

Philadelphia Museum of Art

Finish Analysis Report

Accession #: 1898-117
Object: Column Capital
Object Date: c. 1795
Materials: Wood (mahogany, tulip poplar); paint
Dimensions: 17 3/8" × 21 7/8" × 21 7/8" inches (43.9 × 55.5 × 55.5 cm)
Geography: Philadelphia, Pennsylvania, United States, North and Central America
Curatorial Dept.: American Art
Examined by: Jonathan Stevens,
Graduate Intern
Consulted: Behrooz Salimnejad, Senior Conservator of Furniture, PMA
Peggy Olley, Associate Conservator of Furniture, PMA
Liz Peirce, Assistant Conservator of Furniture, PMA
Jason Wierzbicki, Conservation Photographer, PMA
Report Date: January 12, 2020



Description:

This Corinthian-style column capital was salvaged by architect Thomas H. Marshall from the interior of the First Bank of the United States in Philadelphia (built c. 1795) during the 1890s prior to a major renovation by James Windrim, c. 1900 (Figures 1-4). It is thought to be the only remaining decoration from the bank's original banking room (Philadelphia Museum of Art 1976, 173; Kirtley 2020, 13). The column capital is supported by a core consisting of five vertically oriented boards joined with rabbet joints to make a square form with a vertical opening at the back (Figure 5). The boards that form the PL and PR sides of the core are mahogany, and the boards that form the front and back of the core are tulip poplar (wood identification estimated by visual examination). Blocks glued to this core are carved to form acanthus leaves, scrolls, and a curved ovolo-fillet-cove upper moulding with flower centers. The capital has multiple generations of white paint.

Purpose:

The capital has sustained multiple breaks and losses over its history and has undergone at least one major restoration campaign, in 1986-87. No known photographic documentation survives from the time of its salvage or from the time of its accession by PMA. In 1993, a painted mahogany fragment closely resembling

the acanthus leaf carving on the column was discovered in museum storage by Behrooz Salimnejad (Figures 6-7). The fragment appears to match a replaced part of one of the leaves on the capital's PR side which was carved by Hugh Glover in 1987 (Figures 8-9). The purpose of this analysis is to compare the finish histories of the found fragment, of the original material of the object, and of loss compensations on the object in order to clarify the fragment's relationship to the object and to gain insight into the object's restoration history. Analysis may also potentially inform future treatment.

Procedure:

1. Collect 1-2 samples, exact sites to be determined, from found fragment.
2. Collect 1-2 samples, exact sites to be determined, from loss compensations documented by Cornelis van Horne and executed by Hugh Glover in 1986-87, as determined by consulting 1986-87 treatment photos and 2021 UV images (see Appendices below).
4. Collect 1-2 samples, exact sites to be determined, from loss compensation on PR side which seems to correspond with found fragment.
5. If necessary, take additional samples from original material of object in areas likely to retain full finish sequences.
6. Samples will be taken with a number 11 scalpel blade and examined under low magnification prior to being cast for cross-section microscopy. The samples will be cast in Bio-Plastic, a commercial polyester resin from Ward Scientific. A paper label with the object number, sample number, and date of sampling will be cast with each sample and sample locations and descriptions will be documented. The resin cubes will be placed under a 250W heat lamp for two hours, then under ambient light until fully cured. The embedded samples will be prepared (dry) with the use of progressively finer abrasive clothes from Micro-Mesh Inc, to a grit of 12,000. The samples will be coverslipped using mineral spirits prior to examination. The samples will be examined and photographed at various magnifications in both visible and ultraviolet light using a Leitz Laborlux S microscope equipped for epi-illumination in UV light. Fiber optic lights will be used for visible light. The illumination conditions will be, for the UV light shots; a 355 - 425 nm excitation, 460 nm suppression filter, from an 100 W mercury source. Samples will be photographed using a Nikon Digital Sight DS-5M camera coupled with the Nikon Eclipse Net image capture program.

Summary of Results:

The cross-section samples taken from the capital show that there are as many as fourteen paint layers present. The earliest layers consist of up to five layers of a coarsely-ground tan/ beige paint which have a yellow autofluorescence under UV illumination. The middle layers consist of up to eight layers of coarsely-ground white paint which have a green autofluorescence under UV illumination. Some samples have two layers of a finely ground modern paint at their highest layers which does not have a significant autofluorescence under UV illumination.

Cross-section samples taken from the fragment thought to be a detached part of the capital have a similar finish sequence to that found on samples taken from the capital, with tan/ beige layers that fluoresce a yellow color at the earliest layers, followed by several white layers that fluoresce a green color. The samples taken from the fragment generally appear to have more inclusions and a greater density of particulate matter, including large clumps containing black and red particles. While the samples from the fragment have a slightly different appearance at first glance, many of the layers do appear to correspond to layers present on the original material of the capital. Based on the cross-section evidence, it seems probable that the fragment was originally part of the capital.

Cross-section samples taken from carved loss compensations on the capital appear consistent with Hugh Glover's 1987 documentation, which states that they are coated with acrylic "gesso" and toned using earth pigments.

References

Kirtley, Alexandra. 2020. *American Furniture, 1650-1840: Highlights from the Philadelphia Museum of Art*. New Haven: Yale University Press.

Philadelphia Museum of Art. 1976. *Philadelphia: Three Centuries of American Art*. Philadelphia, PA: Philadelphia Museum of Art.

Appendix I: Previous Treatment and Analysis:

N.d.:

- Photocopy of index card in file indicates condition as, "several pieces broken off."
- Card states that the capital was removed from the old First Bank of the United States in 1883.
- Card indicates that there is information on the back side, but a photocopy of the back is not included.

1981:

- New damages noted by Nancy Hughes:
 - Left hand side, front corner top of capital leaves and scroll broken at the glue joint of the outer carving block abutting inner carving block. Outer block warped. Paint buildup and paint penetration at open cracks of joint. Chip out of ovolo element of this detached corner element.
 - Right hand side rear top corner of capital ovolo moulding broken off
 - Chip out ½" x 5/8" left hand side top edge of capital 2" to the rear of the central motif.
 - Chip out ¼" x ¼" at bottom of acanthus leaf, bottom edge of capital.
 - Top edge of capital rear loose ovolo moulding left hand side close to rear division space.
- Treatment performed by Nancy Hughes:
 - Reset large broken piece using hot animal glue; filled gaps caused by warpage using mahogany shims.
 - Reset other loose and broken pieces using hot animal glue.
 - Inpainted raw wood using zinc oxide in McCloskey's Heirloom varnish-semi gloss.
 - Designed storage case and built carrying board for capital.

- Nancy Hughes notes that the capital has been damaged twice since 1976, indicating past treatment

1986-87:

- 7 cross-section samples were taken by Melissa Meighan—six of these mounted cross-sections have been located in the PMA furniture lab, although there are two labeled #2. Cross-sections located as of 1/4/2020 are numbers: 2,2,3,4,6,7. One of the cubes labeled #2 appears to be written over a #1. No records of photomicrographs have been found, but location map exists in object file (Figures 10-12). Cross-sections reported by Cornelis van Horne to consist of up to seven layers, with the earliest sequence on all samples consisting of a slightly yellow layer (possibly an oil-rich ground layer) and a white layer. Several subsequent white layers are reported with varying degrees of grime enclosure.
- Wood substrate determined through visual examination by Cornelis van Horne to be mahogany (*Swietenia* species). Poplar not mentioned.
- Losses to carving noted by Cornelis van Horne:
 - PL side: PL of bottom leaf; PL and proper middle (?) of second leaf; PL top of second leaf; part of the ornamental flower in the middle at the top; chips from top moulding.
 - Front side: top leaf in back partially missing; part of top leaf in front is missing; chunks of top moulding missing.
 - PR side: top of second leaf in the back missing; middle top leaves and scrolls are missing several tips of leaves over the whole surface; parts of the top middle ornament.
- Cracking and paint loss to early layers noted by Cornelis van Horne.
- Treatment:
 - 3/4 before treatment view shows possible site of found fragment with leaf tip missing (Figure 13).
 - Top layer of overpaint removed using proprietary methylene chloride paint by technicians Michael Rasmussen and James Moss.
 - Break surfaces flattened minimally by Hugh Glover in preparation for new wood. Sugar pine was glued to area of loss and carved to shape (Figures 14-15). Loss compensations colored using Liquitex acrylic gesso with matting medium and earth pigments.
 - Noted that new material can be discerned under UV illumination (Figures 16-21).

Appendix II: Images:



Figure 1. Column capital from First Bank of the United States, Philadelphia (1898-177), front view. Image by Jason Wierzbicki.

