

East Courtroom,
Old Courthouse
Jefferson National Expansion Memorial
St. Louis Missouri

Paint & Finish Analysis
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prepared for
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St. Louis Missouri

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Introduction

This finishes analysis report has been prepared in response to contract #P11PC61853, regarding historic paint and finish layers on interior painted surfaces of the historic East Courtroom (Circuit Court #13) in the Old Courthouse, Jefferson National Expansion Monument, St. Louis Missouri.

Tasks included review of archival documentation on the construction history of the room, on-site paint investigation, extraction of paint samples, microscopic examination of samples to document the historic paint layer sequence for each sample location, Munsell color notation for historic paint finish layers, and resolution of the target 1903/1910 period finishes with color rendering.

The stated goal for this project is to provide a comprehensive paint and finishes analysis for the historic painted surfaces of this courtroom, with the specific aim of identifying the paint or color scheme most closely associated with the period after 1903 as represented by available historic photo documentation.

Historical Background¹

1852 to 1865

The east wing of the Old Courthouse was constructed between 1852 and 1856. Much of the finish painting within the Courthouse new east wing during the mid-1850s was done by M.L. Julian, whose contractual agreement with the County in May 1855 bound him to do all “knotting, stopping, painting, varnishing and glazing” for the east wing. All materials, “except glass” were to be included in his scope of work, as directed by the Architect. Julian's fee schedule attached to the contract includes line items for painting in “plain tints,” oak graining, fine oak graining, copal varnishing, siena, black or grey marbling, as well as “coats of sand.” In November 1855 plasterer Patrick Gregory was paid \$500 for plastering of the east wing, and in May 1856 Julian was paid \$200 for his services.

In July 1856 the courtroom was described as unfinished in a newspaper article, but was anticipated to be “the most beautiful room in the building..” In October of that year, the Court of Common Pleas took temporary possession of the unfinished room.

In 1865 a petition was circulated to have the room cleaned and painted:

“The petition of the Hon. J. C. Moody of the Circuit Court to your honorable body, in relation to the ‘needed cleaning & painting’ in his court room, would respectfully report that the same is in need of cleaning only by washing down the walls & ceiling and other wood work be a proper person, also the better keeping in proper condition the floor matting, and washing the floor to cleanse the same. One of the principal objects in fresco painting the walls of these court rooms was that the same might be easily [sic] cleansed by washing without injury to the paint or walls, and present a new room when so cleansed. I would also remark that the Stoves are the principal cause of the walls being in their present condition either

¹ This historical synopsis related to the East Courtroom is culled from archival research presented in the Historic Furnishings Report for the Old Courthouse, prepared by Sarah H. Heald in 2006.

from the smallness of the flues, or the winds when in certain directions, causing almost continual smoking in the rooms.

. . . The heating of the building by Steam is an improvement which should be made; the stoves now used for that purpose not only blacken the frescoed walls, and ceilings, and annoy the Court, but are insufficient to heat the rooms; this mode of heating by stoves, belongs to the past. The present time would be best to prepare this work, as it could be put up while the courts adjourn.”

This petition was approved in February 1865.

Further, from a May 1870 petition:

“In Court Room No. 1 [220] being the old Circuit Court Room a skylight and ventilator above the chandelier, - a skylight will save the County in gas bills – (now absolutely necessarily incurred) its cost within a few years –”

1870 to 1900

Remodeling of the courtroom was documented in 1869-70 in response to the dark conditions in the room. The ceiling laylight was added at this time, replacing a previous ventilator shaft, and “flues” punched through to ventilate the jury room. Work at the ceiling is described as “eye of the dome enlarged, wrought iron skylights, frescoed sub-dome.”

October 1870:

“The old ventilators over the courtrooms are taken out and the eye of the domes covering these courts are enlarged and wrought iron skylights placed over them, and the sub-domes underneath reflecting rays of light directly down into the court-rooms below; and over the lawyers’ desks. These sub-domes are a very handsome feature in the courts and are tastefully frescoed.”

The judge's bench was changed “in both position and form.” It is suspected that the bench was originally on the North wall in the 1850s, and was moved to the East wall in 1870. A floorplan dating to 1899 shows the bench located on the East wall.

