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Smoke and Mirrors: Revealing Chanler's Whitney Studio Fireplace

ABSTRACT:

The former studio of Gertrude Vanderbilt Whitney, located at the New York Studio School in lower Manhattan, contains one of the most important commissions of artist Robert Winthrop Chanler: a 20-foot high, painted plaster-and-bronze fireplace, likely completed in 1923. A study of the structure began in January 2013, initiated by the World Monuments Fund as a joint effort between the Conservation Center of the Institute of Fine Arts at New York University and Columbia University's Historic Preservation Program.

This paper outlines the background and findings of the project, including the conditions assessment, technical analysis undertaken, and preservation recommendations. We will discuss issues of approach and interpretation in the evaluation of cross-sections and reveals, and we will relate the development of a theoretical color reconstruction.

This project was supervised by Mary Jablonski (Graduate School of Architecture, Planning & Preservation, Columbia University) and Michele Marincola (Conservation Center, Institute of Fine Arts, NYU). We are also greatly indebted to our fifth team member, Alafia Akhtar (M.S. Historic Preservation, Columbia University, 2013).

1. BACKGROUND

In 1907, Gertrude Vanderbilt Whitney, artist, collector, and founder of the Whitney Museum, established a studio in Greenwich Village. Between 1918 and 1923, Whitney hired her friend and fellow artist Robert Winthrop Chanler to decorate the studio.



Figure 1. *Robert W. Chanler, mimicking the 'artiste'. Paris, c. 1898. Credit: Lately Thomas. 1999. The Astor Orphans: a pride of lions. Albany, NY: Washington Park Press. 72.*

Chanler created a bas-relief plaster ceiling and sculptural fireplace, which are still present today as seen in figure 2. The fireplace consists of three-dimensional flames containing hidden creatures such as birds, snakes, fish, lizards, and humans (figs. 3a-c). In addition, the studio contained a decorative screen and stained glass windows designed by Chanler: the resulting ensemble was meant to be a personal, creative sanctuary for Whitney.



Figure 2. Robert Chanler, *Fireplace*, 2013.



Figures 3a, 3b, 3c. Detail of Chanler Fireplace, 2013. Courtesy of Elizabeth Frasco. March 20th, 2013

This studio was part of the original location of the Whitney Museum, which was founded in 1931 and relocated in 1954. Today, Whitney's former studio is part of the New York Studio School. The room is used for meetings and as a space for classes.

A study of the studio's ceiling was conducted in 2011 by Lauren Drapala of the University of Pennsylvania's Historic Preservation program. During 2013, the World Monuments Fund, in conjunction with the New York Studio School, commissioned graduate students from NYU's Conservation Center and Alafia Akhtar, a graduate student from Columbia University's Historic Preservation Program, to study the the fireplace. The team included five student members and supervisor Mary Jablonski, an architectural conservator and Professor at Columbia University.

This paper will briefly outline the findings of the project and will then turn to the challenges encountered by the team, including those regarding methodological approach and the interpretation of data.

2. ROBERT WINTHROP CHANLER

Robert Winthrop Chanler was known for his decorative interiors, and he dabbled in a variety of media, including lacquer. His works are usually quite colorful, and often whimsical or humorous.

Chanler also had a reputation for using experimental media. This can be seen in buffalo murals he created in the 1920s in the breakfast room at Coe Hall, in Oyster Bay, New York, which have suffered from continuous flaking and are in a state of constant repair.

3. FIREPLACE CONSTRUCTION

In constructing the fireplace for Whitney's studio, cast bronze flames were installed at the base in two phases over an existing brick chimney structure. The metal transitions into sculpted plaster flames, which transition again at the ceiling into plaster bas-relief. Freestanding flame elements were cast in molds and are supported by wire armatures.

It is believed that the work would have originally been polychromed. However, no known historic color images exist documenting the structure during its creation or after completion, and the entire installation is currently completely covered in several layers of thick white overpaint.

