34 Preservation Brief

Applied Decoration for Historic Interiors Preserving Composition Ornament

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Table of Contents

Introduction

As described by the Decorators Supply of Chicago, “Compo is also the shorthand term for composition ornaments, a general term for molded and cast mixtures composed variously from linseed oil, pitch, whiting, hide glue, and various binders and aggregates such as horsehair, hemp or dried clay. Decorative elements are cast from this material and applied to walls, ceilings, doors, and mantels for an overwhelming decorative effect.” The decoration is often called by other names including plaster, French stucco, and Swedish putty. Compo is intended to fool the eye of the viewer as it is made originally as a substitute material for the laborious ornamental plaster, carved wood, and carved stone. Its historic significance presents a common problem with natural deterioration and wear; the following will provide insight into the development of composition, basic knowledge of the art form, documentation of an interior and treatment methods in restoring the decorative element are highlighted for the preservation and restoration of composition ornamentation for interiors.

History

The earliest known evidence of a composition mixture being used in ornamentation date back to the Egyptian relics, the practice did not gain popularity until the Renaissance. It is known that medieval sculptures were sometimes created through press-molding organic mixtures to decorate painted sculptures, adding more detail than could have been originally carved. These mixtures were based on organic binders, such as glue, oil, resins, and waxes, and were prone to degradation unfortunately. Through time the composition mixture were developed involving more localized materials in hopes of creating a better mixture. Some attempts would include the use of gypsum, lead carbonate, wood and marble dust, eggs, pigments, sheep's wool, and other various oils and resins.

