Decorative Plasterwork at Voltveti Manor
—Sustainable Heritage Report No. 6

Kirsti Horn, editor

Traditional Wooden and Masonry Structures in the Baltic Sea Region
Sustainable Heritage reports, 2/2014
Decorative Plasterwork at Voltveti Manor — Sustainable Heritage Report No. 6

Traditional Wooden and Masonry Structures in the Baltic Sea Region
Sustainable Heritage reports, 2/2014
Decorative Plasterwork at Voltveti Manor — Sustainable Heritage Report No. 6

Kirsti Horn, editor

A joint project between Campus Gotland at Uppsala University, Estonian Academy of Arts, Novia University of Applied Sciences and supported by the Nordic Council of Ministers through Nordplus funds.

Publisher: Enja Publishing, Vantaa, Finland

Copyright 2014 Kirsti Horn (editor)

Photographs and drawings are copyrighted as mentioned.

Layout: Michael Diedrichs

Decorative Plasterwork at Voltveti Manor;
Sustainable Heritage Report No. 6 / Kirsti Horn (ed.)
– Vantaa: Traditional Wooden and Masonry Structures in the Baltic Sea Region,
Sustainable Heritage reports, 2/2014.
ISBN (PDF): 978-952-7075-02-9; (nid. / print): 978-952-7075-03-6
ISSN (online): 2342-2025; (print): 2342-2017
This report is about interior decorative plasterwork of the past centuries and about the restoration work performed at Voltveti Manor in Estonia (figure P1). It is not about straightening masonry walls or giving façades a distinct style but instead, of the delicate architectural decorations that can be found inside palaces, manor houses and churches of the past centuries. The report is largely based on what was learnt during the intensive course. The results of this are two: obviously the reported learning, but also the fact that this was another small step towards the rescue of an historic interior of notable character and detail.

Several aspects of decorative plasterwork are dealt with. These have been divided into two sections, namely Part 1 which gives general background information concerning the material and its use over the times, and Part 2 describing the most interesting practical restoration work that was performed during the intensive course at Voltveti Manor. The step by step photographic documentation illustrates the performed work in a fascinating way.

The excellent cooperation between the involved universities, namely Estonian Academy of Arts, Uppsala University and Novia University of Applied Sciences has once again given their students a wonderful opportunity to learn about the architecture of the past and the way it should be restored and maintained. All participating students have contributed to this report with text and photographs.
Preface

More than 30 students and eight teachers from Estonian Academy of Arts, Estonia, Uppsala University, Campus Gotland, Sweden, and Novia University of Applied Sciences, Finland, took part in the third intensive course in the series Traditional Wooden and Masonry Structures in the Baltic Sea Region. During the first week of September 2013 the scene of the event was the historic Voltveti manor in Tihemetsa, Pärnu County, Estonia.

The project Traditional Wooden and Masonry Structures in the Baltic Sea Region is supported by the Nordic Council of Ministers through Nordplus funds. It is designed for students of building conservation, conservation of artefacts, structural engineering and site management from the named universities in Sweden, Estonia and Finland. The idea is to give them the opportunity to learn about the traditional materials in different parts of buildings. From the conservation point of view they learn how constructions and surfaces made of these materials are to be preserved in the best manner. The extra bonus is that when students of different disciplines meet, they naturally exchange ideas and experiences and they develop contacts across cultural, national, professional and language barriers.

We thank Krista Laido from Estonian Academy of Arts for the excellent arrangements. Many thanks to the leaders of the Forestry school that is situated in the building for letting us work in their representative rooms and the Pärnu County Heritage authorities, Nele Rent in particular, who gave us permission to perform the work. Thanks also to Hilkka Hiiop and Joosep Metslang for interesting lectures and excursions.

We want to extend our special thanks to our knowledgeable tutors Maria Väinsar and Heiti Kulmar who shared their expert knowledge in the art of restoring decorative plasterwork with us.

Kirsti Horn

Senior lecturer, Architect SAFA, AA Dipl.
Part 1: Background to the art of decorative plasterwork

1.1 STUUKDEKOOR, STUCKATUR OR SIMPLY ‘STUCCO’?

Stucco is a term which is used in several different ways. In American English the word is generally used for a finishing coat of gypsum plaster or lime plaster, or rendering with lime or cement. Yet, it is also used to describe decorative embellishments, sculptural details and figures made of gypsum or lime plaster in architecture. Furthermore, Stucco is a description of the ingredients in the plasterer’s bucket and a general term for the result after the mix has been applied onto the wall or ceiling or after it has been modelled into an architectural decoration. The word is Italian and it was spread throughout the countries north of Italy by the many masters of the craft who were employed on the building sites of the wealthy from France to Sweden in the north and Russia in the east. The exact meaning changed over the years because the plastering and decorating technique developed, and the used materials varied with times and location. The definition of stucco according to Encyclopedia Britannica is the following:

“stuccowork, in architecture, fine exterior or interior plasterwork used as three-dimensional ornamentation, as a smooth paintable surface, or as a wet ground for fresco painting. In modern parlance, the term is most often applied exclusively, especially in the United States, to the rougher plaster coating of exterior walls.”

To avoid confusion of the vocabulary, this report is about decorative plasterwork (see appendix 1, terminology).

The decorative pieces of plaster can either be made in situ by a plasterer or prefabricated by casting in a workshop. The material for the former would traditionally have been lime plaster, gypsum plaster or a mixture of these, while the latter is made of gypsum plaster.

Lime and lime plasters are discussed in no. 1 of the Sustainable Heritage
Gypsum is lime that is naturally bonded to sulphur and water. Its chemical formula is $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$. When the material is to be used for plaster, the water must be distracted through burning the stone. This results in a powder which returns to its original chemical formula when water is added to make a paste or plaster for sculpting and casting. Gypsum plaster is easy to work and hardens fast. Lime and other additives are often added to make the hardening slower. Gypsum is a fire–proof and odourless inorganic building material that can be used both indoors and out–of–doors, even in the Nordic climate as long as it is kept dry.

Decorative plasterwork can be found in many different contexts. This report deals with its use in architectural detailing inside historic buildings, but it can be found as a decoration on façades, antique furniture, frames around mirrors and paintings, and small objects d’art. In those cases the plasterwork is often gold–plated or gilded through some less expensive method, or made to look like different materials, mainly stone.