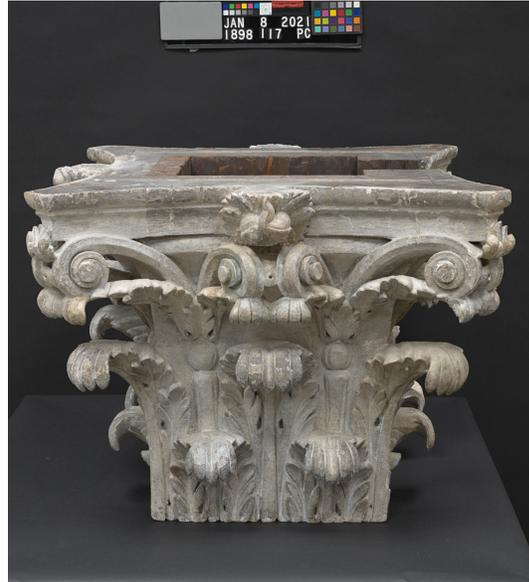


Figure 2. Column capital from First Bank of the United States, Philadelphia (1898-177), PL view. Image by Jason Wierzbicki.



Figure 3. Column capital from First Bank of the United States, Philadelphia (1898-177), back view. Image by Jason Wierzbicki.



Figure 4. Column capital from First Bank of the United States, Philadelphia (1898-177), PR view. Image by Jason Wierzbicki.



Figure 5. Column capital from First Bank of the United States, Philadelphia (1898-177), top view. Image by Jason Wierzbicki.



Figure 6. Found carved mahogany fragment which closely resembles the carved elements of column capital (1898-117), $\frac{3}{4}$ front view. Image by Jason Wierzbicki



Figure 7. Found carved mahogany fragment which closely resembles the carved elements of column capital (1898-117), $\frac{3}{4}$ back view. Image by Jason Wierzbicki



Figures 8-9. Possible original location of found fragment, PR side of column capital (1898-117). Image at right by Jason Wierzbicki.

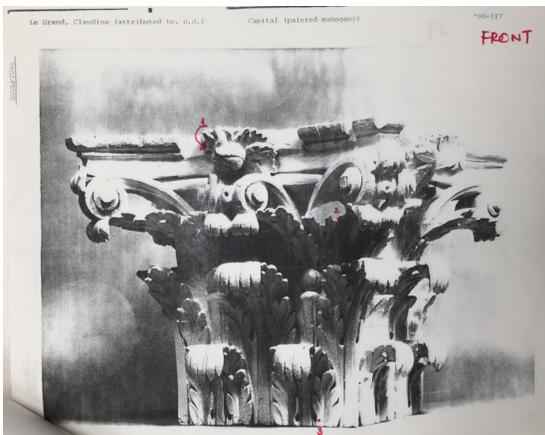


Figure 10. 1986 cross-section sampling sites on column capital (1898-117); samples 1-3.

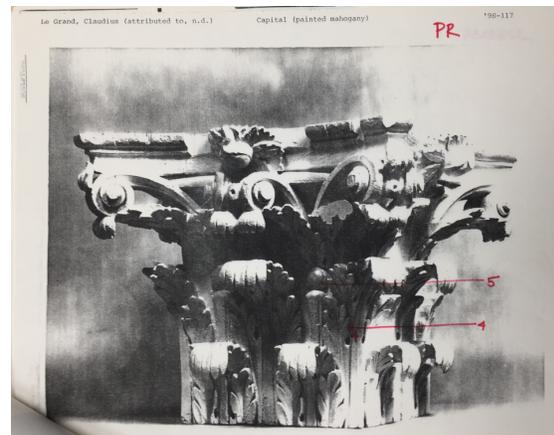


Figure 11. 1986 cross-section sampling sites on column capital (1898-117); samples 4-5.

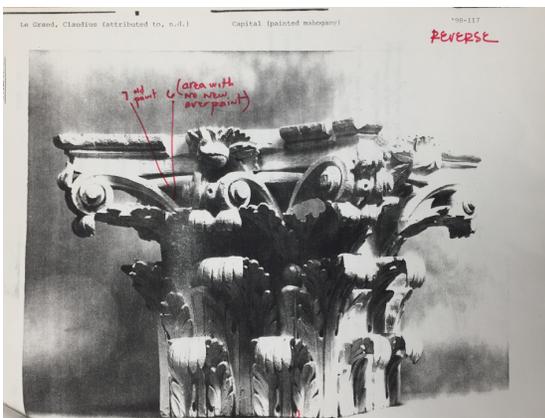


Figure 12. 1986 cross-section sampling sites on column capital (1898-117); samples 6-7.



Figure 13. Column capital (1898-117), before treatment by Hugh Glover. 12/19/1986. Leaf tip at possible location of found fragment had not yet been restored.



Figure 14. Column capital (1898-117) during treatment by Hugh Glover, 1987. Wood for loss compensations on PL side had been adhered but had not yet been carved.



Figure 15. Column capital (1898-117) during treatment by Hugh Glover, 1987. Leaf tip at possible location of found fragment has been restored with new wood.



Figure 16. Column capital (1898-117), front, under UV illumination. Dark areas correspond to restored carving and/ or inpainting. Image by Jason Wierzbicki.



Figure 17. Column capital (1898-117), PR side, under UV illumination. Dark areas correspond to restored carving and/ or inpainting. Image by Jason Wierzbicki.



Figure 18. Column capital (1898-117), back side, under UV illumination. Dark areas correspond to restored carving and/ or inpainting. Image by Jason Wierzbicki.



Figure 19. Column capital (1898-117), PL side, under UV illumination. Dark areas correspond to restored carving and/ or inpainting. Image by Jason Wierzbicki.

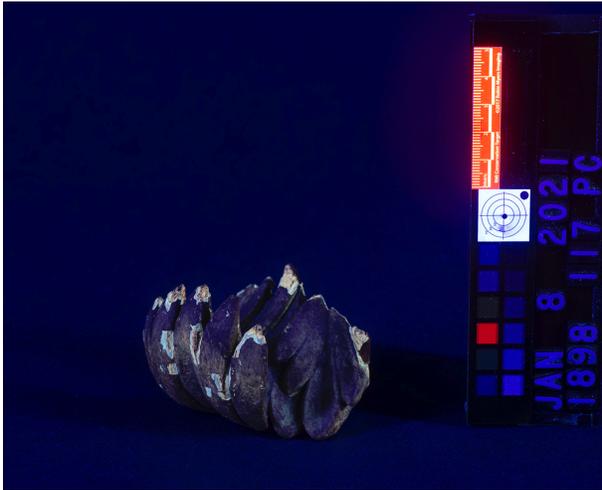


Figure 20. Column capital (1898-117), PL side, under UV illumination. Image by Jason Wierzbicki.

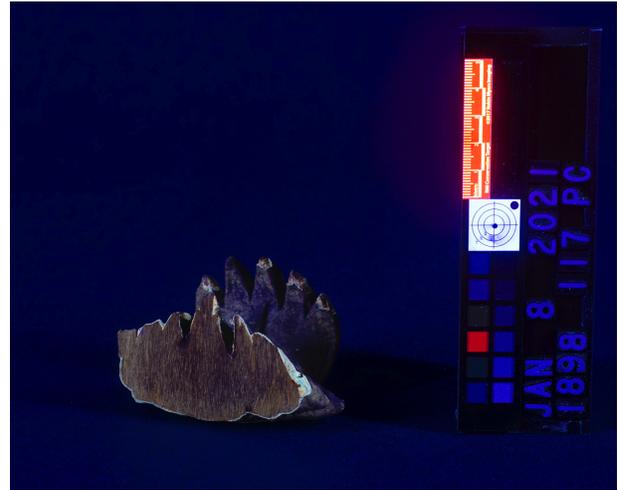


Figure 21. Column capital (1898-117), PL side, under UV illumination. Image by Jason Wierzbicki.

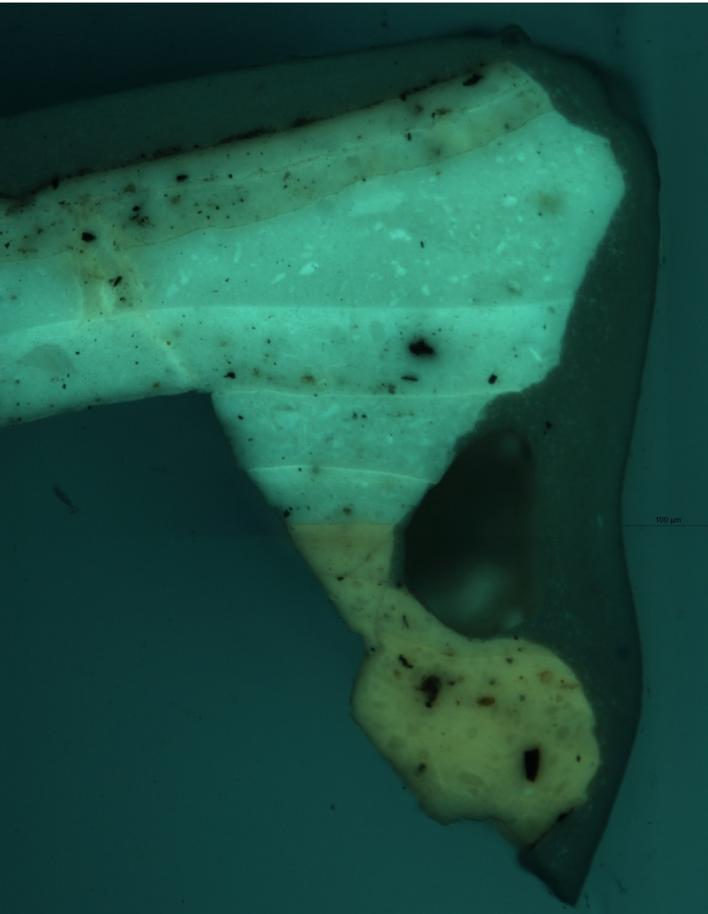
Appendix III: Sample Locations:

Sample ID	Date Taken	Sampled By	Location	Notes
2	12/1986	Melissa Meighan	Front of column capital at site of broken acanthus leaf carving, below carved scroll at PL.	There are two samples labeled "2". Melissa thought that they were probably fragments of the same sample or from the same site.
2a	12/1986	Melissa Meighan	Front of column capital at site of broken acanthus leaf carving, below carved scroll at PL.	
3	12/1986	Melissa Meighan	Front of column capital, bottom PL side of lowest PL acanthus leaf carving.	
4	12/1986	Melissa Meighan	PR side of column capital, lower part of PL acanthus leaf carving in central tier of acanthus carvings, near corner of column.	
6	12/1986	Melissa Meighan	Rear side of column capital, main body of column between two PR scroll forms and below upper moulding. Area with no new overpaint.	
7	12/1986	Melissa Meighan	PR side of column capital, lower part of PL acanthus leaf carving in central tier of acanthus carvings, near corner of column.	
Sample ID	Date Taken	Sampled By	Location	Notes
8	1/25/2021	Jonathan Stevens	Associated fragment: underside of far PR leaf, at back of fragment (adjacent to planed glue surface at back).	
9	1/25/2021	Jonathan Stevens	Associated fragment: interstice between far PL leaf and next leaf at underside (adjacent to planed gluing surface at back).	

10	1/25/2021	Jonathan Stevens	Loss compensation at possible original site of found fragment, PR side of capital. Sample from second leaf from PL of the loss compensation at leaf tip.	
11	1/25/2021	Jonathan Stevens	Loss compensation at possible original site of found fragment (PR side of capital). Sample from interstice of 3 rd and 4 th leaf, on PR of the loss compensation.	
12	1/25/2021	Jonathan Stevens	Loss compensation documented clearly in Hugh Glover's 1987 photos. PL side of capital, central PR volute at top near abutment with flower form at top moulding.	
13	1/25/2021	Jonathan Stevens	One of the loss compensations documented in 1987 photos. PL side of capital. Leaf below central PR volute at top, at junction with original material.	
14	1/25/2021	Jonathan Stevens	Original material of capital. Reverse at PL of rear opening on lowest leaf carving.	

Appendix IV: Photomicrographs:

See following page.



1898-177_2_UV_10x (UV light—10x ocular)



1898-177_2_VIS_10x (UV light—10x ocular)

Top two layers are very finely ground with no dirt accumulation between them. They appear to be modern coatings and may be primer and paint applied in succession. These layers do not have any significant autofluorescence under UV illumination.

Middle eight layers appear white in visible light and have coarsely ground pigment particles. There are accumulations of dirt of varying thickness between many layers and significant accumulation of dirt above top white layer. These layers have a green autofluorescence under UV illumination

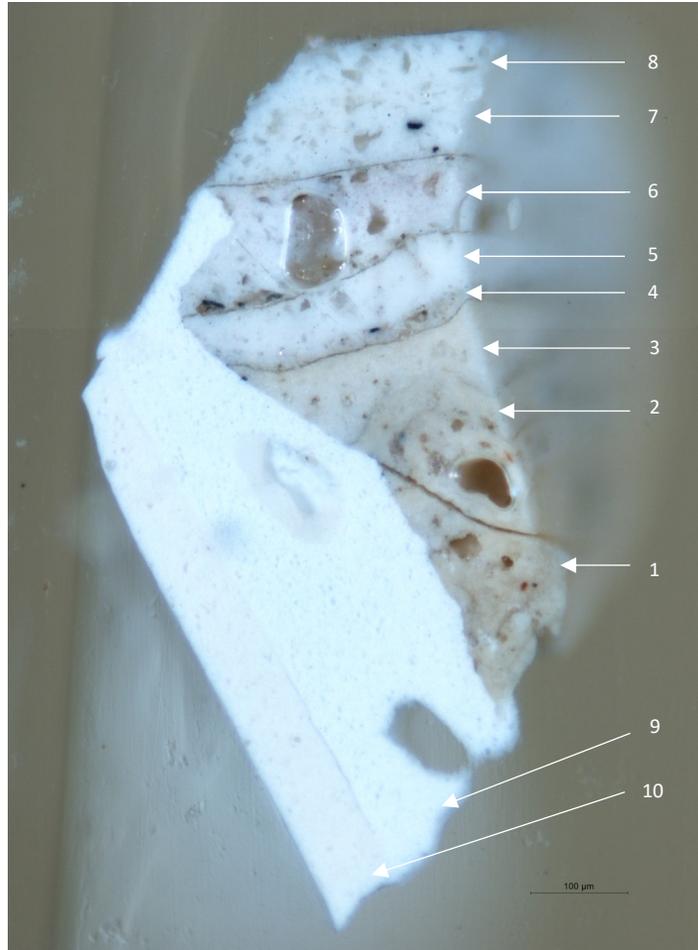
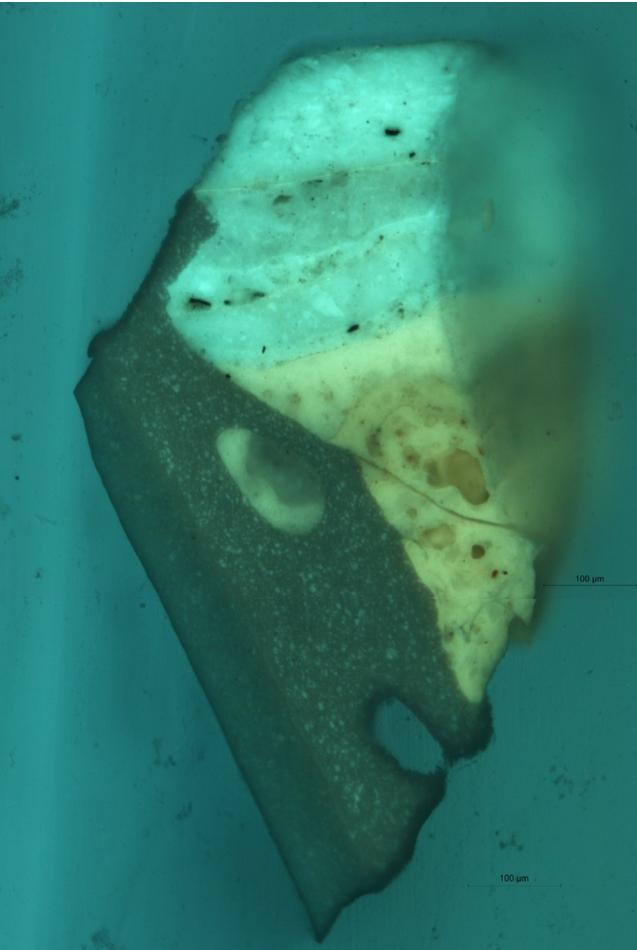
Earliest four layers appear tan/ beige in visible light and have coarsely ground pigment particles. These layers have a yellow autofluorescence under UV illumination, which is often associated with white lead pigment in a linseed oil binder.

Notes: Along with sample 13, this is one of the most complete and clearly articulated samples from the column. It includes at least four early tan/ beige layers, eight white middle layers, and two finely ground modern layers.



Sample # 2
Front of column capital at site of broken acanthus leaf carving, below carved scroll at PL.

Sampled: 12/1986 by Melissa Meighan



Upper four layers appear white in visible light and have coarsely ground pigment particles. There are accumulations of dirt between some layers. These layers have a green autofluorescence under UV illumination.

Earliest three layers appear tan/ beige in visible light and have coarsely ground pigment particles. First layer indicated here is thicker than other layers and difficult to interpret—it may contain multiple layers. These layers have a yellow autofluorescence under UV illumination, which is often associated with white lead pigment in a linseed oil binder.

Finely ground modern coatings with no dirt accumulation between layers; may be primer and paint applied in succession. These layers likely appear along the side of earlier layers because the sample was taken from a break edge that had been painted over. These layers do not have any significant autofluorescence under UV illumination.

Notes: Only four coarsely ground white layers with green autofluorescence. Modern paint likely on the side of sample because sample was taken from area adjacent to break edge that had been painted over.