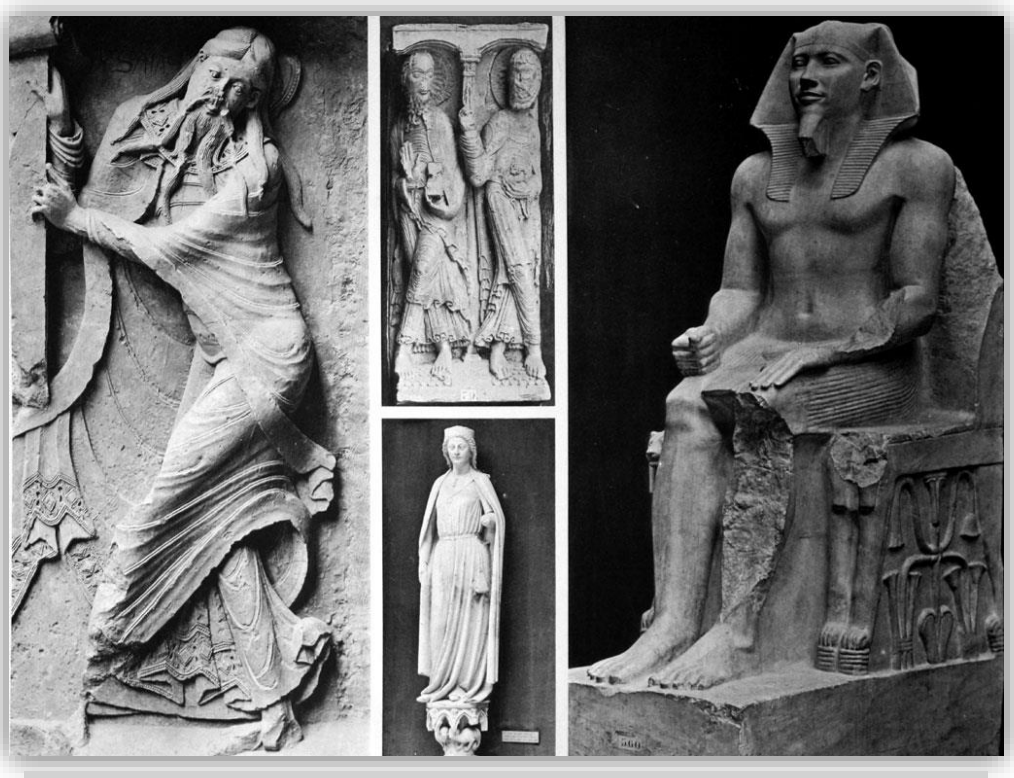

Figure 3.01

While the mixture for composition ornamentation was being adjusted in each European region as it was not regarded as a highly skilled task, the experimental decorations were not limited to architectural decoration, as was common in the Italian Renaissance, but instead were beginning to appear on wooden boxes and picture frames as early as the 14th century. Such decorative pieces created through the press molding process were called pastiglias and are known as the forerunning of composition artwork.

The end of the 18th century brought the craft to America, when the composition ornamentation was imported to America after gaining popularity in Europe and England. Localized work of the composition began booming as the east coast conditions in the new world were ideal with raw materials were readily available. Designs began to develop within the press-molding process, dominating were designs of reinterpretations of Greek and Roman "Neoclassical" looks, until ornamentation began to grow beyond decorative interiors in America. Like the pastiglias, composition ornamentation grew to adorn picture frames, mirror frames, iron firebacks, and iron stoves

in the 19th century, as it continued to be the preferred material for detailed decoration. Through these new applications, the designs also developed and branched out into various revival styles of Rococo, Gothic, Renaissance, and Italianate all with even more complicated composition mixtures in order to extend the uses of the composition material and the overall craft of the art.

It is not until the 20th century that the popularity of the artwork begins to diminish. Just as decorative pieces of an Art Nouveau style begin to emerge, the austere post-World War II style overtook the delicate craft of composition trade. Many of the firms went out of business due to the decline in demand, the ones remaining concentrated on the restoration of projects. Once the 1950's and 60's came the trade was almost completely eliminated and forgotten by Americans. It is not until an upsurge in the late 60's concerning historic preservation that composition ornamentation was renewed and the practice re-established.

Figure 4.01

Composition

The mixture is more specifically a thermoplastic material used to create sculptural relief, replacing the original practice of intricate wood, marble, and plaster carvings. When working with composition during the molding process, it is similar to a texture of dough being soft and pliable. It then becomes firm and slightly flexible as it cools within a mold. Once fully dry the composition becomes hard and rigid, and depending on the raw materials used in the mixture, in a light to dark brown in color. Basic materials used for composition consist of whiting to give the mixture body; pearl glue acting as a binder; linseed oil making the mixture soft in texture; rosin allows elasticity when being poured into the mold; venice turpentine prevents cracking throughout the cooling process; glycerine tempers the glue; and zinc oxide prevents the formation of mold when the mixture is prepared in advance.

Preparation of composition is a practiced expertise, the general process is similar to that of baking, each ingredient must be added in the order listed otherwise the mixture will not come out as desired. The process begins with rosin being heated with the linseed oil until both are melted together and combined seamlessly. A separate container holds soaked chunks of animal glue, which is also heated until all pieces are blended into a uniformly thick solution. Once both are melted adequately, the two components are to be stirred together as "batter", when they are mixed well the result should be someone pliable and similar to dough. The dough is then poured into a cratered pile of whiting and mixed first with a spatula until thick enough to be kneaded by hand. After being folded vigorously by hand, a uniform consistency similar to that of modeling clay develops and the composition is now ready for molding.

Figure 5.01

Molding Process

Regarded as the most difficult part of the composition ornament craft is the physical molding process. The variables that can alter the composition's outcome are primarily due to the material that makes up the negative mold. Materials, similar to the composition mixture, have been tried and tested to determine the best possible molds depending on the parameters of the design project. The materials that the negative mold is made are wood, metal alloys, sulfur, pitch and even the composition itself. Each different material holds advantages and disadvantages to molding composition ornament as well as differing methods to best utilize the material's properties.