1.2 THE ROLE OF DECORATIVE PLASTERWORK IN INTERIOR ARCHITECTURE

Gypsum or lime plaster was used for bas reliefs and sculpture already in ancient Egypt, the Middle East and in antique Greece and Rome but then largely forgotten during the Middle Ages in Europe apart from Germany and Silesia. Its use lived on in the Islamic world where architectural masterpieces were often covered in lime plaster and decorative plasterwork inside and out. There are two notable examples of this in southern Spain, the palace of 14th century Alhambra being the more famous and one of the first UNESCO World Heritage Sites (figure 1.1).
Figure 1.2. The cornice of the ballroom in Voltveti manor consists of three lines of decorative plasterwork and trompe l’oeil painting with consoles, putti and garlands in between. Photograph by Kirsti Horn.

Decorative plasterwork was used as a means for making optical illusions in Baroque and Rococo interiors. The plaster putti, pompous mouldings, medallions, garlands and copies of antique detailing were used as a link between architectural elements and illusionistic ceiling paintings that made trompe l’oeil, or deceiving the eye, possible (figure 1.2). Ceiling paintings create the scenery (sky with clouds and figures, for example) and the imaginative plasterwork frames it with architectural essence and figurative compositions which seem to grow out of the walls (figure 1.3).

The refined Classicistic interiors of the late 18th century derive their inspiration from the antique Roman interiors that were discovered under the ashes of Mount Vesuvius in Pompey in the 1750’s. The decorative plasterwork still plays an important role in the architecture, but the ornaments are rather subdued to the overall design and they are mainly flat and symmetrical like their antique models.

In the 19th and early 20th century during the Jugend and Classicistic revival architecture, very detailed plasterwork was still used to decorate the home interiors of the upper class and aristocracy until the phrase “ornament is crime” was introduced to support the sober ideas of Functionalism.
SUSTAINABLE HERITAGE REPORT NO. 6
DECORATIVE PLASTERWORK AT VOLTVETI MANOR

The most remarkable 18th century Estonian interior with decorative plasterwork was in Põltsamaa castle which was destroyed during the Second World War in 1941. It was in Rococo style and the master decorator was Johann Michael Graff. Notable decorative plasterwork can be found today in Saue, Ääsmäe, Roosna–Alliku, Riisipere, Rägavere, Suure–Kõpu and Maidla manor houses.

The finest examples of late Baroque interiors are in Kadriorg Palace in Tallinn which was completed in the 1720’s (figure 1.4). Matthias Seidtinger from Riga and the Italian master Antonio Quadri decorated the main hall which has survived as a whole. Originally there were decorative plasterwork and painted ceilings in the other rooms, as well.

Late 18th century decorative plasterwork can be found in the interiors of the building in Toompea, Tallinn, which is now used to house the Estonian parliament. The architect was Johann Schultz, who designed the rooms in the style of early Neo Classicism.

One of the most distinguished Classicistic manors in Estonia is Riisipere which was completed in 1821, and is unfortunately in poor condition today. The so–called White Hall with its rich plasterwork is the most remarkable room in the manor. The large room is covered by a dome where an illusion of extra height is created as the rows of cassettes diminish towards the top.

1.3 SHORT HISTORY OF DECORATIVE PLASTERWORK IN ESTONIA, SWEDEN AND FINLAND

Figure 1.4. The banqueting hall of Kadriorg Palace in Tallinn dates back to the early 18th century. Photograph by Kirsti Horn.

1.3.1 ESTONIA

Starting from the 18th century, the manors of the wealthy landowners in Estonia and Livonia were built with ever increasing pomp. Interest in the antique was in fashion then, and local architecture was influenced by Central European art. Along with this the use of decorative plasterwork gained popularity in the numerous manor houses of Estonia. Lots of attention and resources were invested into the building of new constructions and interiors. Many of the involved professionals came from all over Europe to construction works—architects, master plasterers and engineers. The plasterers mainly came from Germany and Bohemia after studying in Prague, Dresden or Berlin.
ceilings at Skokloster castle which are dated 1660 and were made by the plasterers Antoni and Zauch (figure 1.5). Many more examples of impressive Baroque and Rococo plasterwork were created in the castles of the wealthy in the prosperous Swedish empire of the 17th and 18th centuries.

The rise of the middle classes together with the neo-styles in architecture and interior decoration in the late 19th century brought decorative plasterwork once again into focus. Public buildings, urban houses and representative flats were decorated with imaginative plasterwork both inside and out. A particularly pompous example of this period is the Opera house in Stockholm.

Like for many other traditional crafts, the interest for decorative plasterwork was out of fashion during a long period in 20th century Sweden. Today the new-found interest for administration of the Swedish cultural heritage has resulted in a renaissance for the art of decorative plasterwork.

Figure 1.6. The throne hall in the Senate Building in Helsinki, 1822 with decorations and furniture designed by Carl Ludvig Engel. Photograph by Kirsti Horn.

1.3.2 SWEDEN

The inspiration and the craftsmanship for Swedish decorative plasterwork were imported from different countries across Europe. A lot of German and Italian people in the plastering trade have moved to Sweden during the past centuries to distribute their knowledge and skills. Lime was one of the most essential ingredients in the plaster for decorations throughout the 16th and the 17th centuries, but starting from the 18th century the use of gypsum became ever more popular and finally replaced lime altogether.

One of the first examples of decorative plasterwork in Sweden was made during the late 16th century in Uppsala castle. Famous are also the three different plaster...
Part 2: Learning to restore decorative plasterwork at Voltveti Manor

2.1 INTRODUCTION TO THE SITE

Voltveti manor, the scene of the intensive course, is a mighty two storey masonry building from 1830. It has served as a vocational school since 1931 but is now closing down. A big dormitory and a number of neglected outbuildings stand in the park around the mansion telling the history of past activity.

With its grand Classical architecture and the many decorative details and paintings in its halls, Voltveti manor is one of the many listed buildings in Estonia. The exterior of the building is newly restored but some of the interior decorations are in a rather bad shape. Most of the plasterwork in the ballroom and its lobby, where the intensive course took place, has been painted over several times. Where original paintings are visible, they are cracked and peeling off their underlying surface. In addition, there are several more rooms that were decorated originally, and painted over when the school was established on the premises.