4. PROJECT GOALS

The World Monuments Fund and the New York Studio School requested the team to document the condition of the fireplace, analyze the chromochronology of the paint layers, and create a color rendition of the fireplace showing its proposed original color scheme "to provide a guide for restoration of the original appearance." Ultimately, the team was to formulate treatment recommendations for the fireplace based on its current condition and theories dealing with the evolution of its appearance.

5. METHODOLOGY AND RESULTS

5.1. CONDITION

The team documented all condition issues with digital photography and created color-coded condition maps. The most severe preservation concerns relate to water infiltration through the roofing. This has caused significant aligating, flaking and delamination of the paint (figs. 4a-

c). The thick layers of overpaint obscure not only the original polychromy, but also a significant amount of three-dimensional detail.



Figures 4a, 4b, 4c. Alligatoring, delimitation, and the resulting flaking and loss was visible through much of the white overpaint. Right: Level B, E Elevation; Center: Level A, E Elevation; Left: Level B, E Elevation. 2013.

5.2. MATERIALS ANALYSIS

A significant aspect of the project was to investigate the materials and construction of the fireplace, and analysis relied heavily on the examination of paint samples.

5.2.1 Sample Analysis

Between January and March of 2013, seventy paint samples were taken in anticipation of the possibility that the original decorative scheme could be complex and varied. The sample locations were carefully chosen to represent areas with different substrates (brick, metal, plaster), to represent different elevations and levels on the fireplace, and to represent figural as well as non-figural elements.

All of the samples were microscopically analyzed in cross section in both normal and ultraviolet light (fig. 5). In general, up to 25 layers of metal leaf and paint, and anywhere from two to ten decorative finishes total were found per sample.



Figure 5. Example of a typical cross section, NYSS034, showing the method used for identifying and labeling the paint layers.

Additionally, a subset of ten samples was selected for further analysis with the use of SEM-EDS. Aluminum and copper leaf were identified within all of these samples. Two of these samples were then further examined using equipment at the Metropolitan Museum of Art's Scientific Research Department. FTIR and Raman spectroscopy were used to more conclusively identify various pigments.

5.2.2 Reveals

In order to obtain a more macro understanding of the underlying finish layers, reveals were undertaken. This is a procedure commonly practiced in the course of architectural preservation. Reveals were first conducted on detached flame fragments. A range of solvents and solvent-based gels proved to be ineffective, though several proprietary paint strippers were found to successfully remove the overpaint. One of these paint strippers was then tested on carefully-determined locations on the fireplace itself, at various time intervals.

Reveals were also undertaken mechanically using scalpels in areas of preexisting damage at the top of the fireplace in order to try to explain its transition into the ceiling. These reveals proved to be problematic, as will be discussed later.

5.2.3 Finish Campaign Mapping

A number of methods were utilized in attempting to determine an overall pattern of finishes. Colors as observed in cross section were matched with the Munsell Color System and mapped (figs. 6a, b). The team then attempted to visually map the location and chronology of these colors.



Figure 6a (left). Metals Scheme, Finish 2. This map shows the approximate colors of the second finish campaign in complete samples taken from metallic substrate.

Figure 6b (right). Plaster Scheme, Finish 2. This map shows the approximate colors of the second finish campaign in complete samples taken from plaster substrate.

Additionally, color-coded maps were created to indicate different characteristics of the samples in an attempt to find correlations between them which could suggest the appearance of finish campaigns overall (fig. 7a, b).