As first listed, when wood is used the cast is carved in reverse to create a negative matrix. Although a positive sculpture of the ornament is much easier to create than a negative carving, both would require a specialist carver as well as a large investment of time for the production of the ornament. Wood molds will also last indefinitely if it is properly maintained. The mold itself is able to have fine incised lines show up as raised lines after the molding process, something very difficult to achieve in positive moldings.

Figure 6.01

Figure 6.02

Molds made of metal alloys, however, do yield an even higher level of detail and are virtually indestructible. Metal alloys on the other hand need a very complex system to be produced as they are made of brass, bronze, and pewter normally. Although it is the most expensive of the options, it is the most commonly used in composition ornament production industry today.

Sulfur is another material used to create molds for ornamentation in composition. The sulfur is heated to a scorching 115°C, approximately 240°F, melting it to a clear fluid. This liquid is then poured over a positive clay model or original composition ornament. The sulfur mixture then hardens into a plastic-like texture which can then be used for the molding process. As the process is fairly straight forward, it is one of the easiest methods to use as well as inexpensive. The mold created though with the sulfur has a tendency to be quite fragile and

Figure 7.01

vulnerable to breakage giving it a great disadvantage as a molding material.

Breaking molds is a common theme with materials, pitch also holds this commonality as placing too much pressure on a specific area can lead to cracking especially when the mold ages. The process of creating molds with pitch is similar to that of sulfur. A soft mixture of pine pitch is heated until a liquid form develops; it is then poured into a recess of wood block or a frame, then turned over and squeezed down onto an oiled wooden pattern. The pitch hardens and is able to be retained easily and even re-made as needed.

Composition is the last of the materials usually used for the molding process. Taking the composition mixture itself to create a mold for more composition is ideal for pirating other designer's patterns. It is easily squeezed when pliable over another hard relief pattern. When it hardens however it does shrink a bit, has a tendency to crack when under too much pressure in the molding press, and is at times too brittle to be used for a design to be produced.

Producing the composition ornament to adorn one's interior varies only slightly depending on the mold's materiality. The composition mixture, after reaching its dough like consistency, is warmed in a steamer prepared with a thin coating of oil and a dusting of talcum powder to prevent sticking to the mold permanently and to keep the composition's overall consistency. A piece of the composition is then taken and kneaded until a smooth and wrinkle-free surface is created. This piece is then placed down over the rigid mold and pressed in loosely with one's fingers but not completely as just a bit of excess compo is left above the surface of the mold. A damp board is placed over the compo filled mold placing pressure on the system and held in place with a screw press. This process forces the compo into the smallest of details within the mold utilizing the excess compo that had been left on the surface of the mold.

Figure 7.02

After a period of time, the compo becomes slightly firmer, no longer pliable, and more rigid and adheres to the board that was originally pressed onto the mold. Once the compo has

cooled to room temperature, gelled completely, becoming tough and rubbery, the board is removed with the new composition design fully formed on its surface. A thin-bladed knife is used to remove the composition ornament from its board. Any additional composition left in excess to the design can be removed and used in another batch of composition mixture for another design or mold. The fully hardened composition ornament can then be shipped and used as desired by the designer or buyer.

Figure 8.01

Documentation

While the newest editions of composition ornament are designed to withstand more dynamic conditions, the originals were not so advanced. The longevity of each decorative piece is determined primarily on the skill of the craftsman and the compos original mixture. Most commonly what will occur are the dried compo becoming hard and brittle, causing cracking and deterioration of the overall design detail. The other possibility is the application failure specifically in the ornament's location, if it has not simply fallen off the wall. If the ornament is too close to heat, like a fireplace or direct sunlight, the compo develops fissures or shrinkage cracks. In order to determine and treat the direct causes of each outcome, proper historical research must be done.