During the past few years teachers and students of Estonian Academy of Arts have been involved in unravelling samples of the rich wall paintings of the first floor in Voltveti manor and documenting them through photographs. A historical analysis was made and even a proposal for future restoration principles was presented in their report. However, uncovering and repairing all the paintings and decorative plasterwork in the main hall alone would be a very laborious and costly affair, and has been left aside because of this. This time the focus lay on the study of stucco or decorative plasterwork in the main hall.

1.3.3 FINLAND

The oldest and maybe the most beautiful decorative plasterwork in Finland can be found in the interiors of the buildings around the Senate Square in Helsinki. They were designed and decorated according to plans by Carl Ludvig Engel between 1818 and 1840. Both stucco marble and decorative plasterwork are beautifully represented (figure 1.6). Gypsum plaster was also used for the castings of the more intricate classical details on the exterior of Engel’s buildings (capitals, consoles etc.).

During the last decades of the 19th century decorative plasterwork was used in several public and commercial buildings in Helsinki like elsewhere in Europe. The architects of that time were Frans Sjöström, Gustav Nyström and Theodor Höijer, who was particularly fond of decorative plasterwork. The overwhelming façades he created were heavily criticised in the 1960’s and consequently, many were pulled down. Yet, many buildings from that period remain, and their maintenance keeps a small number of restorers busy.

The Jugend style gave a new appearance to the interiors and façades of all Finnish architecture at the turn of the 20th century. This time the decorative plasterwork consisted of delicate Nordic floral motifs together with owls, squirrels and other national romantic themes.

In the 1920’s and 30’s there was a short revival of a sober sort of Classicism with fine and subtle plaster decorations. And never again was this art seen in Finnish buildings except in the ceilings of English–style pubs and on the walls of pizza restaurants!
2.2.2 SITE SECURITY

Appropriate clothing, personal respirators and other safety gear are regulated and inspected by rigorous authorities in Finland and Sweden while the approach to safety measures seems to be slightly more relaxed in Estonia.

The site security aspects had been well prepared for at Voltveti manor (figure 2.1). Work was done on floor level as well as on scaffoldings some 2 meters up in the air. Because there were no railings on the scaffoldings and the constructions were slightly shaky, students could choose their working place. There was plenty to do on all levels anyway!

Each student was given a white t–shirt that was supposed to be worn all the time on the site. It was taken for granted that all students would have packed working gear and gloves in their travelling bags. The teachers had red t–shirts which made it easy to find them when help and advice was needed. Everyone was also provided with a name tag and safety goggles. Protective clothing was worn when we worked with silicone.

2.2.3 FIRST AID

Even the most experienced craftsman, who is familiar with all the secrets of his trade, can make a mistake and injure himself. For safety’s sake there must always be a first aid kit on a building site and clear instructions as to where medical help can be found if it is needed. Several pieces of band–aid was needed for the many small cuts caused by a slipping instrument during the course at Voltveti manor. Everybody was working with a very sharp knife and few were used to such a tool, let alone the sort of work that was meant to be performed. Fortunately, nothing worse than superficial wounds were sustained.

2.2.4 FIRE HAZARD

Working in a historic building is always hazardous in many ways but the worst that can happen is that it catches fire. Initial fire extinguishing equipment must be at hand here as well as on any building site. Extra care is expected from the workers who use tools that can cause sparks. Indeed, a special licence should be attained for such work if it takes place in the vicinity of inflammable material such as wood, paper, plastics,
2.3.2 TYPICAL PROBLEM CAUSED BY CHANGES OF TEMPERATURE

PHYSICAL DAMAGE
If a plaster consists of several materials with differing coefficients of expansion, they will crack the plasterwork in fluctuating temperatures.

2.3.3 OTHER TYPICAL PROBLEMS WITH HISTORIC PLASTERWORK

CHEMICAL CHANGES IN THE MATERIAL
Corroding metal armatures (e.g. iron) inside plasterwork will oxidize and expand and finally break the object.

If there is gypsum in the plaster, salts will be produced with added moisture because gypsum always remains slightly soluble and absorbent, and the result is a general weakening of the plasterwork.

BIological DAMAGE
Fabrics that are used as reinforcement in plasterwork will deteriorate with dampness, become mouldy or brittle and weaken the structure of the object.

The growth of microorganisms in wet conditions will affect all the organic elements added to plasterwork: Wooden reinforcements, backings and frames can all be severely affected by bacterial or fungal decay.

Staining caused by the ingress of dirt and organic growths will disfigure and break the visual effect of a decorative finish and will reverse the surface modelling.

There can also be decay caused by pests, notably woodworm and death–watch beetle. Acidic action caused by bird and animal feces is also harmful.

MECHANICAL DAMAGE
Because plasterwork consists of many heavy layers of plaster, it will inevitably be affected by gravity. Protruding details are easily knocked off and attachments and brackets often give way.

AESTHETIC DAMAGE
In the course of time decorative plasterwork may have been repainted and repaired with unsuitable materials and techniques which in most cases decrease the artistic and historic value of the decoration.
2.3.4 DAMAGES OF THE DECORATIVE PLASTERWORK IN VOLTVETI MANOR

Most of the damages of the plasterwork were mechanical in the grand hall of Voltveti manor. This is not surprising, as the room has been used as a multi–activity space during the last 70 years. All the decorative plasterwork was covered with several layers of paint. This not only distorts the shape of the designs but also covers all smaller damages, cracks and earlier repairs. Parts of cornices had fallen down in some places and been repaired incorrectly (figure 2.2). Around some broken areas there was also danger of collapse. The seven putti with musical instruments had suffered some material loss and damages, and a couple of their heads had been replaced with incorrect pieces made of bad quality plaster (figure 2.3). The acanthus leaves in the corners of the wall panels had lesser mechanical damages (figure 2.4).

Figure 2.2. The removal of paint revealed bad joints between the precast sections. Photograph by Kristiina Ribelus.

Figure 2.3. This putto has lost his instruments. Photograph by Triin Jänes.