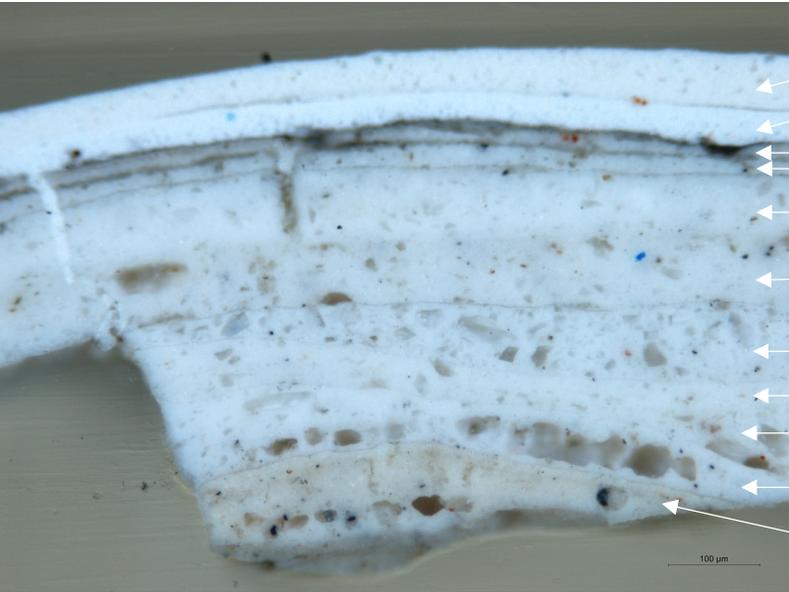


Sample 2a
Front of column capital at site of broken acanthus leaf carving, below carved scroll at PL.

Sampled: 12/1986 by Melissa Meighan

1898-177_2a_UV_10x (UV light—10x ocular)

1898-177_2a_Vis_10x (Visible light—10x ocular)



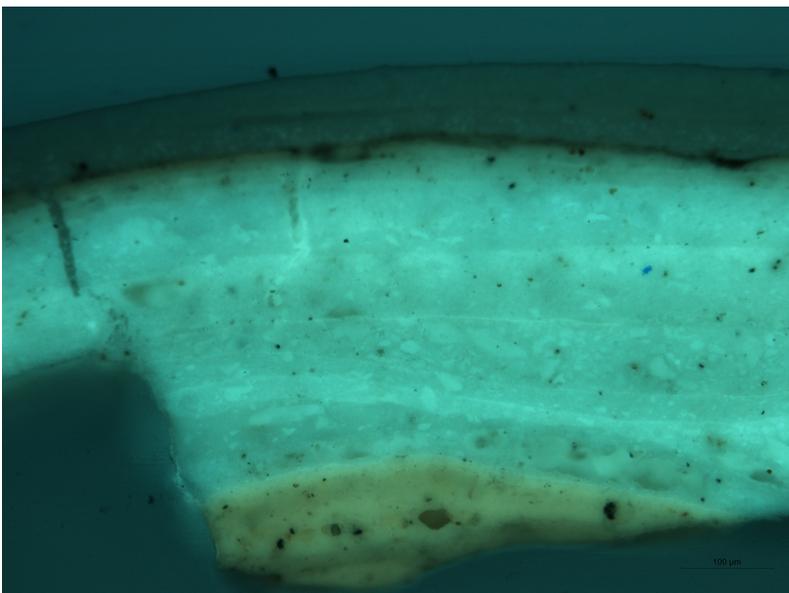
11 } Upper two layers are very finely ground. They appear to be modern coatings and may be primer and paint applied in succession.
 10 } These layers do not have any significant autofluorescence under UV illumination.
 9 }
 8 }
 7 }
 6 } Middle eight layers appear white in visible light and have coarsely ground pigment particles. There are accumulations of dirt of varying thickness between some layers and significant accumulation of dirt above top white layer.
 5 } These layers have a green autofluorescence under UV illumination.
 4 }
 3 }
 2 }
 1 } Earliest layer appears tan/ beige in visible light and has coarsely ground pigment particles.
 This layer has a yellow autofluorescence under UV illumination, which is often associated with white lead pigment in a linseed oil binder.



Sample 3
 Front of column capital,
 bottom PL side of lowest PL
 acanthus leaf carving.

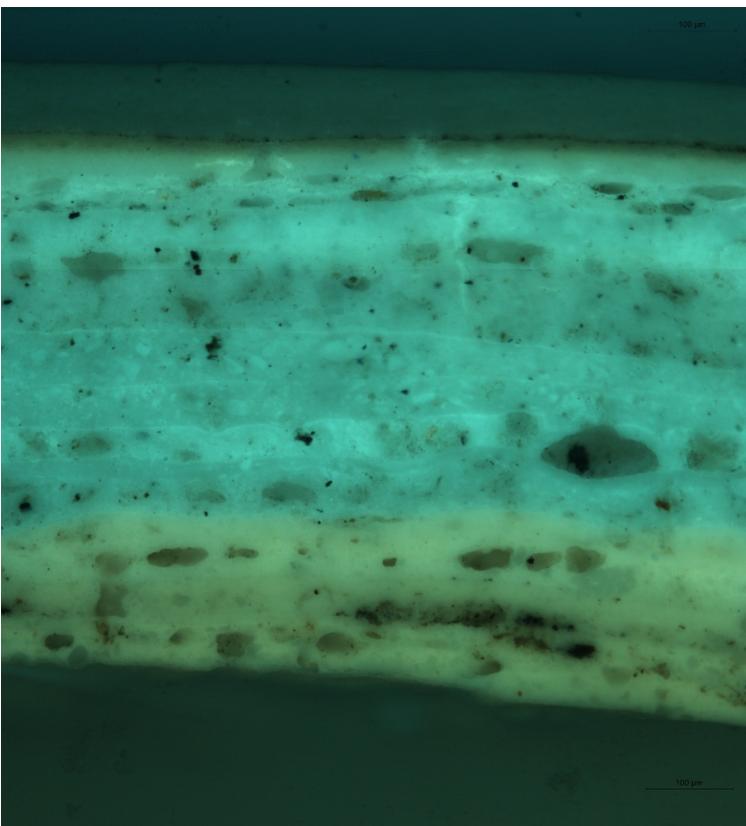
 Sampled: 12/1986 by Melissa
 Meighan

1898-177_3_Vis_10x (Visible light—10x ocular)

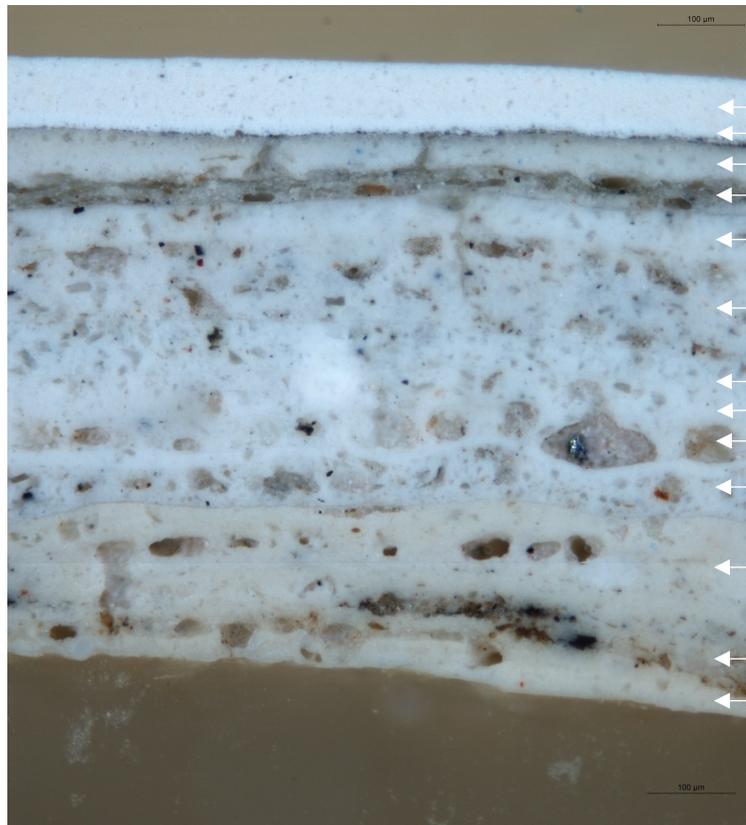


1898-177_3_UV_10x (UV light—10x ocular)

Notes: All eight coarsely ground white layers are present, but fewer early tan/beige layers are present than in some other samples. There is relatively little dirt accumulation between layers, with the exception of the upper three white layers.



1898-177_4_UV_10x (UV light—10x ocular)



1898-177_4_Vis_10x (Visible light—10x ocular)

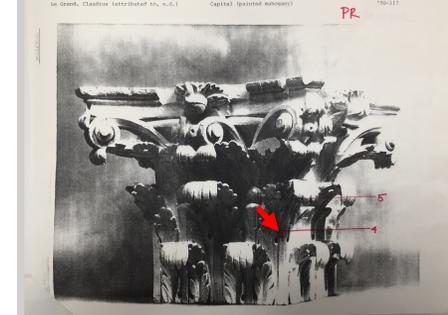
Top two layers are very finely ground with no dirt accumulation between them. They appear to be modern coatings and may be primer and paint applied in succession.