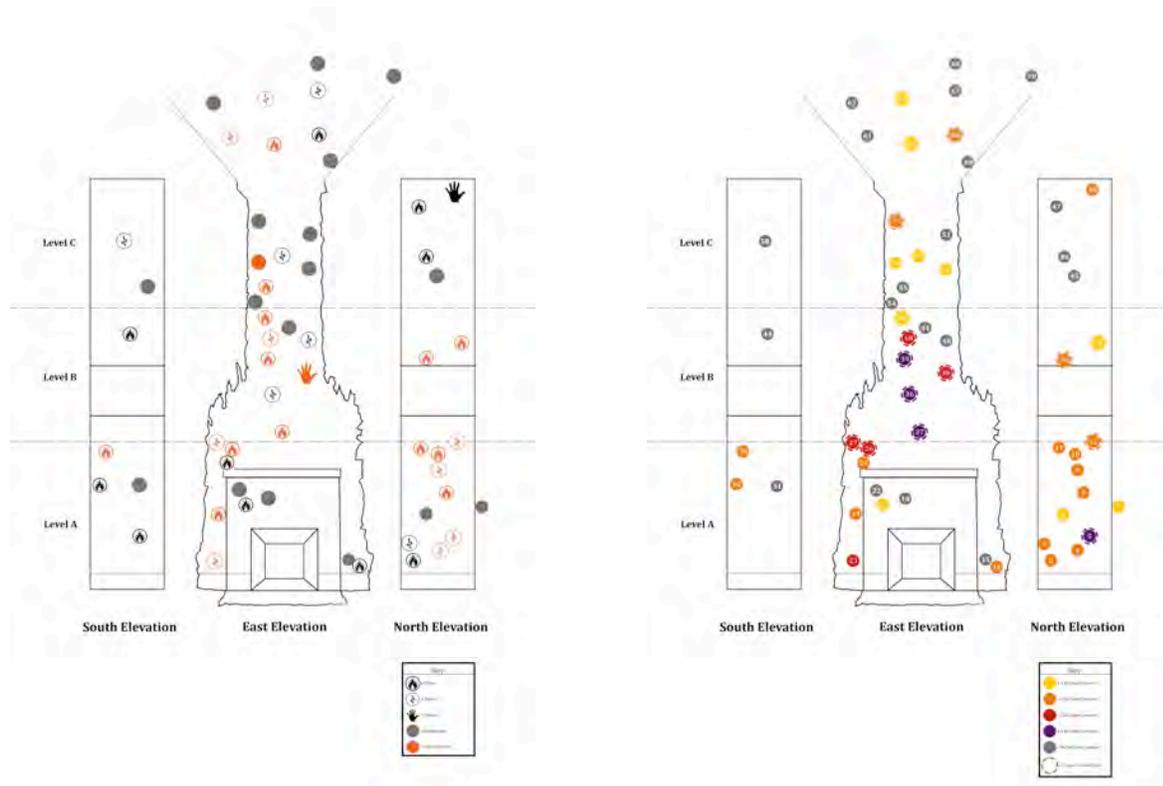


Figure 7a (left). Categories of samples. This map indicates whether cross sections were taken from Flames, Animals, or Human figures.

Figure 7b (right). Foil Layers: This map indicates the presence of foil layers, their number, and type.

Despite the amount of data amassed, no one "original" decorative scheme could be determined. From these findings, the team can hypothesize that after several reworkings of an initial polychromed scheme by Chanler, the fireplace was covered in gold-toned aluminum leaf. Whether this was an artistic decision by Chanler or the imposition of another individual is unclear. Then, the fireplace was painted black before being overpainted completely white.

6. PROJECT CHALLENGES

A significant number of unanswered questions still remain for reasons which will now be explored in some depth. The team encountered a number of unexpected circumstances, challenges, and surprises over the course of the project.

6.1. CROSS SECTION COMPLEXITY

As paintings and objects conservators, we were unused to dealing with large numbers of samples. Seventy samples, though a large number, was ultimately necessary in order to represent each of the different figural elements, transitions, and substrates within the fireplace. Even with the large number of samples, the team was still unable to find correlations between them which would provide a better idea of the big picture.

The samples also proved to be enormously complex (fig. 8). As aforementioned, the team found up to twenty-five layers per sample. Some of these layers were so thin and indistinct, they were only barely visible in ultraviolet light, and many layers also were not of consistent thickness. In addition, we encountered poor adhesion and interpenetration between layers, which convoluted our interpretation of discrete finishes.