Figure 2.4. At a close look all acanthus leaves were slightly different: they had been modelled in situ. Most of them had suffered several blows. Photograph by Kristiina Ribelus.
2.4 REPAIRING DECORATIVE PLASTERWORK AT VOLTVETI MANOR

Working with plasterwork is an exact job. Everything has to be done by hand and every tool must be in good condition for a successful result. During the intensive course the focus was on four things, i.e. the cleaning of the plasterwork from excess layers of paint, repairing damages on the cleaned figures, taking moulds from cleaned mouldings and casting replacements for broken sections.

2.4.1 PAINT REMOVAL

All the decorative plasterwork at Voltveti manor had been covered in many thick layers of paint which had to be painstakingly removed with scalpel before any other work could take place. There were two reasons for this. Firstly, no repair could be done unless the original shapes and surfaces were uncovered. Secondly if one were to create a mould from the heavily painted pieces, detail in the casting would differ from the original and essentially, there would not be any difference between the freshly cast pieces and the badly treated ones.

There are three techniques to remove paint layers from plasterwork: by mechanical paint removal (scraping), using paint removing compresses and various chemical paint removing mediums. These methods can also be combined, of course.

2.4.1.1 MECHANICAL PAINT REMOVAL

The most reliable method of paint removal techniques is the mechanical, and the most important tool is a scalpel (size 10 and 21 were used in Voltveti). This small and very sharp knife is excellent for scraping excess paintwork. A small brush is used for removing dust and flakes of dirt and paint during and after the cleaning process. When removing old paintwork it is important to use goggles because sharp flakes of old paintwork and dust tend to fly about on a site like this. It is also possible to remove a thin coat of paint by abrading the surface with sandpaper with a very fine grit (figures 2.5, 2.6).

Some old layers of paint are likely to contain lead. Therefore it is worth while wearing protective gloves and to avoid inhaling the dust.
2.4.2 REPAIRWORK

2.4.2.1 REPAIRING MINOR DEFECTS
Reparations to old decorative plasterwork are done by applying a mixture of gypsum, water and glue onto the defected parts or in order to build up a missing detail. This is done layer by layer with a soft aquarelle brush. The added material usually needs to be sanded down to fit in with the old shapes (Figures 2.7, 2.8).

Figure 2.7. A putto is getting a face lift. Photograph by Triin Jänes.
2.4.2.2 TAKING MOULDS

Several of the plaster decorations at Voltveti manor were damaged and most of the earlier restoration work was badly executed. Particular eyesores were several stretches of the cornice and the heads of three *putti*. The bad sections were therefore removed and moulds were taken from appropriate clean and repaired places around the room that corresponded with the area that was to be replaced. Two types of moulds were used, namely gypsum moulds and silicone moulds.

**Gypsum moulds**

Because gypsum is stiff, the mould of a three dimensional object must always be made in sections. When using gypsum for a mould, you start with applying oil on the ornament. Then a modelling paste (plasticine) is placed around the area were the gypsum is to be cast. After that the gypsum is applied on the model.

**Silicone moulds**

*The head of a putto* [Notes by Anna Lindfors and John Friederich]

“The head of the *putto* we worked on was disproportionate and did not harmonize with the rest of the body. Here it looked like a repairman had taken a head from somewhere else and just attached it with no regards to aesthetical values. It looked just horrible and was removed. A mould was taken from one of the intact *putti* and a new head was cast with a mixture of plaster and glue. The glue acted as a bonding agent and reinforced the plaster.

The method for taking a mould was by first cleaning the existing original thoroughly. This involved removing all paint layers except the one that we presumed was the original one, repairing defects with plaster and applying a release agent on the piece. The release agent is just what the name suggests; a chemical that forms a film on the surface of the original, and it acts both as a protector from the mould material and enables the release of the mould material. We had access to two types of mould material. Both of these consisted of a two–component silicone, one of which cured very rapidly and the other gave a little more working time. These were applied using a sponge and a brush. Many batches had to be made to cover up the head as the mould was created slowly in layers in order not to waste any silicone and to make sure that

---

*Figure 2.8. The white patches are new plaster, not yet sanded down. The bow has not been cleaned yet. Photograph by Amanda Oom.*
all the voids on the original were filled. If this step is not done properly, all the errors will be reproduced in the castings from that mould. After the last layer of silicone was in place, a supporting shell of plaster bandages was applied to cover the silicone. It is necessary to give the soft silicone support because the risk is that the cast would be deformed from its own weight as the liquid plaster applies pressure on the mould wall. When the supporting plaster had cured, it was removed. Finally the silicone was peeled off the original and casting could start.”

The process of repairing a putto is presented in figures 2.9–16.

Figure 2.10. This putto had not only lost his original head but also hurt his wing. Photograph by Sandra Heinström.

Figure 2.11. He was decapitated again... Photograph by Sandra Heinström.
Figure 2.12. A bad cast of bad quality plaster was revealed underneath the paint. Photograph by Sandra Heinström.

Figure 2.13. Luckily there was another flute playing *putto* in the room. Heiti Kulmar is building up the mould layer by layer. The plasticine is there to cover the intact putto from droppings. Photograph by Sandra Heinström.

Figure 2.14. While a new head was being made the rest of the defects were repaired with gypsum plaster which was then sanded down. Photograph by Sandra Heinström.

Figure 2.15. The silicone was stiffened with a crust of gypsum before it was taken off the model. Here a new head is in the making. Photograph by Sandra Heinström.
Through creating moulds by this method, many copies could be made and large sections of damaged plasterwork could easily be repaired. The only limitation is the time plaster takes to cure before it can be extracted from the mould. If there is a need for large quantities of replacement pieces, it is wise to make several moulds to speed up the casting and repair work.

Silicone was used because of its excellent properties in retaining details from the original and its ability to resist plastic deformation. Both of these properties are very sought after in a good mould material because the silicone can fill voids, take shape form overhangs and cover three dimensional shapes easily. When removed from the original it can be stretched without tearing and then return to its original form. This is why silicone is widely used in reconstructing stucco.”

A step by step presentation of making a mould is found in figures 2.17–24.

Figure 2.17. Working through many coats of paint. Photograph by Liv Berntsson.

Figure 2.16. The new head in place! Photograph by Sandra Heinström.

Cornices

[ Notes by Anna Lindfors and John Friederich, continue ]

“In the making of the cornice moulds, the same method as for the putto was used. The bad piece was first removed and a section of pristine cornice from elsewhere in the room was selected to act as the original. It was revealed from paint and cleaned by brushing, and small nicks were repaired with plaster and then sanded down in order to get a smooth surface with as many details and few defects as possible. A release agent was applied on it followed by silicone in stages. Once everything had cured properly, a supporting shell of plaster bandages was applied just like in the case with the putto head. A trowel was used to apply the plaster around the silicone.