In 1880, renovations underway forced the court to temporarily relocate.

By 1891, there is an order for cleaning of the wallpaper in the room.

1903 to 1930s

The bench was moved “from the east side” in 1903, and the bench and/or platform enlarged from its 1899 footprint. No other renovations were documented, though by 1900, there was electric lighting. Roller shades were added for the windows, suggesting that by then there was plenty of light in the room.

A floorplan attributed to 1903-09 shows a curved partition wall on west side of the room, north of the entry, mirroring the curved wall on the east side. This wall does not appear on the 1899 floorplan, nor in photographs from 1911-14.



Two photographs exist of the East Courtroom, one dated 1911 but disputed to be 1914,² and the other undated, but within the same general timeframe based on the configuration and appearance of the room, and the quality of the photograph. These photographs show a hierarchy of wall treatment, with a dado area distinct from the wall field, delineated by a thin molding or painted treatment. A peg rail appears on sections of the east and west walls, at a level slightly higher than the dado treatment. The tone of the painted column capitals in the photos appears somewhat lighter than the column shafts. The window openings are devoid of surround trim. A spectator gallery was located on the south wall and wrapped around to the west wall, apparently with a riser platform and railing.

In 1912 new window sash were installed.

The 1936 HABS survey describes the room as follows: “floor of Vermont white marble, partly covered with linoleum, ... roller shades, Lincrusta wallpaper, crude wainscoting.” The courts had moved out of the building by 1930. The National Park Service acquired the site in 1940 and began renovations.

1950s to present

Beginning in 1954, National Park Service undertook a major renovation of the room. At this time, gilded Lincrusta wallcovering was found in the laylight dome. It was removed, to reveal “3-color Classical designed panels on the light-dome thought to date to 1854.” The glue on the back of the Lincrusta pulled off most of the decoration. The pattern was reproduced by local painter Charles Morgenthaler.

² April 3, 1911 fell on a Monday; April 3, 1914 fell on a Friday. However if this photograph represents a re-enactment, the calendar shown on the wall in the photo may not necessarily reflect the date the photo was taken. April 3, 1857, in fact, fell on a Friday.

Removals in the 1950s were of anything believed to post-date the 1870s renovations. Notes include removal of “high tongue-and-groove wainscot with hooks on the west wall; found beneath wainscot that the wall had originally been plastered and decorated.”

“In March, 1954 work was begun on the Oval Courtroom in the East Wing. . . . Along the west wall a high wainscot of tongue-and-groove boards had been put in place, with the hooks for hats and coats. By taking a crowbar and prying off some of the boards, it was discovered that the wall behind had originally been plastered and decorated, and that the original stone base extended all along that side of the room. Therefore we removed the crude wainscotting. . . . In the center of the ceiling there is a light well, or inner dome, and the lining of that space was covered with a crinkled, heavy material, similar to linoleum, which had been gilded. Judge Thomas C. Hennings, the oldest of the living judges who at one time or other sat in this room, told us that the trade name of the materials was “Lincrusta” and that it was widely used in public buildings, churches, and even in pretentious residences between 1890 and 1900. Since we knew that an extensive program of alteration and redecoration had taken place in the Courthouse in 1894, we assumed that this gilded material had been put in place then. It was loose in several places, and came off readily, but the glue on the back of it pulled off most of an interesting series of panels in Classic design, in three colors, that had been under the Lincrusta, and which we felt sure was original work of 1854. By piecing together fragments from the different panels, we were able to work out a complete pattern for the entire opening. Charles Morgenthaler, a St. Louis artist, was engaged to decorate the interior of this light dome in the original pattern and coloring.

For the walls in this room a purplish red was chosen while the cornice and the columns were done in a flat white, with sparse use of gold in the column caps. The color of the walls was one that was often called “crushed strawberry” during the middle of the Nineteenth Century, especially in the decorating of the National Capitol in Washington.”

Also a “new ceiling of acoustical plaster” was installed, as were reproduction window sash.

A photograph of the East Courtroom dated 1956 shows the room finished in tones very similar to what exists today, though the column capitals had not been “tipped” (accented with metallic powder paints), only the lower capital band appears to have been picked out.

