registration and	coffoo
06.30	neuistration and	LOHEE

10:00 Welcoming address

Lars Amréus, Director General, Swedish National Heritage Board

10:15 Keynote speech

An Exploration of Architectural Paint Research through the Sahara Heritage Dr Amer Rghei

11:00 Session no 1 – chaired by the Swedish National Heritage Board

> Baseline proficiencies for Architectural Paint Research (APR): Replacing the 'Goldilocks Standard'

Helen Hughes

Promoting Architectural Paint Research in Sweden through accessibility of samples and results

Kathrin Hinrichs Degerblad

12:00 Lunch

13:15 Session no 2 – chaired by Norwegian Institute for Cultural Heritage Research (NIKU) Establishing Standards for Architectural Paint Research at Historic New England Benjamin Haavik

It's Open to Interpretation: A Study in Writing Paint Research Reports for the Entire Project **Team**

Jennifer Cappeto

Tracing the making of the painted stone portal of Ryning Palace, Stockholm Anna Henningsson and Alexandru Babos

- 14:45 Coffee break and poster session
- 15:30 Session no 3 – chaired by the Cultural Heritage Agency of the Netherlands

Identification of zinc-based paints in cross-section using autofluorescence, SEM-EDS elemental mapping, and TSQ fluorochrome stain

Kirsten Travers Moffitt and Catherine Matsen

The use of fire retardant surface treatment in and on historic buildings Barbro Wedvik

Exterior colour schemes of dwellings in the historic centre of Visby 1860-1930: architectural paint research and the preservation of townscape

Max Laserna

- Conclusion of 1st days sessions 17:00
- 19:00 Reception at the City Hall of Stockholm, hosted by the City of Stockholm.







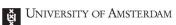














5th International Architectural Paint Research Conference APR, Stockholm 12-15 March 2014

Thursday March 13th

2nd day's theme: Interdisciplinary communication between professionals

09:00 Keynote speech

> Architectural Paint Research, APR - How to improve the interaction between client, commissioner and investigator

Jon Brænne

09:45 Session no 4 – chaired by Uppsala university

Establishing the essential role of APR in building conservation, a shared challenge

Bernice Crijns

Architectural Paint Research: Exploring the architectural qualities of colour **Angelique Friedrichs**

10:45 Coffee break

11:15 **Session no 5** – chaired by Stichting Restauratie Atelier Limburg (SRAL)

> Gunnebo House: Historic interiors research for conservation of architectural paint through an international, interdisciplinary collaboration following proposed APR standards Stephan Günther and Maria Höijer

Architectural Paint Research on the ceiling of the Gallery of Charles XI – what we learned Kristin Fyrand

12:15 Lunch

13:45 **Session no 6** – chaired by University of Gothenburg

Twelve Years in Topeka, Kansas: Struggles and Successes in a Phased Restoration

How communication of research findings resulted in reconstruction of Chipolin painted surfaces at the Hermitage Palace in Denmark

Line Bregnhøi

14:45 Coffee break

15:15 **Session no 7** – chaired by National Museum of Denmark

> The Old National Archives, satisfactory conservation results through interdisciplinary APR Ewa Björdell and Johan Rittsél

Addressing the Challenges of Modern Paint Materials

Craig Oleszewski

Presentation of results from the conference enquiry

Helen Simonsson

Conclusion of 2nd days sessions 16:30

19:00 Conference dinner (at the conference venue)







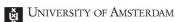














5th International Architectural Paint Research Conference APR, Stockholm 12-15 March 2014

Friday March 14th

3rd day's theme: Promoting APR to users and public, empowering and educating decision makers

9:00 **Session no 8** – chaired by the National Property Board of Sweden

In remembrance of Colin Mitchell Rose

Christine Sitwell

Collaborating to Reveal, Interpret and Restore 1860s Decoration in Richard Upjohn's Grace Church (Brooklyn, New York)

Amanda Stauffer Park (presented by Kim Lovejoy)