Cornices
Figure 2.18. The delicate original shapes are not recognizable through the many coats of paint on the right. Photograph by Liv Berntsson.

Figure 2.19. The original was touched up with gypsum plaster, sanded and brushed clean to give a perfect mould. Photograph by Liv Berntsson.

Figure 2.20. The silicone mould was built up layer by layer.

Figure 2.21. The silicone was covered with plaster and the whole package was left to dry. Photograph by Kirsti Horn.
2.4.3 RUNNING A MOULD

A lump of plasticine or a profile comb should be used to copy the shape of the moulding that is to be reconstructed. Both were tested when a copy of a moulding in the ballroom was manufactured. The new moulding was run on a table with the help of a mould on a sledge. This can be done directly on a wall or ceiling as well. For making the mould and the sledge, an angle, a compass saw, metal shears, a knife, a pen, an electric drill and circular saw were used.

How to run a mould is presented step by step in figures 2.25–32.
Figure 2.25. The desired moulding was documented by using plasticine and a profile comb. Photograph by Kirsti Horn.

Figure 2.26. The documented moulding profile was transferred on metal sheeting and cut precisely in this shape. A piece of plywood was shaped accordingly and then attached to one side of the metal sheet. Photograph by Kirsti Horn.

Figure 2.27. A sledge was built to hold the stencil upright. Photograph by Kirsti Horn.
Figure 2.28. A wooden rail was attached along one side of the working table. The table and mould were oiled to start with. Photograph by Meelike Naris.

Figure 2.29. Plaster was mixed using a whisk and then poured on the table. The moulding sledge was pushed with metal side first to shape the plaster. Photograph by Meelike Naris.

Figure 2.30. More and more plaster was added, repeated pushing, more plaster etc. until the shape was complete.
2.4.4 Surface Treatment of Decorative Plasterwork

The surface of plasterwork has often been given a finish for three reasons: to make it more attractive, more durable and stain resistant. Because gypsum is a porous material it needs to be treated before it is painted. Historically it was common practice to treat decorative plasterwork with linseed oil or shellac to protect the plaster from moisture. In modern times other oils, silicon and water repellent primers are also used. With the many choices of surface treatment on plasterwork, the material can be given different properties and many variations in appearance.

Traditionally, the primer was followed by tempera, beeswax tempera or linseed oil paint. Often the top layer is of modern alkyd or plastic paint like it was at Voltveti manor. Plaster can also be made to look like other more expensive materials such as metal and stone. After a basic treatment of the plaster, the surface can be gilded with gold leaf and then polished to an even and shiny finish.

Plaster was often used to imitate marble or other kinds of stone. To achieve a marble effect the pattern can either be painted on the surface or created using the antique method called scagliola i.e. stucco marble or artificial marble. This was very popular in Baroque and Rococo interiors. It is made of a mix of plaster, marble dust, pigments and glue. Plasters that have been tinted in various colours are mixed to resemble a marble pattern and then applied in a layer, ca 10mm thick, on a plastered surface. The finish is done through sanding and polishing in several steps with an oil or wax.

Walls can also be plastered with the marmorino technique, stucco lustrō or Venetian plastering which are all made of several layers of coloured thin plaster and finished with stains and polishes.
2.4.5 FIXING A PLASTER ORNAMENT

[Notes by Lars Eriksson]

“When we were working at Voltveti manor for about a week, we concentrated our work mainly to one large room. There was decorative plasterwork both on the walls and in the ceiling. Each of us was assigned to work with a different detail, and my object of concentration was an acanthus motif in the bottom left corner of a panel on one of the walls. It was covered with three or four layers of paint.

As a tool I was using a scalpel with exchangeable blades, which was useful because they kept breaking, and if they didn’t, they got blunt. A brush was also useful for removing dust and paint flakes with (figure 2.33). I got instructions to work myself down to the innermost or most original layer of paint, which was of a greyish–white colour and crackled in a quite beautiful way, so I did this. It took a lot of time, as the details were many, and the person beside me, working on the bottom right corner of the same panel, was competing with me for the work space, as did the scaffoldings, and a person working above me caused a steady snowfall of flakes down on me, which made the work situation somewhat problematic.

It was very difficult to remove layers of paint from the stucco without destroying details in the ornament. When I finished the cleaning job, it was time to reconstruct the missing details (most of them were already missing, before I started with the cleaning). I also discovered old repairs made in different materials. They were mostly fragile so I took most of them away. I discovered small flies that once had got caught in the fresh paint. I cleaned the whole thing free of dust and made a mixture for repairing, which I applied, sometimes in several layers, to build up lost forms. Then I made new forms with my scalpel (figure 2.34), inspired by the many other acanthus motifs in the room, which I studied closely. The last thing I did was to use a fine sandpaper, finally an even finer one, to make a nice finish.”
3. Conclusions

The project Traditional Wooden and Masonry Structures in the Baltic Sea Region is designed for students of building conservation, conservation of artefacts, structural engineering and site management from three universities in Sweden, Estonia and Finland in order to give them the opportunity to learn about the traditional materials in different parts of buildings. From the conservation point of view they learn how constructions and surfaces made of these materials are to be preserved and maintained in the best manner. The hands–on work, which is an integral part of each course, opens eyes also to the possibilities of applying the best of traditional crafts in the modern building industry. The objective is to contribute to the preservation of some historic monument during the days of practical work.

This report, no. 6 in the series, with the focus on decorative plasterwork, describes how these goals were reached during the intensive course at Voltveti manor, Estonia in September 2013.

Firstly, all participants deepened their understanding for architectural detailing through hands–on work, lectures and excursions. Secondly, The performed work contributed to the rescue of the interior of a listed building.

Finally, the articles in this report will certainly spread interest, knowledge and respect for historic monuments and all the various aspects these represent in terms of beauty, handicraft and historical perspective.
References

1.1 Stukkdekor, stuckatur or simply ‘stucco’?

INTERNET SOURCES
http://samla.raa.se/xmlui/bitstream/handle/raa/3310/Varia%202013_35.pdf?sequence=1stuckatur.
http://www.ne.se/lang/stuckatur, Nationalencyklopedin.