These layers do not have any significant autofluorescence under UV illumination

Next eight layers appear white in visible light and have coarsely ground pigment particles. There are accumulations of dirt of varying thickness between layers and significant accumulation of dirt above top white layer. These layers have a green autofluorescence under UV illumination

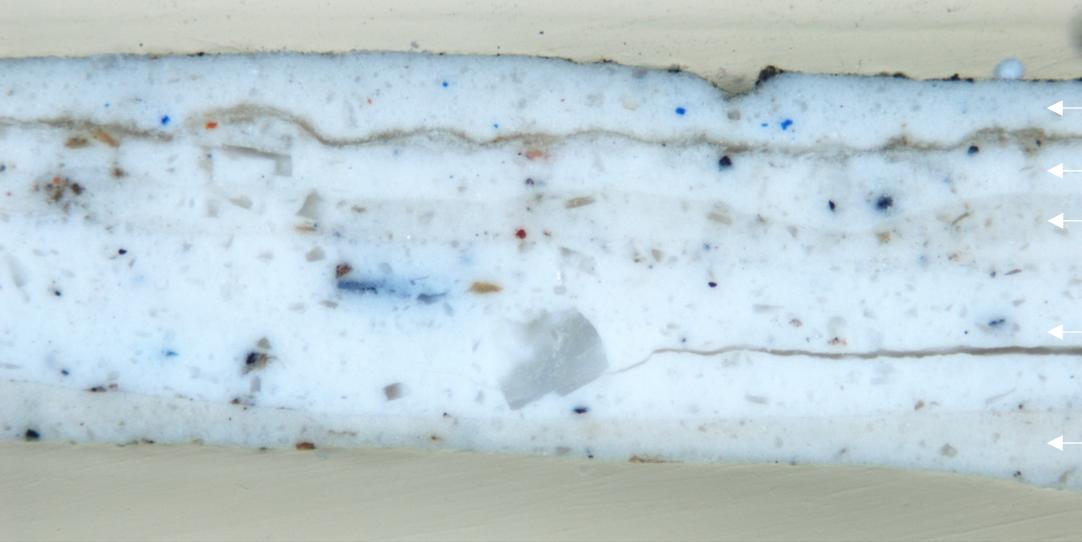
Earliest three layers appear tan/ beige in visible light and have coarsely ground pigment particles. These layers have a yellow autofluorescence under UV illumination, which is often associated with white lead pigment in a linseed oil binder.

Notes: All eight coarsely ground white layers appear to be present, although some are difficult to distinguish. Of all of the samples from the original material of the capital, this one corresponds the closest with sample from associated fragment (Sample 7—see comparison page below). Large clustered dark inclusions in earliest layer.



Sample 4
PR side of column capital,
lower part of PL acanthus leaf
carving in central tier of
acanthus carvings, near corner
of column.

Sampled: 12/1986 by Melissa
Meighan

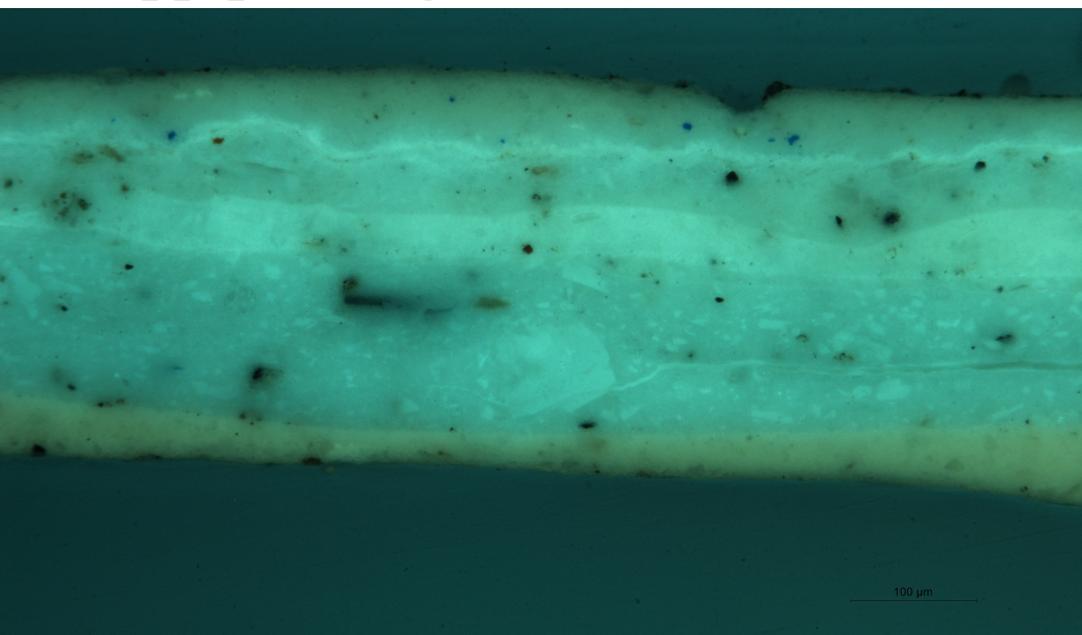


5
4
3
2
1

Four upper layers appear white in visible light and have coarsely ground pigment particles. There is relatively little accumulation of dirt between layers and significant accumulation of dirt above top white layer. There are no finely ground modern coatings above these layers in this sample. These layers have a green autofluorescence under UV illumination.

Earliest layer appears tan/ beige in visible light and has coarsely ground pigment particles. This layer has a yellow autofluorescence under UV illumination, which is often associated with white lead pigment in a linseed oil binder.

1898-177_6_Vis_10x (Visible light—10x ocular)



1898-177_6_UV_10x (UV light—10x ocular)

Notes: Only one early beige/ tan layer and four white layers present. Very little dirt accumulation between layers.



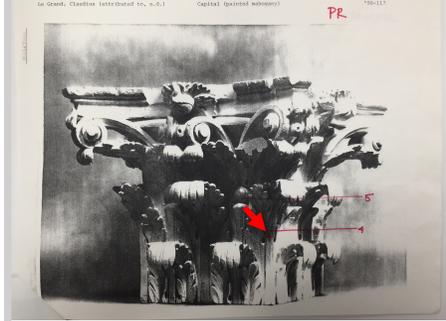
Sample 6
Rear side of column capital, main body of column between two PR scroll forms and below upper moulding. Area with no new overpaint. Image above does not appear to actually show the reverse of the column, which has an opening at the center.

Sampled: 12/1986 by Melissa Meighan



Four upper layers appear white in visible light and have coarsely ground pigment particles. There is relatively little accumulation of dirt between layers or above top layer. There are no finely ground modern coatings above these layers in this sample. These layers have a green autofluorescence under UV illumination.

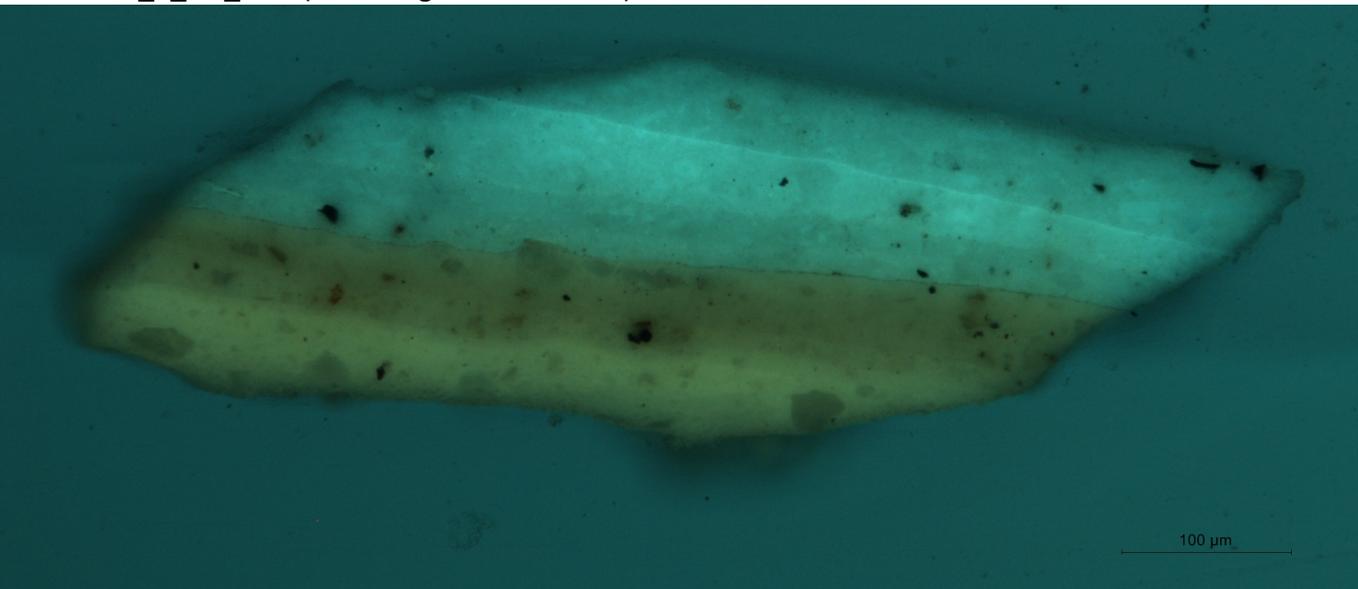
Earliest two layers appear tan/ beige in visible light and have coarsely ground pigment particles. There appears to be an accumulation of dirt above the top tan/ beige layer. These layers have a yellow autofluorescence under UV illumination, which is often associated with white lead pigment in a linseed oil binder.