From Pauper to Prince: Re-interpreting St. John's Colonial Building through Decorative **Finishes**

Stephanie M. Hoagland

10:15 Coffee break and poster session

11:00 **Session no 9** – chaired by the University of Amsterdam

> Changing minds through sharing research: the preservation of historic Damascene 'ajami rooms

Anke Scharrahs

Danish church interiors, research into colour change, and knowledge of colour history used as tools in the decision-making process toward preserving church cultural heritage Karin V. Kristiansen

Tartu Art College's role in Historic Interior Research in Tartu, Estonia

Heli Tuksam

12:30 Lunch

13:45 **Session no 10** – chaired by the Swedish National Heritage Board

The Van Doesburg Rinsema project in Drachten and Amsterdam. An unorthodox consonant Mariël Polman, Luc Megens, Paulo Martina and Arie Wallart

Introduction to excursion sites

by the National Property Board of Sweden

14:45 Coffee break

15:15 Final session: the way forward

Recapitulation of enquiry and conference

16:00 Conclusion of the session part of the conference

Saturday March 15th

9:00 **Excursions**

Choose between four different excursion alternatives; -12:00

> the Drottningholm Court Theatre, the Chinese Pavilion, the Södra Banco or the Nationalmuseum.







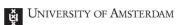














Drottningholm Court Theatre



Photo: Marie Edman Franzén, National Property Board of Sweden.

Located approximately 15 km west of Stockholm city, lies the Royal Drottningholm Palace, official residence of the Swedish Royal Family. In 1991, this fantastic 18th century palace and its surrounding environment befittingly became Sweden's first protected building on the UNESCO World Heritage List. The presence of the Palace Theatre at Drottningholm was one of the most important reasons for its nomination and was specially noted in UNESCO's motivation.

The Palace Theatre's austere neo-classical facade reveals nothing of what lies behind, namely one of the world's few functioning 18th century theatres, complete with original stage, scenes and stage machinery. It is here that 18th century plays are performed in an authentic, almost untouched environment with the additional advantage of the original acoustic characteristics. The public get to experience the 18th century with all their senses. The theatre's material finishes play an important part in this experience, many of which have never been repainted or covered. A great deal of the cultural historic value lies within the patina that the finishes have acquired after their prolonged exposure and physical deterioration (wear and tear). These sensitive and subtle characteristics enhance the feeling of authenticity and the passage of time.

But can there be too much patina and in such case when does it become too much?

In many places within the Theatre's interior the paint had dried out and deteriorated to a point where they could no longer tolerate further exposure to light or dirt. In some cases the paint had begun to decay and lose its subtle characteristics which prompted that necessary action had to be taken. The objective in this respect was primarily not to improve the condition and appearance of the affected finishes but to slow down the ageing process.

The Palace's Architect has the overall responsibility for the protection and long term development of the buildings and their surrounding environment. The Theatre holds so many difficult and



detailed issues that a building conservator shared the leadership and the management of the restoration work. It was decided to proceed at a slow pace dividing the project into different stages. It was important to find methods to solve the varying problems and in so doing build up a useful bank of knowledge. In such a sensitive environment it was determined that standard solutions were inappropriate and that all restorative work needed to develop in direct response to the building's specific requirements.

The process started in 2004 and involved analysing and writing a detailed specification of the history of each room and its remedial requirements. The resulting framework document was then sent to the National Heritage Board for their initial approval before being developed further through consultation with conservators, painters and other skilled craftsmen. The development took place in regular control meetings attended by representatives from the National Heritage Board, the National Property Board, Palace Trustees, the Theatre, with the aforementioned professional consultants and the Palace Architect. The meetings provided a forum to discuss the restoration work and the resulting problems, drawing from a broad range of knowledge and expertise. The Palace Architect was responsible for deciding upon the best course of action and for overseeing its execution with respect to the time schedule and budget.