1.2 The role of decorative plasterwork in interior architecture

INTERNET SOURCES
http://www.julkisivu.com/

1.3 Short history of decorative plasterwork in Estonia, Sweden and Finland
Vinter Marie, *The history and technique of stucco. The use of stucco in Estonian manorhouses*.
Pietarila Pentti, *Rakennusten värit ja koristetyylit*. Tikkurila Paints Oy, ISBN 952-
2.4 Repairing decorative plasterwork at Voltveti Manor


INTERNET SOURCES

http://www.ehitus.ee/et/article/189/
http://samla.raa.se/xmlui/bitstream/handle/raa/3310/Varia%202013_35.pdf?sequence=1
http://www.palazzospinelli.org/plaster/essay/essay/Soren06.html

Appendices

APPENDIX 1: TERMINOLOGY

<table>
<thead>
<tr>
<th>Italian</th>
<th>English</th>
<th>Swedish</th>
<th>Estonian</th>
<th>Finnish</th>
</tr>
</thead>
<tbody>
<tr>
<td>stucco</td>
<td>stucco, stucco</td>
<td>stukk</td>
<td>stukkdekor</td>
<td>kipsikoriste</td>
</tr>
<tr>
<td>decorative plasterwork made of stucco</td>
<td></td>
<td>stuck</td>
<td></td>
<td></td>
</tr>
<tr>
<td>plaster</td>
<td>stucco</td>
<td>kalkbruk</td>
<td>stukk</td>
<td>kalkkilaasti</td>
</tr>
<tr>
<td>Material for making decorative plasterwork, or wall coating</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lime plaster, gypsum plaster</td>
<td></td>
<td>kalkbruk</td>
<td></td>
<td>kalkkilaasti</td>
</tr>
<tr>
<td>Consists of lime + water with or without aggregate.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>gypsum plaster</td>
<td></td>
<td>modellgips</td>
<td></td>
<td>stuckgips</td>
</tr>
<tr>
<td>gypsum + water</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>made of stucco</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>true stucco</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stucco = limeplaster with ground marble or travertine as aggregate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>stucco antico</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(definition by Vasari)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>true stucco = lime plaster</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>or or both –</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>il vero stucco antico</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>true stucco = lime plaster</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with ground marble or travertine as aggregate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>stucco antico (definition by Vasari)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>true stucco = lime plaster</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>or or both –</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>stuccatore</td>
<td>plasterer</td>
<td>stuckatör</td>
<td>stukimeister</td>
<td>kipsimestari</td>
</tr>
<tr>
<td>plasterer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>made of stucco</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>and rendering</td>
<td>rendering</td>
<td>listaverk</td>
<td>rappauslaasti julkisivuille</td>
<td></td>
</tr>
<tr>
<td>rendering (plaster coating on façades)</td>
<td>rendering</td>
<td>listaverk</td>
<td>rappauslaasti julkisivuille</td>
<td></td>
</tr>
<tr>
<td>rendering (plaster coating on façades)</td>
<td>rendering</td>
<td>listaverk</td>
<td>rappauslaasti julkisivuille</td>
<td></td>
</tr>
<tr>
<td>rendering (plaster coating on façades)</td>
<td>rendering</td>
<td>listaverk</td>
<td>rappauslaasti julkisivuille</td>
<td></td>
</tr>
<tr>
<td>rendering (plaster coating on façades)</td>
<td>rendering</td>
<td>listaverk</td>
<td>rappauslaasti julkisivuille</td>
<td></td>
</tr>
<tr>
<td>rendering (plaster coating on façades)</td>
<td>rendering</td>
<td>listaverk</td>
<td>rappauslaasti julkisivuille</td>
<td></td>
</tr>
<tr>
<td>rendering (plaster coating on façades)</td>
<td>rendering</td>
<td>listaverk</td>
<td>rappauslaasti julkisivuille</td>
<td></td>
</tr>
<tr>
<td>rendering (plaster coating on façades)</td>
<td>rendering</td>
<td>listaverk</td>
<td>rappauslaasti julkisivuille</td>
<td></td>
</tr>
<tr>
<td>rendering (plaster coating on façades)</td>
<td>rendering</td>
<td>listaverk</td>
<td>rappauslaasti julkisivuille</td>
<td></td>
</tr>
<tr>
<td>rendering (plaster coating on façades)</td>
<td>rendering</td>
<td>listaverk</td>
<td>rappauslaasti julkisivuille</td>
<td></td>
</tr>
<tr>
<td>rendering (plaster coating on façades)</td>
<td>rendering</td>
<td>listaverk</td>
<td>rappauslaasti julkisivuille</td>
<td></td>
</tr>
<tr>
<td>rendering (plaster coating on façades)</td>
<td>rendering</td>
<td>listaverk</td>
<td>rappauslaasti julkisivuille</td>
<td></td>
</tr>
<tr>
<td>rendering (plaster coating on façades)</td>
<td>rendering</td>
<td>listaverk</td>
<td>rappauslaasti julkisivuille</td>
<td></td>
</tr>
<tr>
<td>rendering (plaster coating on façades)</td>
<td>rendering</td>
<td>listaverk</td>
<td>rappauslaasti julkisivuille</td>
<td></td>
</tr>
<tr>
<td>rendering (plaster coating on façades)</td>
<td>rendering</td>
<td>listaverk</td>
<td>rappauslaasti julkisivuille</td>
<td></td>
</tr>
<tr>
<td>rendering (plaster coating on façades)</td>
<td>rendering</td>
<td>listaverk</td>
<td>rappauslaasti julkisivuille</td>
<td></td>
</tr>
<tr>
<td>rendering (plaster coating on façades)</td>
<td>rendering</td>
<td>listaverk</td>
<td>rappauslaasti julkisivuille</td>
<td></td>
</tr>
<tr>
<td>rendering (plaster coating on façades)</td>
<td>rendering</td>
<td>listaverk</td>
<td>rappauslaasti julkisivuille</td>
<td></td>
</tr>
<tr>
<td>rendering (plaster coating on façades)</td>
<td>rendering</td>
<td>listaverk</td>
<td>rappauslaasti julkisivuille</td>
<td></td>
</tr>
<tr>
<td>rendering (plaster coating on façades)</td>
<td>rendering</td>
<td>listaverk</td>
<td>rappauslaasti julkisivuille</td>
<td></td>
</tr>
<tr>
<td>rendering (plaster coating on façades)</td>
<td>rendering</td>
<td>listaverk</td>
<td>rappauslaasti julkisivuille</td>
<td></td>
</tr>
<tr>
<td>rendering (plaster coating on façades)</td>
<td>rendering</td>
<td>listaverk</td>
<td>rappauslaasti julkisivuille</td>
<td></td>
</tr>
<tr>
<td>rendering (plaster coating on façades)</td>
<td>rendering</td>
<td>listaverk</td>
<td>rappauslaasti julkisivuille</td>
<td></td>
</tr>
<tr>
<td>rendering (plaster coating on façades)</td>
<td>rendering</td>
<td>listaverk</td>
<td>rappauslaasti julkisivuille</td>
<td></td>
</tr>
<tr>
<td>rendering (plaster coating on façades)</td>
<td>rendering</td>
<td>listaverk</td>
<td>rappauslaasti julkisivuille</td>
<td></td>
</tr>
<tr>
<td>rendering (plaster coating on façades)</td>
<td>rendering</td>
<td>listaverk</td>
<td>rappauslaasti julkisivuille</td>
<td></td>
</tr>
</tbody>
</table>
# APPENDIX 2: COURSE PROGRAMME