Figure 9.01

The building owner, curator, and/or conservator should begin by researching the building's history through any type of physical documentation. The objective is to determine when the structure was originally designed and constructed, who lived in the building at what times, and how the building was used during each time period. If there is not sufficient documentation for the building, one might seek out the workmen's receipts from past renovations to establish the dates of some decorative detailing. The building's interior spaces that have decorative detailing will also need to be documented in its current condition. The materiality, such as compo, plaster, or wood, and the condition of each decorative ornament needs to be reviewed and recorded in order to best facilitate the restoration and repair process. While documenting the condition of each piece, the differences in patterns should aid in dating the ornament details. This information will enable the designer to determine which composition ornamentation was original and which were added or removed.

Once the decorative details have been documented and researched to the best capacity possible, the treatment plan is established. The building's interior stabilization, conservation, and repair should all be maximized. Preservation is to be done through restoring the decorative ornament, but not necessarily to a specific earlier period. Unless there is significant ornament missing from the overall design, no additional composition should be removed without a replacement piece. Overall, each project should be restored to the existing design in the

ornamentation, with only minimal flaws in the composition work. Within the treatment plan would be the existing condition's analysis.

An analysis of all ornamentation pieces needs to be completed before any physical restoration work begins. This includes an in-depth observation of the surface and substrate of each ornament piece. The analysis process will establish first if a surface is painted and what material the painted piece is made. For example, if the ornamentation piece is white through the entire thickness of the ornament, then it could be plaster or stucco; but if the piece is a darker brown material, it is more likely to be composition. By determining the painted pieces material, the paint removal process for each can be done more efficiently. Secondly, an examination of the ornamentation itself is done to identify chipped, broken, and missing pieces. After these steps have been completed and documented, the condition analysis can be complied.

Figure 10.01 and Figure 10.02

The overall condition of the ornamentation detailing of the interior room is then evaluated. Keeping in mind that layers upon layers of paint may obscure fine detailed work as well as other deterioration problems within the ornamentation. The building owner, curator, and/or conservator must do one's best in order to identify all potential issues and problems. The degree of damage and deterioration is recorded, determining which treatment options are necessary for what composition ornament pieces. This influences the project's restoration and treatment plan, and ultimately will create the outline for all specific progress plans for the interior room's design.

Treatment

Following the guidelines of documentation for a project, the treatment plan can be established depending on the overall historical significance of the building's interior, along with the degree of deterioration and damage of the composition ornament, and the desired outcome after the restoration process. The treatment options can include, as listed by least invasive to most invasive, paint removal, surface cracking, delamination, repairs to broken and damaged composition, and replacement of missing composition ornamentation. Condition analysis will best determine the severity of the project's treatment and how it can be best executed.

As listed first, paint removal is the least invasive of the treatment options; however it is the process most likely to damage the composition the most during which is why it is advisable to obtain professional advice on the ornamental material that is to be cleaned. During the cleaning process, one sample of an intact, well-adhered painted layer of ornament should be kept for future historical research. Initially determine how many layers of paint are on each piece of compo ornamentation. Each layer is a specific layer of paint, each is important to the period of restoration. There is a possibility that one of the many layers of paint will from the period desired for the restoration to resemble, a color match to the specific time period may be needed. Otherwise, all layers of paint are assumed necessary to be removed in order to reveal the fine detailing of the composition ornament. Methods for paint removal include caustic strippers, organic solvents, heat-stripping, and enzyme mixtures.