Sample 7
PR side of column capital, lower part of PL acanthus leaf carving in central tier of acanthus carvings, near corner of column.

Sampled: 12/1986 by Melissa Meighan

1898-177_7_Vis_10x (Visible light—10x ocular)



Notes: Early tan/ beige layers are difficult to distinguish; there appear to be at least two. Overall, very little dirt accumulation between layers but there is more between tan/ beige early layers and white layers than is seen on many of the other samples.

1898-177_7_UV_10x (UV light—10x ocular)



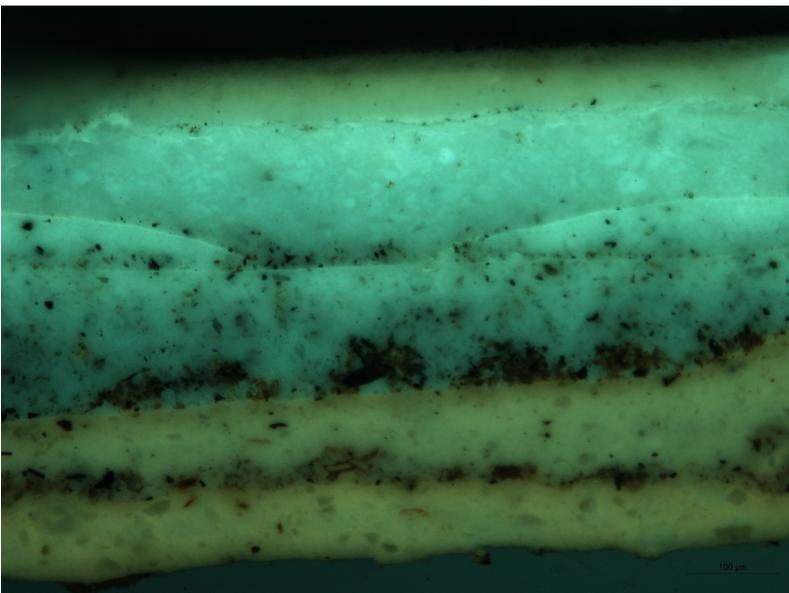
6
5
4
3
2
1

Four upper layers appear white in visible light and have coarsely ground pigment particles. There are accumulations of dirt of varying thickness between many of these layers. There are no finely ground modern coatings above these layers in this sample. The lowest white layer contains large black inclusions clustered with some reddish particles. These layers have a green autofluorescence under UV illumination. The inclusions appear dark under UV illumination.

Earliest two layers appear tan/ beige in visible light and have coarsely ground pigment particles. There are inclusions of large black and brown particles in clusters between the two layers. These layers have a yellow autofluorescence under UV illumination, which is often associated with white lead pigment in a linseed oil binder. The inclusions appear dark under UV illumination.

100 µm

1898-177_8_Vis_10x (Visible light—10x ocular)



1898-177_8_UV_10x (UV light—10x ocular)

Notes: Large clustered inclusions in first white layer. This layer also appears dirtier and has greater density of dark particles than is seen on many of the other samples. There are also inclusions between early tan/ beige layers. Corresponds well with sample 4, which was taken from the original material of the column (see comparison page below).



Sample 8
Associated fragment:
underside of far PR leaf, at
back of fragment (adjacent to
planed glue surface at back).

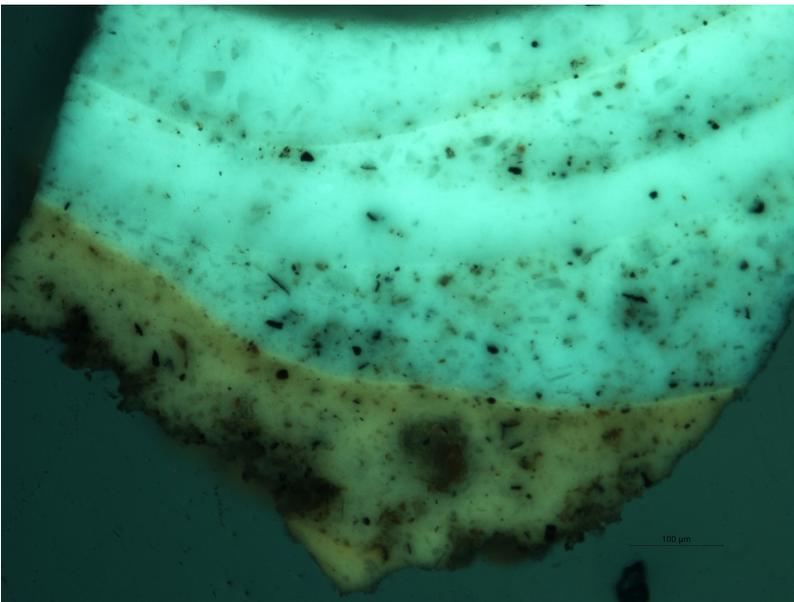
Sampled: 1/25/2021 by
Jonathan Stevens



Four upper layers appear white in visible light and generally have coarsely ground pigment particles. There is relatively little accumulation of dirt between layers or above top layer. There are no finely ground modern coatings above these layers in this sample. These layers have a green autofluorescence under UV illumination

Earliest layer appears tan/ beige in visible light and has coarsely ground pigment particles. There are large black inclusions within the layer in clusters along with some reddish particles. This layer has a yellow autofluorescence under UV illumination, which is often associated with white lead pigment in a linseed oil binder. The inclusions appear dark under UV illumination.

1898-177_9_Vis_10x (Visible light—10x ocular)



1898-177_9_UV_10x (UV light—10x ocular)

Notes: Large clustered inclusions in early tan/ beige layer. Inclusions are black with some red particles and do not have any autofluorescence; they could be iron particles (could be confirmed by SEM-EDX elemental mapping). Upper white layers have greater density of particles and darker, more jagged particles than many of the samples taken from the original material of the capital. The fourth white/ grey layer in this sample (layer 5), does however seem to correspond with the fourth white/ grey layer in several of several samples taken from the capital. See comparison page, below.



Sample 9
Associated fragment:
interstice between far PL leaf
and next leaf at underside
(adjacent to planed gluing
surface at back).

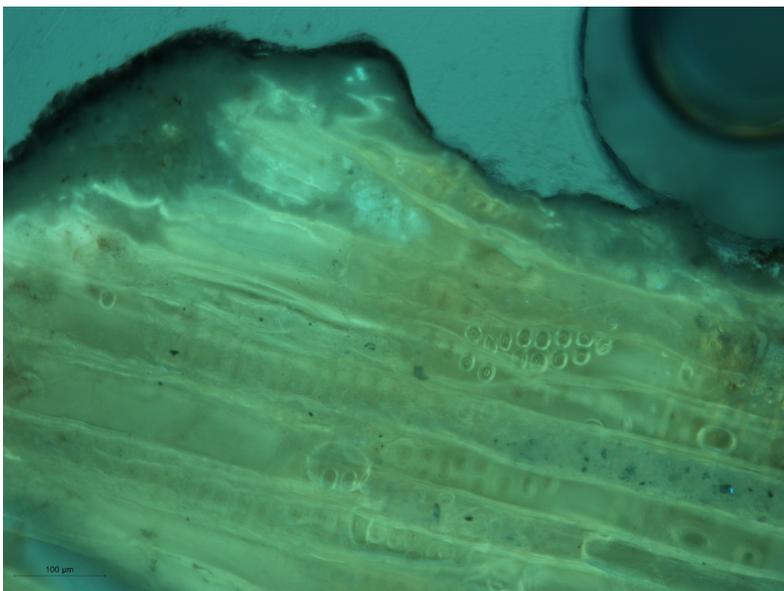
Sampled: 1/25/2021 by
Jonathan Stevens



Finely ground white layer thickly applied, with thin coarser and darker layer applied on top. Consistent with acrylic gesso below earth pigment toning layer described by Glover in 1987 loss compensation treatment. No significant autofluorescence under UV illumination.

Wood fibers

1898-177_10_Vis_10x (Visible light—10x ocular)



1898-177_10_UV_10x (UV light—10x ocular)

Notes: Appears to correspond well with Hugh Glover’s 1987 documentation of white acrylic “gesso” with earth pigment toning layer on the loss compensations that he implemented.



Sample 10

Loss compensation at possible original site of found fragment, PR side of capital. Sample from second leaf from PL of the loss compensation at leaf tip.

Sampled: 1/25/2021 by Jonathan Stevens



Finely ground white layer thickly applied, with thin coarser and darker layer applied on top. Consistent with acrylic gesso below earth pigment toning layer described by Glover in 1987 loss compensation treatment. Large blue particles are likely abrasive from polishing samples. No significant autofluorescence under UV illumination.