**Programme Reconstructing Stucco and Plasterwork—Intensive Course No. 3**


<table>
<thead>
<tr>
<th>Day 1 / Sunday, September 1, 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Programme</strong></td>
</tr>
<tr>
<td><strong>Swedish students</strong></td>
</tr>
<tr>
<td><strong>10:00 Arrival in Tallinn; leaving cars and buses at Suure-Külp Manor; city tour with Joakim Hansson</strong></td>
</tr>
<tr>
<td><strong>11:45 Arrival in Tallinn; leaving cars and buses at Suure-Külp Manor</strong></td>
</tr>
<tr>
<td><strong>12:30 Departure to Kadrior Palace with a rented bus; 13:00 Building history and stucco decorations of Kadrior Palace; Aleksandra Murs, director of Kadrior Art Museum</strong></td>
</tr>
<tr>
<td><strong>14:30 Departure to Valtveti; a quick stop in Pärnu</strong></td>
</tr>
<tr>
<td><strong>16:00 Arrival in Valtveti; accommodation</strong></td>
</tr>
<tr>
<td><strong>Estonian students</strong></td>
</tr>
<tr>
<td><strong>10:00 Arrival in Tallinn; leaving cars and buses at Suure-Külp Manor; city tour with Joakim Hansson</strong></td>
</tr>
<tr>
<td><strong>11:45 Arrival in Tallinn; leaving cars and buses at Suure-Külp Manor</strong></td>
</tr>
<tr>
<td><strong>12:30 Departure to Kadrior Palace with a rented bus; 13:00 Building history and stucco decorations of Kadrior Palace; Aleksandra Murs, director of Kadrior Art Museum</strong></td>
</tr>
<tr>
<td><strong>14:30 Departure to Valtveti; a quick stop in Pärnu</strong></td>
</tr>
<tr>
<td><strong>16:00 Arrival in Valtveti; accommodation</strong></td>
</tr>
</tbody>
</table>

**Welcome Dinner with ‘Stucco decorations in Valtveti Manor’ by Marie Viter; ‘Introduction to the Project, Site and Schedules’ by tutors Ilmata Välimaa and Heiti Kulu; Käthe Ladno**

<table>
<thead>
<tr>
<th>Day 2 / Monday, September 2, 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lectures</strong></td>
</tr>
<tr>
<td><strong>Hands-on work</strong></td>
</tr>
<tr>
<td><strong>After hours, tours, lectures in situ</strong></td>
</tr>
<tr>
<td><strong>Day 2 / Monday, September 2, 2013</strong></td>
</tr>
<tr>
<td><strong>9:00</strong></td>
</tr>
<tr>
<td><strong>10:00–11:00</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>15:30</strong></td>
</tr>
<tr>
<td><strong>16:15</strong></td>
</tr>
<tr>
<td><strong>19:00</strong></td>
</tr>
</tbody>
</table>

**Day 3 / Tuesday, September 3, 2013**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:00</td>
<td>Departure to Suure-Külp Manor</td>
</tr>
<tr>
<td>16:30</td>
<td><em>Pompeii style wall paintings in Suure-Külp Manor</em>, Hilika Hoop; <em>Paper-mâché ornaments in Suure-Külp Manor</em>, Kadri Kallaste</td>
</tr>
<tr>
<td>18:00</td>
<td>Dinner in Suure-Külp Manor</td>
</tr>
</tbody>
</table>

**Day 4 / Wednesday, September 4, 2013**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00–10:00</td>
<td>‘The History of Stucco in Scandinavia and Estonia’, Joakim Hansson</td>
</tr>
<tr>
<td>10:00–11:00</td>
<td>Taking the forms from the originals. Making moulds / forms from different materials. Casting from moulds and free hand modelling.</td>
</tr>
<tr>
<td>15:30</td>
<td>Departure to Võru; 16:15 Võru city tour guided by Joakim Hansson</td>
</tr>
<tr>
<td>18:00</td>
<td>‘Restoration of Võru Manors’</td>
</tr>
<tr>
<td>19:00</td>
<td>Dinner in Võru</td>
</tr>
</tbody>
</table>

**Day 5 / Thursday, September 5, 2013**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00–11:00</td>
<td>Completing the details. Fixing details.</td>
</tr>
<tr>
<td>15:30</td>
<td>Departure to Looči Manor; the practice site of the speciality of Estonian Native construction, Võru; Culture Academy, University of Tartu, guided by Jorosep Metsberg</td>
</tr>
</tbody>
</table>

**Day 6 / Friday, September 6, 2013**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00–16:00</td>
<td>Fixing details. Giving finishing touches. Cleaning up.</td>
</tr>
<tr>
<td>16:00</td>
<td>Presentation of hands-on work, discussion</td>
</tr>
<tr>
<td>17:00</td>
<td>Farewell Dinner</td>
</tr>
</tbody>
</table>

**Day 7 / Saturday, September 7, 2013**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Departure to Tallinn; foreign students and teachers travel home</td>
</tr>
</tbody>
</table>
About Estonian Academy of Arts

Estonian Academy of Arts (EAA) is the only public university in Estonia offering higher education in fine arts, design, architecture, media, visual studies, art culture, cultural heritage and conservation.