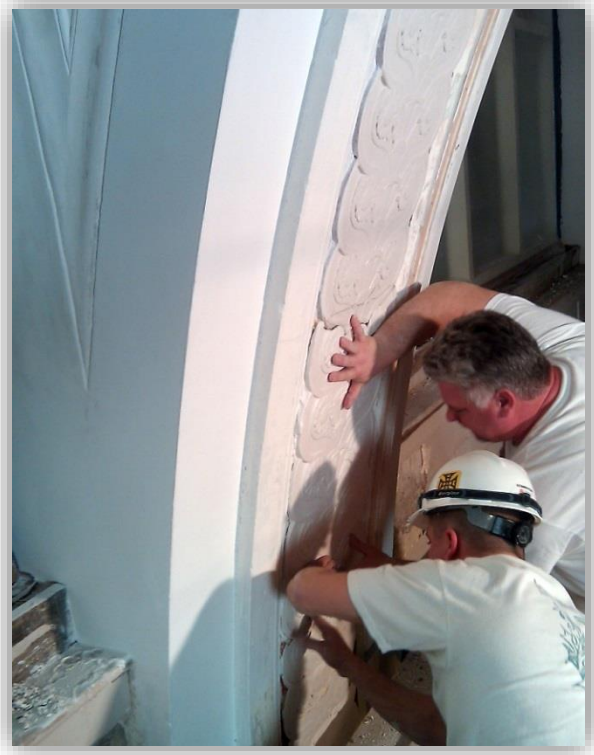

Figure 11.01 and Figure 11.02

Although mentioned, caustic strippers for the removal of layers of paint are to be avoided, if not completely eliminated from the project all together. Caustic strippers will damage and dissolve the protein in the structure of the glue in the composition mixture that is water soluble. This will significantly, if not completely, ruin the ornament pieces attempting to be restored to a better condition than previously.

Organic solvents, on the other hand, can be used on the compo designs. Usually a methylene chloride solvent is applied by

soaking the composition ornament in it. This softens the paint enough to be brushed off with dental tools or toothbrush like tools. The process is re-applied as necessary until the paint is completely removed. A small area should be tested first to establish the safety and effectiveness of the technique, which will depend on the compo's mixture and the type of paint being removed.

Heat stripping is a process to be done only by highly skilled workmen as the process depends predominately on the composition ornament being much older than the paint layers that are of the surface of the piece. Using heat guns and dental tools, the delicate process has the capability of working better than suggested chemical methods when done by an expert. If attempted by any person, one must keep in mind to always be using the appropriate precautions to prevent any health problems. This includes hooded, air-fed, personal unit, in junction with fume hoods or paint spray booths as organic vapor masks are not normally effective enough.

Enzyme mixtures are also dependent heavily on the skill of the workman. The mixtures can be formulated for very specific purposes, such as dissolving only oil-based paints from the protein-glue based composition mixture. The enzyme mixture can allow very specific layers of paint to be removed from the ornament without damaging the composition or even wood details. The significant downside to such successful work is that it can be a very slow process and quite expensive depending on the high level of skill, technical knowledge, and professional training necessary in order for enzyme mixtures to work efficiently.

Regardless of the paint removal method, proper caution and tools are to be used especially organic vapor masks, as certain period compo was meant to imitate marble, and the most common original coating is a highly-toxic white-lead paint. Once the various layers of paint have been removed from the composition ornamentation, a refinishing of the ornament's surface can then be done with just a thin coating of paint, as to not lose any intricate details just recovered.

Figure 12.01

A more invasive problem is surface cracking, which can be observed in the initial documentation process. Cracks seen do not necessarily mean the piece must be fixed all together. It is only when the cracking interferes with the overall design pattern, then one may be justified in filling the cracks. It is a delicate process and should be done with a light weight spackle, plaster, as to accommodate the changes due to

moisture fluctuation in the interior space. As it is a delicate process, filling in surface cracking is enhance the design aesthetic and not make the issue worse, because of this it should be done by a professional.

A potential causation of surface cracking could be delamination. This is when the composition ornament separates from the wood substrate, or surface on which the ornament is adhered. It is one of the most simple to repair of the treatment methods. One need only test an ornament's security with just slight pressure applied by one's fingers. Sections that have moved and separated from the substrate, but are still intact, can be simply glued back into place. The glue adhesive used is typically white or clear in color. The glue is applied to both the compo piece and substrate surfaces until the adhesive is slightly tacking in its texture, then the two are joined and clamped until fully dry. It is when the ornament is not intact that the piece needs to be repaired and not simply adhered back to the substrate.