A list of necessary restoration work resulting from the consultation process gradually began to grow. The first step was to work on those elements that were in obvious need of attention and then to gradually and simultaneously progress the remaining work in order to retain a coherent impression within each room. Extreme caution was exercised in the event of doubt and in such cases work was halted. A clear example is in the case of the wainscoting which had been retouched in the 1920s and 30s but which, with time, had darkened relative to the original paintwork. The resulting staining was further enhanced when the wainscoting had been dry cleaned and had regained its original lighter colour. The conservators tried different methods to remove the retouches without damaging the underlying surface. This resulted in each retouched area being manually removed one after another with a scalpel. The next question was to decide what extent of the retouches would be removed. Under consultation with the group, it was decided to progress gradually, removing the most affected areas and then reviewing the overall effect. This was repeated until a satisfactory level for the whole room was reached. Regardless of whether it concerned original wallpaper, joinery or plasterwork, the method and approach remained consistent.

As intended, the conservation is unnoticed by the visitors to the Theatre today. If one looks closely or has a trained eye it is possible to detect that restoration work has been undertaken while successfully maintaining the coherent impression of the room. A knowledge bank has gradually developed from which all future decisions and practical application will be based. Now we know how to treat windows, joinery, wallpaper etc. while at the same time respect for the building is strengthened thanks to the knowledge acquired under the project's progress. It's of the greatest importance to consistently listen to the building and its specific conditions and constantly be prepared to revise opinions and methods in order to respect the building's integrity.

On Saturday 15th of March you will meet conservator Ewa Björdell and palace architect Erland Montgomery.



The Chinese Pavilion



Photo: Marie Edman Franzén, National Property Board of Sweden.

The Chinese Pavilion is together with Drottningholm Palace Theatre, Drottningholm Palace and the Park since 1991 on UNESCO's World Heritage list.

The Chinese Pavilion is open for visitors between May and September and therefore the collections are now covered by dustcovers. Only some rooms are heated to provide the necessary levels of humidity. Through the Palace Administration, the Office of the Governor of the Royal Palaces represents his Majesty the King's right of disposal. The Drottningholm Palaces Administration is responsible for matters concerning how the buildings are used and is responsible for the tour activities. The Swedish National Property Board is responsible for the maintenance in cooperation with the palace architect.

The first Chinese pavilion, a prefabricated wooden building, was erected in 1753 as a birthday present to Queen Lovisa Ulrika. It was a highly appreciated birthday present built in a Chinese-inspired style which at the time was height of fashion in Europe. This first Pavilion was replaced in the 1760s by a more permanent building, which today contains one of the finest European rococo interiors with chinoiserie. Early it became a museum.

The building exterior was carefully renovated twenty-five years ago. It was originally supposed to look like a shining Chinese lacquer box, and with this in mind we restored the exterior. Later paint layers were removed carefully with razorblades in order not to damage the old plaster. Investigation of the archives resulted in new information about the pigments originally used. Now it's time to restore the facades again. We have maintained the surfaces by applying unpigmented linseed oil, but this treatment is not sufficient any longer.



The interior was last completely restored between 1959 and 1969. The work is described in a published book, but unfortunately not in detail. During this restoration many rooms lost their previous paint layers, but fortunately small areas with paint layers from all historic periods were left intact for reference. There is today a need to know more about the original appearance in the different rooms. We have noticed that even if the sources say that for example the windows are newly painted we still can find older paint layers underneath the top layers. The written sources describing the latest restoration mentions that some of the rooms still have their original paint layers and that these were only retouched. These restorations are however sometimes much more comprehensive, and seem to cover almost the complete room. In other rooms the work is described as the application of a new paint layer. Conservators from Swedish National Heritage Board analysed the paint layers ten years ago. This was done by Anna Brandi and Hans-Peter Hedlund. Their work resulted in a report that gives us a lot of new information, but some questions still remain to be answered. Further studies have been carried out by conservator Kristin Fyrand.

A plan for restoring and conserving the building has resulted in the conservation of several rooms. This work started in 2007. Today, five of fifteen rooms are conserved and the unique wall-mounted lacquered panels from China in the Yellow cabinet and the Red cabinet are now conserved.