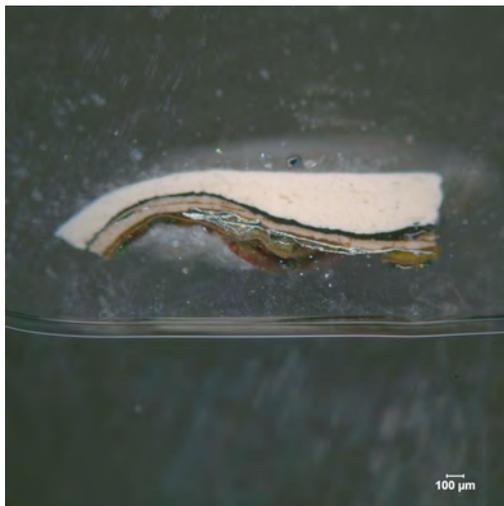


Figure 8. Sample NYSS037: This cross section is from the center of a plaster flame element showing 6 total finishes and 5 layers of overpaint. Level B, E Elevation. Photomicrograph, 2013

Of the seventy samples taken, twelve were found to be incomplete. This was likely due in part to the ready cleavage of paint layers. This was exacerbated by the deterioration of the paint through water damage, and also likely in part because of Chanler's use of experimental media. Samples taken near the hearth had clearly been impacted by the use of the fireplace to produce heat and were often fragmentary. This unfortunately complicated the analysis as well.

6.2. BRONZING POWDER HYPOTHESIS

Early in the microscopic examination phase of the cross sections, supervising conservator Mary Jablonski suggested that perhaps bronzing powder was present in the samples. Lauren Drapala, who conducted the study of the ceiling, also suggested the use of bronzing powder. The team took a number of overhead photomicrographs of samples before embedding them in bioplastic in order to examine this phenomenon (fig. 9).

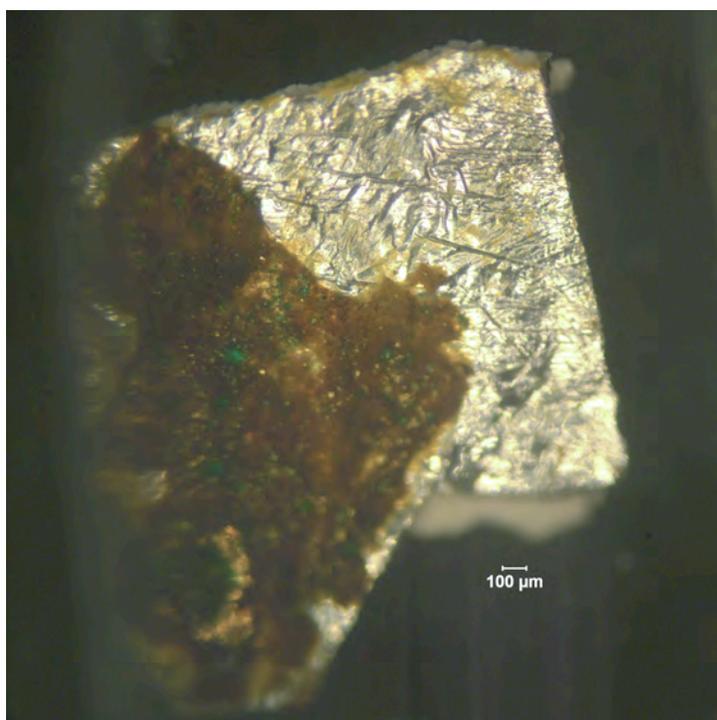


Figure 9. Sample NYSS025: This sample from a plaster flame near the hearth is possibly an incomplete sample. It appears that a copper or aluminum leaf is missing, from which the sample likely cleaved. The cleft face revealed flecks of green and gold, possible bronzing powders. Level A, E Elevation. Photomicrograph, 2013.