1898-177_11_Vis_10x (Visible light—10x ocular)



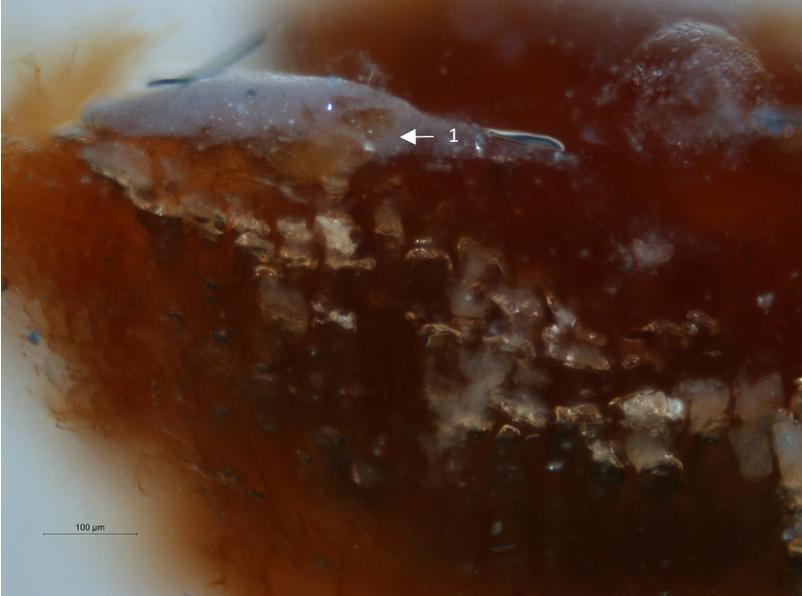
1898-177_11_UV_10x (UV light—10x ocular)

Notes: Appears to correspond well with Hugh Glover’s 1987 documentation of white acrylic “gesso” earth pigment toning layer on the loss compensations that he implemented.

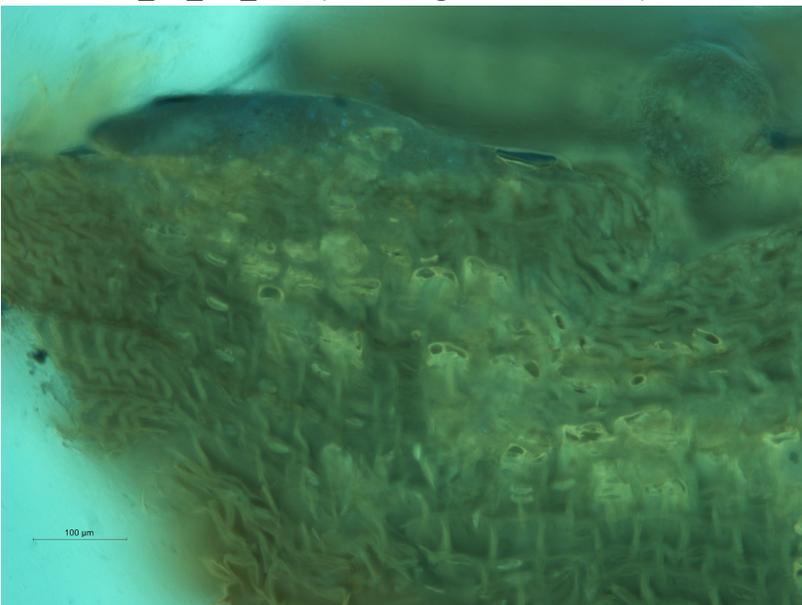


Sample 11
Loss compensation at possible original site of found fragment (PR side of capital). Sample from interstice of 3rd and 4th leaf, on PR of the loss compensation.

Sampled: 1/25/2021 by Jonathan Stevens



1898-177_12_Vis_10x (Visible light—10x ocular)



1898-177_12_UV_10x (UV light—10x ocular)

Finely ground white layer, thickly applied. Consistent with acrylic gesso described by Glover in 1987 loss compensation treatment.
 No significant autofluorescence under UV illumination.

Wood fibers.

Notes: Appears to correspond well with Hugh Glover’s 1987 documentation of white acrylic “gesso” on the loss compensations that he implemented. There doesn’t appear to be an earth pigment toning layer present in this sample.



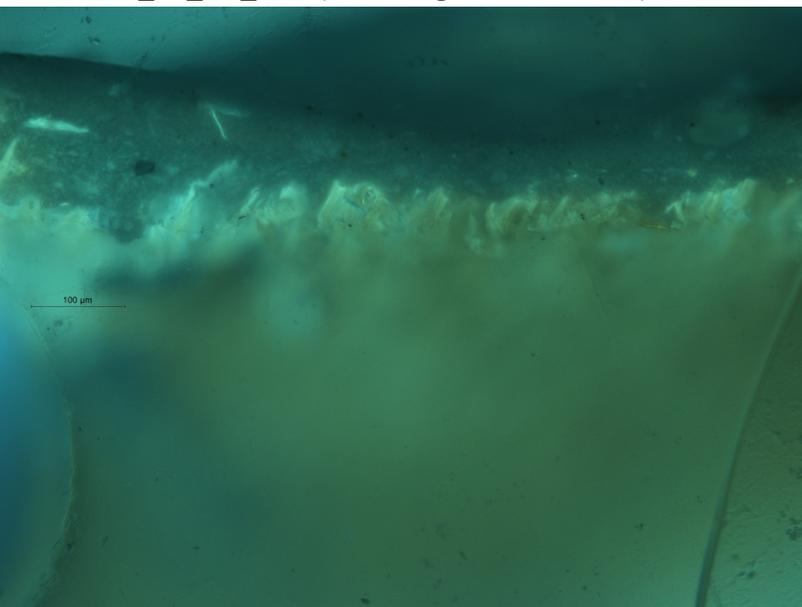
Sample 12
 Loss compensation documented clearly in Hugh Glover’s 1987 photos. PL side of capital, central PR volute at top near abutment with flower form at top moulding.

Sampled: 1/25/2021 by Jonathan Stevens



Finely ground white layer, thickly applied. Consistent with acrylic gesso described by Glover in 1987 loss compensation treatment.
No significant autofluorescence under UV illumination.

1898-177_13_Vis_10x (Visible light—10x ocular)



1898-177_13_UV_10x (UV light—10x ocular)

Notes: Appears to correspond well with Hugh Glover’s 1987 documentation of white acrylic “gesso” on the loss compensations that he implemented. There doesn’t appear to be an earth pigment toning layer present in this sample. Visible light image appears to be somewhat out of focus and is difficult to interpret.



Sample 13

One of the loss compensations documented in 1987 photos. PL side of capital. Leaf below central PR volute at top, at junction with original material.

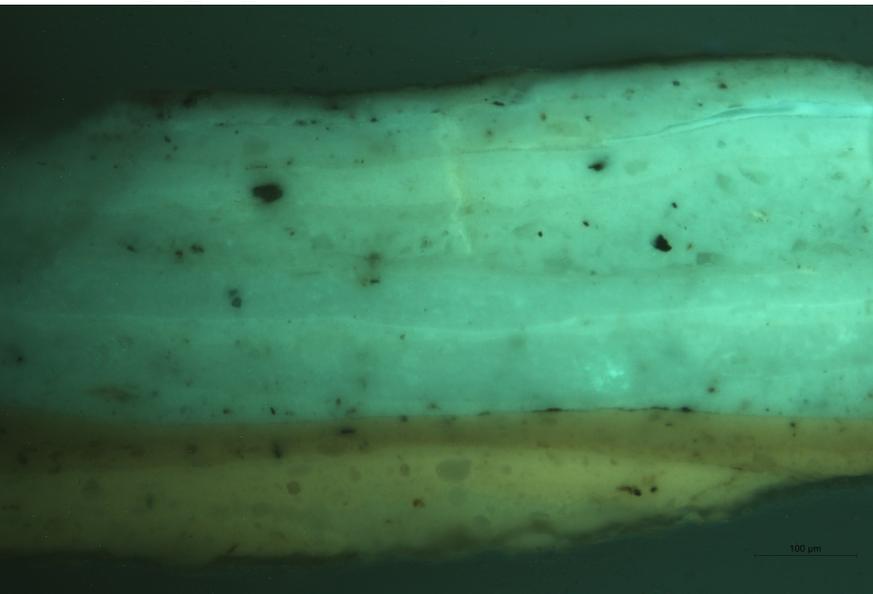
Sampled: 1/25/2021 by Jonathan Stevens



Upper eight layers appear white in visible light and have coarsely ground pigment particles. There are accumulations of dirt of varying thickness between many layers and significant accumulation of dirt above top white layer. These layers have a green autofluorescence under UV illumination

Earliest five layers appear tan/ beige in visible light and have coarsely ground pigment particles. These layers have a yellow autofluorescence under UV illumination, which is often associated with white lead pigment in a linseed oil binder.