In 1979 a paint analysis was done for the East Courtroom based on limited scrapings of a column shaft, column base, wood trim within the secondary rooms, and plaster walls. In 1986, plaster repairs and repainting are documented.

The last recorded re-painting of the room was done in 2003. A comprehensive paint study was undertaken for the West Courtroom in 2005, which included a cursory look at 5 samples from the East Courtroom. In context, however, the West Courtroom pre-dates the construction of the east wing and East Courtroom.

Paint Analysis: Executive Summary

The paint finish histories which survive in the East Courtroom reflect a vibrant history of decorating. Despite radical removals and demolition which took place in this room during the 20th century, evidence has been preserved undisturbed to allow for at least partial reconstruction of the room's appearance through history and at various significant points in time. A scientific approach to the examination of the physical fabric recovered from the room, combined with insights gleaned from documentation in the archives as well as careful inspection of lingering features of the room surfaces all dovetail to add a new layer of understanding to the use, changes, and history of the room, as well as to the decorating tastes of those who occupied it.

While the complete finishing histories are somewhat disrupted, and evidence on some surfaces has been lost to us completely and permanently, the findings of this report show that evidence remains to allow for at least a referential interpretation of the room's appearance when first completed in 1856 (and potentially during the Dred Scott proceeding of 1857), as well as circa 1909, and potentially during other intervening years and construction events. Ultimately, however, inadequate physical evidence remains to allow a complete presentation of the room appearance at any point in its history prior to the 1950s.

This study presents the findings of a comprehensive yet defined paint study for the room, utilizing the investigative methods, both on-site and in the lab, appropriate for the stated goal. As outlined in the Recommendations section of the report, further research and/or analysis may be appropriate to further pursue the findings and new discoveries presented.

Organization

The report is organized in three main sections, as follows. In the first section, investigative methodologies are outlined, followed by a second section with the raw documentation of locations sampled as typical, along with fully recorded paint layer stratigraphies with color matches. For the purposes of documentation, representative areas of the room's architectural features have been defined as study areas A through E, as well as P for the plaster walls, and X for the fragmentary evidence collected as loose debris.

In the third, summary section of the report, the paint histories as revealed in the samples are more carefully examined and interpreted, area by area, with specific attention to the variations in the paint chronologies as related to known construction events. This section is concluded by a distillation of the findings chronologically, to present an overview of the historic finishes in the room as a whole during the most significant points in its history.

Paint Analysis Methodologies

Site Sampling & Investigation

Paint samples and fragments were extracted or collected from the site based on site investigation in September and October 2011. Room surfaces were carefully surveyed, utilizing rolling scaffold along the room's perimeter and to access the laylight dome. Locations for samples were selected as representative of each primary architectural element in the room, taking into consideration known alterations or additions. In areas of prior repairs or alterations, samples represent a survey of surfaces within the room. Samples were extracted from accessible elements using a 1/8" wood chisel, 1/4" core drill or precision knife blade and measure, on average, 1/4" in diameter. All existing layers as well as substrate material are included in each extracted sample. For the ferrous metal of column capitals and bases, samples do not include substrate, but retain the impression of the iron surface to serve to orient the sample. As samples were removed, the edge of the loss was scraped smooth with the blade to provide a crude section or "crater," providing preliminary visual information regarding the total number and reliability of the paint layers in each location.

Raking light was used during the sampling process as a means for identifying whether decorative treatment, such as stenciled patterns, existed at one time.

On-site finishes investigation included small-scale exposure of original or target finish surfaces for limited elements in the room. Exposures were guided by adjacent "craters," examined under magnification to establish the target layer and to monitor overpaint removal. Overpaint was removed mechanically, cleaving each layer off the surface in sequence using a precision knife blade.