Bronzing powder is a fine metallic powder used in decorative painting techniques popular during Chanler's time. The powder could be mixed into a medium for application or could be sprinkled on a wet paint layer to provide a metallic dimension (fig. 10a, b). Bronzing powder was manufactured in a broad palette of colors, including more traditional metallic tones, as well as green, orange, blue, and purple in various shades.

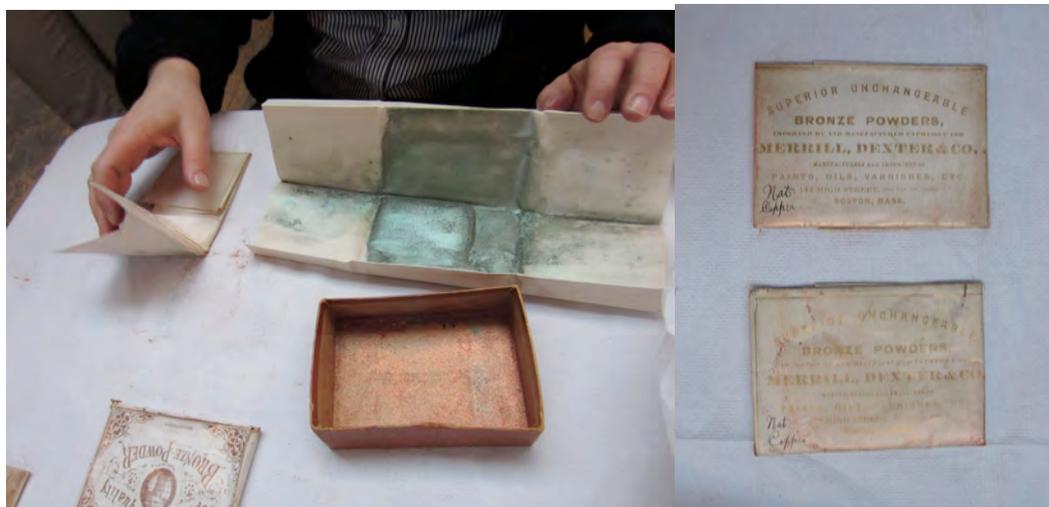
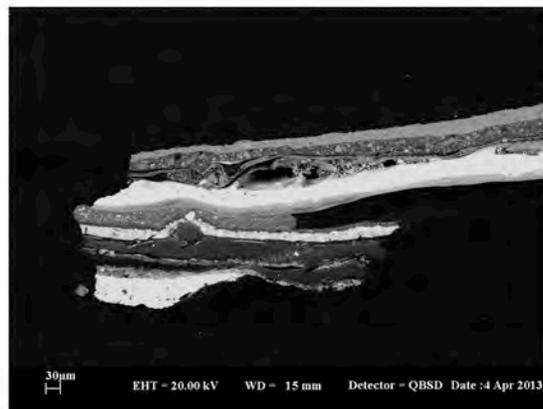


Figure 10. Green- and bronze-colored historic bronzing powder samples, provided by Mary Jablonski, 2013.

The team examined the layers in cross section which corresponded to those hypothetically containing bronzing powder using various analytical techniques. These layers usually appeared somewhat like a green glaze in cross section. In one sample, SEM-EDS showed the presence of elements (copper chlorine, oxygen and iron), which are typical of copper corrosion products, surrounding fragments of copper leaf (fig. 11). This suggested that perhaps bronzing powder was not present, but that instead the samples possibly contained layers of copper leaf that had partially deteriorated, resulting in green corrosion products. Examination with FTIR showed relatively close matches for copper stearate in one sample and cupric palmitate in the other, products which appear to relate to corrosion (fig. 12a, b).