1898-177_14_Vis_10x (Visible light—10x ocular)



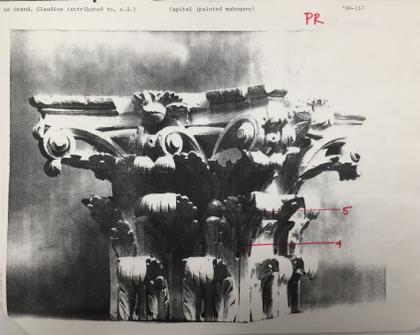
1898-177_14_UV_10x (UV light—10x ocular)



Sample 14
Original material of capital.
Reverse at PL of rear opening
on lowest leaf carving.

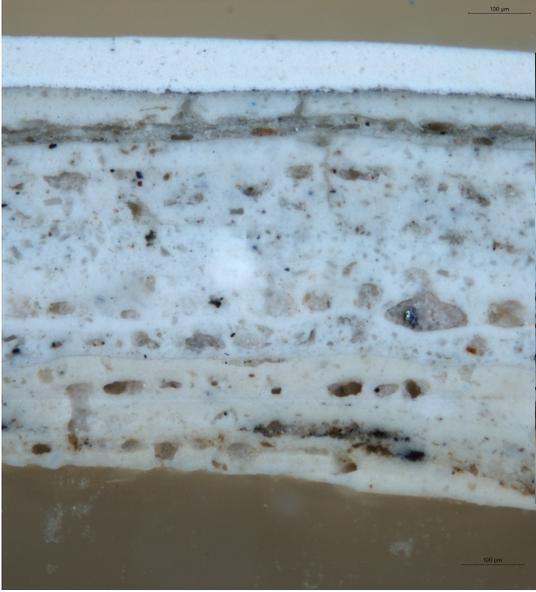
Sampled: 1/25/2021 by
Jonathan Stevens

Notes: Along with sample 2, this is one of the most complete and clearly articulated samples. Includes five early tan/ beige layers and eight coarsely ground white layers. There are no finely ground modern layers present.



Sample 4
PR side of column capital,
lower part of PL acanthus leaf
carving in central tier of
acanthus carvings, near corner
of column.

Sampled: 12/1986 by Melissa
Meighan



1898-177_4_Vis_10x
(Visible light—10x ocular)



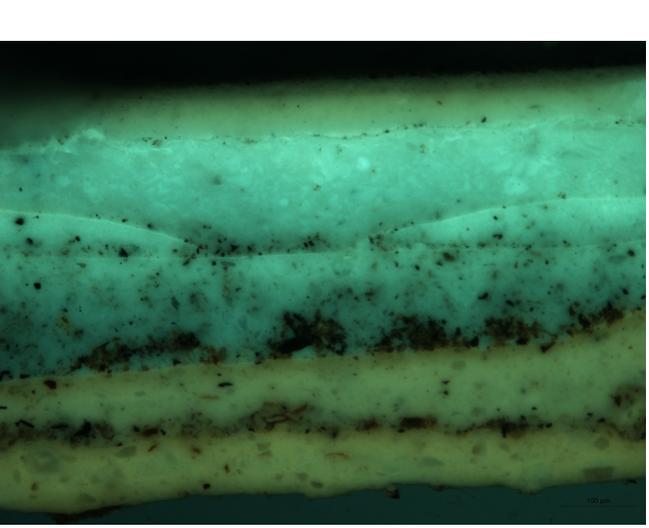
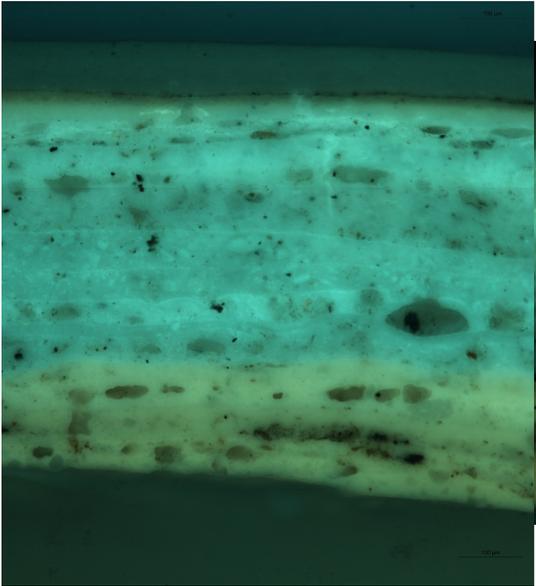
1898-177_8_Vis_10x (Visible light—10x ocular)



Sample 8
Associated fragment:
underside of far PR leaf, at
back of fragment (adjacent to
planed glue surface at back).

Sampled: 1/25/2021 by
Jonathan Stevens

1898-177_4_UV_10x
(UV light—10x ocular)



1898-177_8_UV_10x (UV light—10x ocular)

Comparison of sample from original material of capital to sample from associated fragment.

Notes: These two samples correspond closely, including the presence of more dirt or dark particles across the various layers than is seen on most of the other samples from the original material of the column. Dark inclusions are also present between early layers on both samples. (Samples are shown in slightly different scales to illustrate correspondence of layers more clearly).

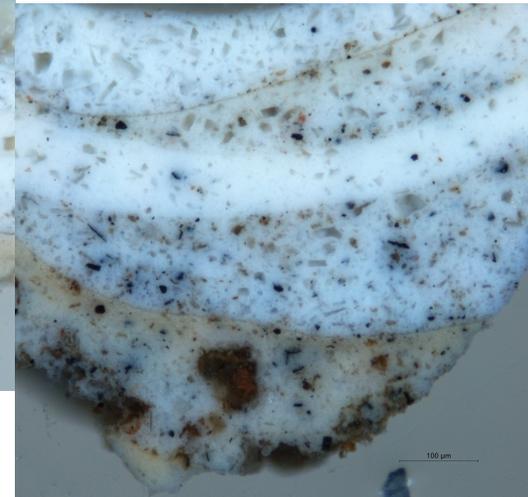


Sample 14
Original material of capital.
Reverse at PL of rear opening
on lowest leaf carving.

Sampled: 1/25/2021 by
Jonathan Stevens



1898-177_14_Vis_10x (Visible light—10x ocular)

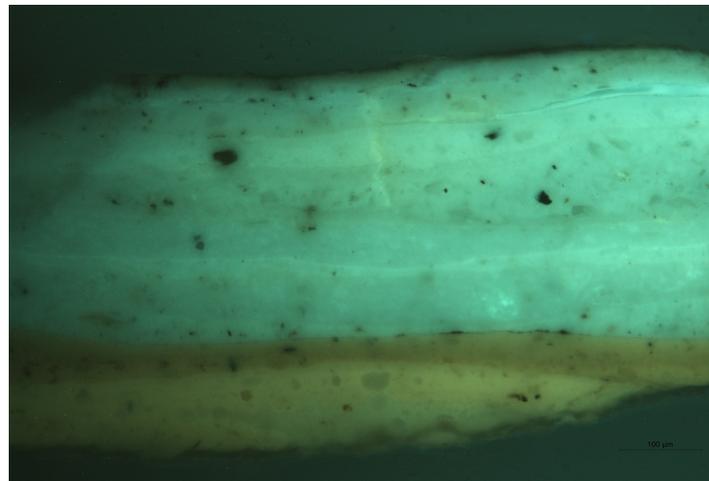


1898-177_9_Vis_10x (Visible light—10x ocular)

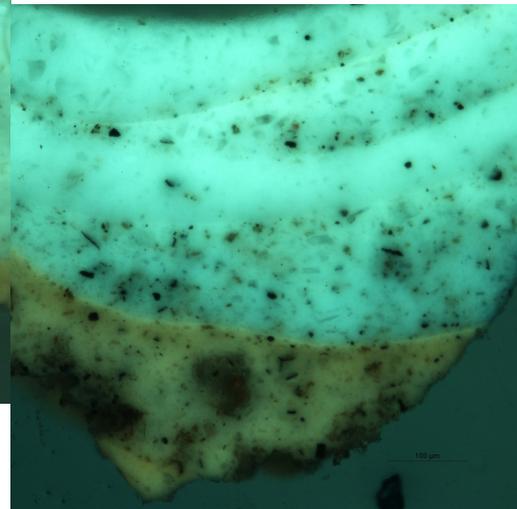


Sample 9
Associated fragment:
interstice between far PL leaf
and next leaf at underside
(adjacent to planed gluing
surface at back).

Sampled: 1/25/2021 by
Jonathan Stevens



1898-177_14_UV_10x (UV light—10x ocular)



1898-177_9_UV_10x (UV light—10x ocular)

**Comparison of sample from original material of capital to
sample from associated fragment.**

Notes: Sample 9 (from associated fragment) at first appears somewhat anomalous because of thick layers with dense particle concentration. Several of the coarsely ground white layers do appear to correspond with layers found on samples taken from the original material of the capital. Especially the fourth white layer, which has a relatively even distribution of jagged translucent particles, has counterparts in the fourth white layer found on samples taken from the original material of the capital. In the comparison shown above, the first and second white layers also appear to correspond.