Repairs to broken and damaged composition are significantly more difficult than repairing delamination. Using non-hardening clay called plastilina, an impression of the ornament is made in it to create a mold. Once a mold is made, missing and deteriorated portions can be carved further into the mold as desired. Then using a gypsum plaster or other substitute material the ornament can be duplicated accordingly.

Figure 13.01

However when simply repairing broken pieces is not sufficient, one must replace pieces of badly damaged and missing composition ornamentation. This occurs when compo ornamentation has become too damaged and the remaining fragments are removed. Usually one would seek other decorative indications of what type of detailing pieces resided in a spot originally. Proper documentation might provide such information, but if these are not available identifying ghost lines, the outline left by the adhesive of the compo ornament, can aid in determining the original decoration.

When the detail work has been identified and pieces remolded, the placement of the new ornamentation can then reapplied. Composition is generally adhered to wood, it can usually be seen decorating flat surfaces such as interior cornices, chair rail moldings, door and window surrounds, mantel pieces, wainscot paneling, and staircases. The gelatin properties allow the composition to be adhered almost anywhere. One must only make the molded compo flexible again by steaming a cloth stretched over a container of boiling water. This process is referred to as fixing. Occasionally in larger pieces, reinforcements like wire, string, and nails are included in the mold as to serve as internal armatures to preserve the integrity of the ornaments even if they crack.

After all the pieces are adhered securely and completely hardened, it can be given a decorative finish. Common finishes include a polished marble shine, which can be achieved with just a damp cloth over the compo surface, otherwise stained, coated with paint or varnish, or oil gilded without further preparation are other options used. The finish is to be viewed as appropriate for the period of restoration. Finally detailed physical evidence as well as written and pictorial documentation is to be taken in order to aid in future historic restoration.

Figure 14.01

Recommendations

Contrary to the article's title, the preservation brief on Applied Decoration for Historic Interiors Preserving Composition Ornament was not brief. The article seems to be written by a competent professional familiar with compo, however it could have been written similarly to this research paper; although I have no personal experience with composition ornamentation, nor have been able to witness the restoration of interior design work, I am still able to communication thorough knowledge on the topic. It seems as different persons wrote separate sections and it was all simply pushed together at the end without any editing or realization that it is terribly repetitious in the basic knowledge, but all together fails to flow from one section to another. Perhaps if it had been compiled by a compo craftsman, readers would be able to gain insight they would otherwise be unable to experience and achieve a more professional, less repetitious outline to the article.

Also in regards to compo craftsmen, the preservation brief does not state specifically to seek professional aid in one's restoration project of composition ornamentation until it speaks about removing various paint layers from the design work. It is possible that the author meant it to be assumed that professional help was to be used throughout the project's development, but it should be stated clearly from the beginning that a person is not to attempt to clean, re-create, or develop composition on their own.

In regards to the composition ornamentation itself, the article does not go into much depth on how to properly identify materiality of composition in comparison to wood carvings, plaster, or other materials. Is it done through scraping the back of the ornament and is there a process to test the material shavings, or completely cutting a piece in half and simply destroying a piece of ornamentation? The preservation brief stresses the importance of knowing the materiality of the designs but does not state exactly how it should be done. Elaborating more on the importance of materiality would have been beneficial as well. For instance, is the original material of the composition mixture that made the ornamentation important to attempt to mimic or is the new, more improved mixture of the 21st century sufficient or preferred?

The mixture of composition of the 21st century is obviously not created by some handy-man, but instead by professional craftsmen. The brief also fails to list, or even briefly mention, what companies are currently in business today that would have the skill set required to do an interior preservation project as described throughout the brief. Taking into consideration that the brief may not be updated every few years, but it could still list a few professionals in the United States that would be qualified for such a project as they are difficult find today as they are few in number.