Selected Elemental Results:

- Layer 18 - White: Ti
- Layer 15 - Black: Mg, Ti, Zn, Al, Si, Ca, C, O
- Layer 14 - Tan: Pb, Fe, Mn
- Layer 10 - Yellow: Pb, Cr, O (chrome yellow)
- Layer 9 - Silver-colored Leaf: Al
- Layer 7 - Light Brown: Ba, Pb, O, S
- Layer 5 - Gold-colored leaf: Cu
- Layer 4 - Green: Cu, Cl, O, Fe (copper corrosion products)
- Layer 3 - Pink: Ca, S, Si, Mg, Al, O (with Ba in isolated barite particles)
- Layer 1 - White: Pb, Zn (primer layer) (note: substrate absent from this sample)



NYSS011 viewed at 430x magnification (SEM).

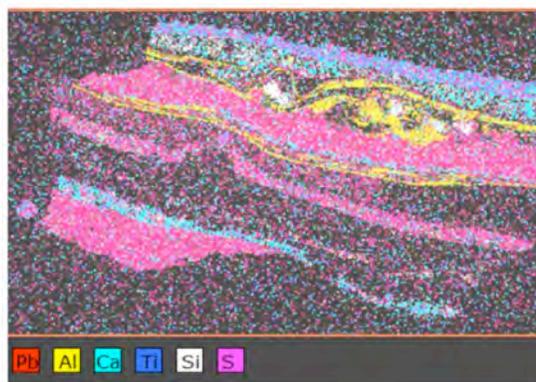
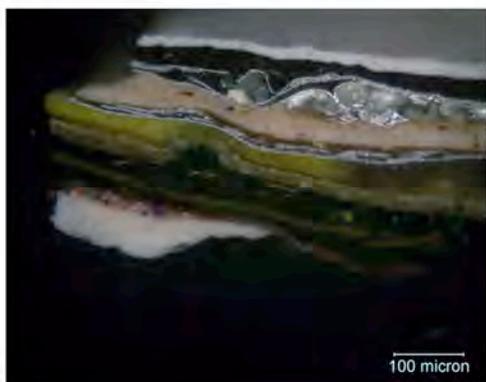
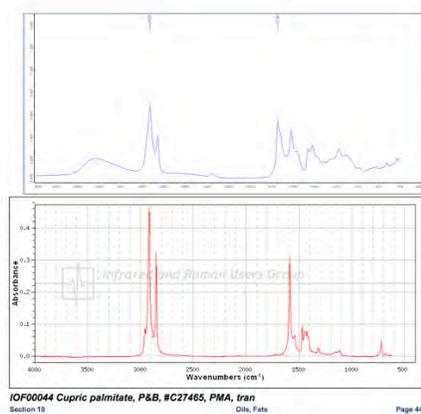


Figure 11. Scanning Electron Microscopy of sample NYSS011.

FTIR Results

NYSS024, green Layer 13



FTIR Results

NYSS011, green Layer 4

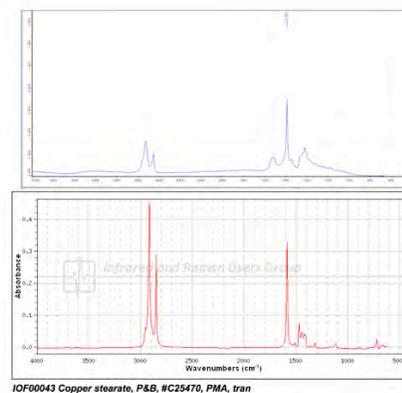


Figure 12a (left). FTIR Results for NYSS024, layer 13. This image compares the signal from the sample to that of cupric palmitate, a copper corrosion product.
Figure 12b (right). FTIR Results for NYSS011, layer 4. This image compares the signal from the sample to that of copper stearate, a copper corrosion product.

Unfortunately, the team could not conclusively rule whether the corrosion products were the result of the degradation of copper leaf, or whether they are a component of a bronzing powder. This was one of the most significant unanswered questions at the conclusion of this study.