The Estonian Academy of Arts is a leading national and international center of innovation in visual culture. In addition to active study and research, the EAA also offers lifelong learning opportunities through the Open Academy.

Currently, the 1200 students enrolled at the Estonian Academy of Arts are taught by 83 professors, associate professors, teachers and lecturers. Additionally, 38 workshop managers are on hand to assist students. The Estonian Academy of Arts prides itself on their small student to professor ratio, which allows personal and one–on–one attention for the instructor and learner. Studies take place in small groups of carefully selected students.

Many of the students participate in exchange programmes at partner international universities during their studies. The EAA cooperates with almost 100 universities abroad and belongs to several international higher education networks. Annually, students are recognized in international design competitions.
About Campus Gotland, Uppsala University

Quality, knowledge, and creativity since 1477 — world-class research and first-rate education of global use to society, business, and culture. Uppsala University’s goals:

- Conduct research and provide education of the highest quality.
- Be broad-minded and open to change.
- Take an active role in global society and promote development and innovation.
- Strengthen its position as a world-leading university and contribute to a better world.

Uppsala University is the oldest university in the Nordic countries, with a living cultural environment and fantastic student life. There are 40,000 students here, and they are seen, heard, and noticed everywhere. World-class research and high quality education pursued here benefit society and business on a global level. The University is characterized by diversity and breadth, with international frontline research at nine faculties and limitless educational offerings at undergraduate and master levels.

- One of the world’s 100 highest ranked universities
- International orientation and position
- Peer culture of quality review and academic freedom
- Diversity and breadth—research and education in nine faculties
- Broad educational offerings at undergraduate and one- and two-year master’s levels
- International master’s programmes
- Student exchange and research cooperation with universities throughout the world
- Key collaborative partner for business and society
- Active, systematic quality improvements
- Superbly equipped, purpose-designed, modern, interdisciplinary campus areas

DECORATIVE PLASTERWORK AT VOLTVETI MANOR

- Oldest university in the Nordic countries with living cultural settings
- Fantastic student life
- Academic traditions and festivities
- Unique cultural offerings
- Carl Linnaeus, Anders Celsius, and Olof Rudbeck are some of the famous historical Uppsala figures.
About Novia University of Applied Sciences

Novia University of Applied Sciences acts along the Swedish–speaking parts of the Finnish coastline. With over 4000 students and a staff of 380, Novia is the largest Swedish–speaking university of applied sciences in Finland. High–class and state–of–the–art degree programs provide students with a proper platform for their future careers. Novia University of Applied Sciences offers

- Bachelor’s degree studies in youth and adult education in Swedish
- Bachelor’s degree studies in English
- Master’s degree studies
- Adult education and specialization studies

At Novia you can receive the following Bachelor’s degrees

- Bachelor of Health Care (Biomedical Laboratory Science, Radiography and Radiotherapy, Nursing, Midwife)
- Bachelor of Social Services
- Bachelor of Beauty and Cosmetics
- Bachelor of Construction Management
- Bachelor of Engineering (Environmental Engineering, Automation Engineering and IT, Construction Engineering, Electrical Engineering, Information Technology, Land Surveying, Mechanical and Production Engineering, Industrial Management)
- Bachelor of Natural Resources
- Bachelor of Culture and Arts (Music Educators, Musicians, Fine Arts, Design, Media Culture, Performing Arts)
- Bachelor of Marine Technology
- Bachelor of Humanities (Civic Activity and Youth Work),

At Novia you can receive the following Master’s degrees

- Master of Technology–based Management
- Master of Health Care
- Master of Natural Resources

Some degree programmes run entirely in English — Environmental Engineering in Vaasa, Nursing in Vaasa and Maritime Management in Turku. We also offer one degree programme as adult education, Sustainable Coastal Management.
About Traditional Wooden and Masonry Structures in the Baltic Sea Region

The project Traditional Wooden and Masonry Structures in the Baltic Sea Region is a partner project in Building Conservation involving Campus Gotland at Uppsala University, Sweden, the Estonian Academy of Arts in Tallinn, Estonia, and Novia University of Applied Sciences in Ekenäs, Finland. This is a follow up of an earlier, very successful project called Sustainable Heritage during which both publication series and an online project site were established.

The strategy is a course structure spanning over five years, 2012–2016, to cover a sufficiently wide area of valuable objects of study and thereby forming an entirety. There will be two intensive courses arranged annually with wood and masonry as themes—one every autumn and one every spring.

The intensive courses are tailored for students of Construction Engineering and Construction Management at Novia UAS, Building Conservation and Objects Antiquarian Programmes at Uppsala University and Architectural Conservation and Conservation of Artefacts at Estonian Academy of Arts in Estonia. These courses are hosted by the three partner universities in turns and they are designed to widen the scope of the standard curriculum in each school. The Nordic–Baltic Network is financed by the Nordic Council of Ministers through Nordplus funds and its cooperation is run by Novia UAS. The course programme consists of a wide range of themes which concentrate on the two main building materials of our region: stone and wood.

The aim is to learn how these are to be preserved in the best manner and how traditional building and decorating techniques can be applied in modern building.

Network coordinator:
Novia University of Applied Sciences – Campus Ekenäs, Finland
Raseborgsvägen 9, FI–10600 Ekenäs, Finland
Phone +358 19 224 8000
office@sustainableheritage.fi
www.sustainableheritage.fi
This report is about the many stages in restoring historic decorative plasterwork. It is also about what an international group of students learned through their working experience at Voltveti manor, lectures and excursions in southern Estonia.

The project *Traditional Wooden and Masonry Structures in the Baltic Sea Region* is designed for students of building conservation, conservation of artefacts, structural engineers and site management from three universities in Sweden, Estonia and Finland in order to give them the opportunity to learn about the traditional materials in different parts of buildings.

From the conservation point of view they learn how constructions and surfaces made of these materials are to be preserved in the best manner.

Please, help yourself to more reports and views of the hands-on activities at various historic sites at www.sustainableheritage.fi.