It would also be beneficial if a number of sorts were provided. Not a solid cost analysis, but estimation on what a general preservation or restoration project outlined could cost a person at a certain time. The time frame of how long any certain type of restoration could take. It seems a bit ambiguous on the amount of time it could take to document the interior space, develop a treatment plan, etc. If these were recommendations to be implemented,

the preservation brief would provide readers with a better, more thorough understanding on how to properly go about in restoring their composition ornament interiors.

Conclusion

While composition is intended to fool the eye of the viewer, it is obvious that the craft is complicated in its mixture, execution, application, and restoration. Its historic importance enhanced the decorative elements of interiors throughout Europe and early American history, leading much of the composition to be left deteriorating and damaged. However, through careful consideration to one's knowledge of the art form, documentation of an interior and treatment methods in restoring the decorative element that the preservation and restoration can continue to be improved and the unique and beautifully crafted content that is composition ornamentation of interiors can live on.

Image Index

Figure 1.01

"Chadsworth Columns | Architectural Columns, Pergolas, Balustrades, Shutters."*Chadsworth Columns | Architectural Columns, Pergolas, Balustrades, Shutters*. N.p., n.d. Web. Mar. 2014.

Figure 3.01

"Krishna and the Plaster Cast. Translating the Cambodian Temple of Angkor Wat in the French Colonial Period | Falser | Transcultural Studies." *Krishna and the Plaster Cast. Translating the Cambodian Temple of Angkor Wat in the French Colonial Period | Falser | Transcultural Studies*. N.p., n.d. Web. Mar. 2014.

Figure 4.01

"Heilbrunn Timeline of Art History." *John Sanderson: Dining Room from Kirtlington Park, Oxfordshire (32.53.1)*. N.p., n.d. Web. Mar. 2014.

Figure 5.01

"Traditional Materials Part I: Plaster and Composition Ornament." *The New Room Renewed* -. N.p., n.d. Web. Mar. 2014.

Figure 6.01

"Tour The Factory." *Decorators Supply Corporation*. N.p., n.d. Web. Mar. 2014.

Figure 6.02

"Tour The Factory." *Decorators Supply Corporation*. N.p., n.d. Web. Mar. 2014.

Figure 7.01

"Composition Ornaments." *Decorators Supply Corporation*. N.p., n.d. Web. Mar. 2014.

Figure 7.02

"Composition Ornaments." *Decorators Supply Corporation*. N.p., n.d. Web. Mar. 2014.

Figure 8.01

"FortHillStudios." *: Composition Ornaments*. N.p., n.d. Web. Mar. 2014.

Figure 9.01

"Bloggnamn - Vasamuseet." *Creating the Cannon*. N.p., n.d. Web. Mar. 2014.

Figure 10.01

"Bloggnamn - Vasamuseet." *Creating the Cannon*. N.p., n.d. Web. Mar. 2014.

Figure 10.02

"Bloggnamn - Vasamuseet." *Creating the Cannon*. N.p., n.d. Web. Mar. 2014.

Figure 11.01

"Canning Studios Plaster Restoration in Hartford." *Canning Studios*. N.p., n.d. Web. Mar. 2014.

Figure 11.02

"Canning Studios Plaster Restoration in Hartford." *Canning Studios*. N.p., n.d. Web. Mar. 2014.

Figure 12.01

"Gilded Frame for Gilbert Munger's Landscape Painting - 1874 - Hartmann Conservation Services." *Hartmann Conservation Services Gilded Frame for Gilbert Mungers Landscape Painting 1874 Comments*. N.p., n.d. Web. Mar. 2014.

Figure 13.01

"Vertical Access LLC Blog." *Vertical Access LLC Blog*. N.p., n.d. Web. Mar. 2014.

Figure 14.01

"SMS Studio, Llc." *SMS Studio Composition Ornament and Pargework Style Ceilings*. N.p., n.d. Web. Mar. 2014.

Resources

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