6.3. COMPLEXITY OF REVEALS

As previously discussed, reveals were performed both on previously-detached plaster fragments and on areas of the fireplace itself. Reveals represent a fundamentally different analytical approach for architectural versus fine arts conservators, since they are highly invasive and often destructive (fig. 13).



Figure 13. A chemical reveal on the lower area of bronze-work is demarcated with tape, 2013.

These reveals were problematic in a number of ways. The chemical reveals using paint stripper proved to be uncontrollable and risked damaging original finish layers. The interpenetration of finish layers augmented this risk. Also, the overpaint proved to be tenacious in areas. It was impossible to predict how many layers the paint stripper would remove in any given location. Mechanical reveals with scalpels were found to be only slightly more controllable, and they were extremely time-consuming - impractical to recommend as a treatment option.

Ultimately, the reveals did not assist the team in determining the original decorative scheme, and the recommendation was made that further testing be carried out with specially formulated cleaning gels.

6.4. LACK OF HISTORIC DOCUMENTATION

One of the primary interests of the World Monuments Fund and the New York Studio School was a reconstruction of the fireplace's original decorative scheme with the aim of restoring the studio to its appearance during Whitney's lifetime. There was difficulty in providing a definite reconstruction for a number of reasons.

No color photographs of the room showing its original decorative scheme have been found. One reason for this could be that as it was Whitney's studio, and a highly personal space, she may not have permitted many people to enter the room, let alone take photographs.

Correspondence existing between Whitney and Chanler provides clues as to the work's appearance, but the details are often enigmatic. For instance, Chanler writes, "The ceiling is finished and the fireplace is beautiful. The mantle is fair simple and will not bother you for sure" (Drapala 2011, 148). In another note from Chanler to Whitney, he says, "I have had Rudolph glaze the ceiling and now it is no longer patchy" (Drapala 2011, 148). Perhaps such glazes were utilized to even out color and texture, though it is not possible to draw any further conclusions from this text.

It has been suggested that Whitney and Chanler also interacted over the telephone, in which case it is possible that crucial information pertinent to the decorative scheme was not physically recorded.

Other potentially valuable information relies on the memory of various individuals. B. H. Friedman, in his 1978 biography of Gertrude Vanderbilt Whitney, writes of the fireplace: "A huge fire, in molded plaster painted mostly bright red and gold, blazes from the floor, twenty feet up the chimney and across the ceiling where sculptural forms flatten into low relief." (Friedman

1978, 397). Students of the School of Visual Arts created this visual for the studio in 2006, probably based on descriptions like Friedman's.

These sorts of claims prove to be unreliable. Despite initial convictions that the original polychromy was brightly colored, of the valid samples, only nine, or 15%, had strong colors such as bright green, red, and yellow. These were restricted to early finishes and were only found in samples near the base of the fireplace.

6.5. CONNOISSEURSHIP

It is worth briefly mentioning that it was admittedly difficult to discard preconceptions about the artist. Chanler's reputation of being experimental and temperamental, and his use of mixed media to create installations, could be read into in the analysis the data collected during this project. The team examined other decorative interiors that Chanler had created, such as a swimming pool at Vizcaya, in analyzing his work.

This sort of idea of the "artist" is helpful in the sense of connoisseurship, in determining which of the decorative schemes that were apparent in paint samples could fit into his body of work. However, "invoking the artist" in this manner also represents a pitfall, presenting a narrow view of what the artist would have or could have achieved.

6.6. EXPECTATIONS OF INVOLVED PARTIES

The expectations of the World Monuments Fund and the New York Studio School regarding what was achievable through this project were in great part fed by the results of the study on the ceiling, conducted by Lauren Drapala in 2011. Drapala's study was quite impressive and essentially laid the groundwork for the examination of the fireplace.

Though the construction of the ceiling and fireplace and their decorative schemes are certainly related, their material compositions proved to be quite different. Samples from the ceiling

demonstrated simpler layering, with no more than 8 layers present in each sample, compared to the up to 25 layers found in samples from the fireplace.