The visit will focus on the paint studies, renovated rooms and rooms where we still need to continue with APR.

You will meet conservator Kristin Fyrand who will tell you about paint research at the Chinese pavilion. You will also meet Marie Edman Franzén, project manager at Drottningholm from National Property board and Boel Bodvik, museum educator from the palace administration.



Södra Banco (The old National Bank)

This bank building was constructed 1679 for Riksens Ständers bank, later Swedish National Bank. It is one of the oldest office buildings in Sweden, still in use. Three architects have designed the building. Tessin the elder was the first architect. After 30 years, his son, Tessin the younger, expanded the building. Still the bank house was too small and one of Sweden's most well known architects at that time, Hårleman, made new plans. The house was extended for the second time and in 1738 the building was completed.

Since 1994 the building has housed National Property Board of Sweden, Statens fastighetsverk.

You will see three different rooms during the visit. The first room is the entrance hall with Tesssin the elder's interior work. The room is one of the finest barock rooms from this time. When the building was renovated 2004-2005 the entrance was painted. Paint research was done by two conservators, and you will meet one of them at the visit, Anna Brandi. Several samples were taken from the wall, the door and decoration. The results of the research was used by the architect when it was decided how the room was going to be painted 2005. The outcome was criticized and one of the architects who was involved in the discussions at the time will also meet us.



Photo: National Property Board of Sweden

The next room is the so called "Sessionssalen" where the bank committee held their meetings. The room was decorated 1772 with wall decorations on canvas by Bolander. During the renovation in 2004 the house and the room were closed. The plan was to clean the precious wall decorations, nothing more. But a spectacular burglary changed all plans! You will see the result of this big restoration/conservation work and you will also have the possibility to discuss if the look of today could have been different!





Photo: National Property Board of Sweden

The third and last room you will see during the visit is the so called "Stänkrummet". It is placed in the attic and is a small, very simple room without decorated walls or ceiling, very different from Sessionssalen. We think it is one of the most interesting rooms in the house! We will explain the name of the room, "Stänkrummet", and talk about the conservation work. Walls and ceiling are painted with distemper and it was very dirty when we started. The room was used as a store room and was in a way "forgotten". Here you will see the result of a restoration/conservation work that probably would have been different if we had made 10 years earlier!



Nationalmuseum



Photo: Hans Thorwid, Nationalmuseum

Nationalmuseum is Sweden's premier museum of art and design. The collections comprise older paintings, sculpture, drawings and graphic art, and applied art and design up to the present day.

The museum building is one of Sweden's most significant monuments and when the museum was inaugurated in 1866 it was the most expensive and biggest building site of its time. Designed by German architect Friedrich August Stüler, the museum was created with the idea that the experience of art is enhanced when the artworks communicate with the surrounding space. Originally, the museum comprised galleries that varied in size, decoration, colour and lighting – different kinds of galleries for different kinds of presentations and art.

Since the beginning of the twentieth century, the building has been constantly repurposed and adapted to the museum's changing and growing requirements. However, the building has never been thoroughly renovated. The goal for the upcoming makeover is to bring it up to modern operational, regulatory and international standards in terms of safety, climate control, fire safety, working environment and logistics. The museum was closed in March 2012 for refurbishing and will reopen in 2017.

The visit to Nationalmuseum will focus on the consequences for the treatment of historic paint layers. Although the interiors were originally richly decorated, reconstruction is beyond the scope of the project. Some original surfaces remain and will be treated with care, for example by way of installing an innovative ventilation solution which includes components specifically designed to



minimize the risk for the painted ceilings. However, the rule is that both walls and ceilings have been over painted many times – a fact that illustrates the museum's constant need to be able to change the galleries as new exhibition strategies and themes develop. During the visit representatives from the National Property Board and Nationalmuseum will discuss how decisions have been made, documentation plans, and possible future reconstructions. The Neues Museum in Berlin, also by Stüler, will be mentioned as a point of reference.



Photo: Per-Åke Persson, Nationalmuseum