Drapala was able to complete mockups, which she then sampled and compared in cross section to samples from the actual ceiling. She also created a hypothetical reconstruction of the ceiling which extrapolates from samples taken around the sun figure, here in the lower right corner. Creating a similar mockup and reconstruction in the case of the fireplace was unrealistic considering the complexity of the data collected.

Instead, the team provided an image of the final "finish," under what was known to be overpaint, which was an overall gold to brown tone. This finish scheme may not even have originated from Chanler, but it is chronologically the last extant decorative scheme. The team had some concern that the reconstruction would be taken factually as the appearance of the fireplace during Whitney's life, so it was presented with extreme caution and with several caveats: the reconstruction does not pretend to do justice to the original work, may not represent *Chanler's* last decorative scheme, and is based on extrapolation only.

7. CASE STUDY: GUGGENHEIM RESTORATION

A similar case study illustrates relevant points about the subjectivity of memory and the imposition of modern tastes on an historic aesthetic.

In 2005, the condition of the painted exterior of the Guggenheim necessitated a new paint application, and the color of the paint to be applied was the center of a heated discussion. Professor Frank Matero of the University of Pennsylvania has published an opinion piece on this subject, and he suggests that, quote, "This particular discussion focuses on conservation's long-standing debate on whether to present the work according to the artist's original intention or rather as an edited record of continuity and change" (Matero 2007, 3). This was not the first time such a controversy had occurred: during an earlier expansion and restoration of the Guggenheim in 1992, 66 major essays were published on the subject in professional journals during and after the restoration (Matero 2007, 5).

In discussions of the more recent restoration, historic preservation groups favored restoring the Guggenheim to its original color. The building's architect Frank Lloyd Wright notoriously disliked white, calling it "competitive and antagonistic" (Matero 2007, 9). In his earliest drawings of the museum, he conceived of a bright red or orange exterior. Over 100 paint samples were analyzed, which revealed that the original paint color was a buff yellow. However, there were still difficulties in relating the color in cross sections to historic paint swatches.

Museum officials and neighborhood groups argued that the building was only yellow for the first five years of its existence. The building had undergone at least four repainting campaigns by 1990. In 1992, an earlier addition to the building was demolished, and an addition designed by Gwathmey Siegel and Associates constructed in its place. This addition has a limestone exterior, and upon its completion, the rest of the Guggenheim structure was painted a corresponding cool gray-white.

Proponents of keeping the Guggenheim this color argued that the off-white shade respected the development of the building over time and was a color familiar to the public. The "iconic" Guggenheim as perceived by the public was *not* colored: as Pamela Jerome, the preservation architect hired on this matter intimated, "I have yet to find somebody who remembers this building buff yellow" (Schuster 2007).

In the end, the museum adhered to the philosophy of what can be termed "progressive authenticity," taking into account the evolution of the structure's historical significance, and keeping the off-white color (Jerome 2008, 9).

In a similar way, it is unclear what can or should be relied upon in creating a reconstruction of the Chanler fireplace: oral history and memory, assumptions about the artist's intention, or the analysis of data which provides an incomplete picture. This is all mediated, whether consciously or unconsciously, by modern tastes.

8. REFLECTIONS AND CONCLUSIONS

A number of specific questions related to materials still remain which could theoretically still be answered with further study. Other remaining questions are somewhat more vague and impenetrable, having to do with the ethical and practical concerns of reconstructing the original color scheme and the responsibility of preserving the work of art.

This study provided enormous challenges to the entire team: practically, but also on a personal and intellectual level. The project proved to be an enlightening experience in learning to collaborate with conservators of different specialties and in managing such a complex and multi-faceted enterprise. It also brought to light the importance of challenging preconceptions, the difficulty of balancing varied expectations, and the inescapable presence of subjective interpretation in the field of conservation.

9. ACKNOWLEDGEMENTS

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11. AUTHOR BIOGRAPHIES

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