Microscopic Examination

All extracted samples were initially examined in the laboratory with the aid of a stereo binocular microscope with zoom to 90x magnification under daylight-corrected illumination, to allow for preliminary determination of the surviving paint layer stratigraphies and to confirm intactness and consistency of the sample material. A representative portion of selected samples was mounted in an epoxy resin cast for grinding and polishing using aluminum oxide papers to 2000 grit, resulting in a clear cross-section suitable for examination and photography under the light microscope at 100x, 160x, and 250x magnification. All layers in the sample cross-sections were documented in sequence using generic color names. As a convention in this report, the sequence of paint layers have been assigned sequential Roman numerals. Resin-cast cross-sections were viewed under normal, daylight-corrected light as well as under ultraviolet fluorescence illumination conditions. Epi-fluorescence conditions include a high-pressure mercury light source in conjunction with a filter cube passing incident ultraviolet light at 360 to 420 μm to the sample, and a barrier filter cutting on at 460 μm permitting observation of emitted fluorescence through the visible light spectrum. Ultraviolet-excited autofluorescence of paint layers in cross-section can be used as an aid in differentiating otherwise

similar appearing layers or to suggest differences in paint composition through the layers in the sequence, differences which may not necessarily be appreciable under normal light conditions. The color and intensity of autofluorescence colors may be influenced by pigment content, binding medium, as well as factors such as the age of the layer.

Color Matching

Color matching of historic paint layers was done under the stereo binocular microscope using daylight-corrected illumination. Colors observed in the unmounted, gross samples were visually matched against the coated standards of a standardized color notation system (Munsell System of Color Notation³), interpolating between standards where required. Where possible, matching has been done to layers where they were observed to have substantial thickness and where potentially protected, as by molding returns, for example. No attempt has been made to correct for potential age or exposure-related color shifts. Where glazes or other decorative finish systems are suspected, these have not been color-matched. In the case of compound finishes, the Munsell designations reference only the paint layer applied; in many cases the finish included a top glaze or varnish layer which, whether pigmented or not, would have modified the final appearance of the coating somewhat. Except where noted, the Munsells provided are for documentation of the paint layer only and may not be appropriate for reproduction paint matching without consideration of any surface treatment which may require further investigation.

Fluorescence Microscopy & Media Staining

Cursory testing of limited cross-sections was done to provide additional information regarding the general characterization of the paint binding media. Testing was limited to classes of binding media specific to typical architectural paint applications, and designed to categorize each layer by broad classes i.e. primarily oil-bound or primarily protein-bound.

Markers, dyes or reagents specific to certain proteins or lipids found in typical paint compositions are used under normal light or under ultraviolet light to characterize the binding media present in the layers in the cross-section. The cross-section was re-polished between each test, to remove evidence of the previous dye or stain.

Proteins

Proteins used in paint compositions vary, but may include egg tempera, milk-derived casein, or animal hide-derived glue. Typically, protein binder is used in very small proportions in a paint film, whether a glue-based distemper, or a casein-modified oil or limewash. For these reasons, two methods for testing for protein were used for comparison and cross-referencing of the results. In modern coatings, false positive reactions for proteins occur where synthetic formulations include soaps or detergents.

Testing of cross-sections was done using a non-fluorochrome stain for protein, *Amido Black AB3*, viewed under

3 The Munsell System of Color Notation: X-Rite, Grand Rapids MI. 800-248-9748.

normal light conditions. The AB3 preparation is specific to collagen, the protein in animal glue binders, i.e. distemper paints or glue-based size. Paint layers are stained blue which react positively for proteins. False positives may occur where the stain is absorbed into a particularly porous material, such as substrate plaster.

The other stain for protein tested was *Copper Sulfate* (CuSO₄) solution prepared in water. Copper Sulfate reacts with protein (peptide bonds) in an alkaline environment with a violet color. While this is not a fluorescent-reactive dye or stain, the results are best viewed under ultraviolet illumination conditions.

Lipids

Rhodamine 123 (Rho123) in ethanol was used as a tag for binding media containing lipids. This test was likewise viewed under standard ultraviolet illumination conditions. The reported excitation peak for Rhodamine 123 is 507µm and the emission peak is 529µm. A positive reaction for lipids (i.e. oil binding medium) is bright yellow fluorescence. Supplementary testing for lipids was done using 2, 7 Dichlorofluorescein (DCF) in ethanol. Positive reaction for lipids ranges from pink to yellow depending on the age and relative cross-linking of the oil-bound paint layer.

Lead Content, Qualitative

A saturated solution of sodium sulfide was used as an indicator dye for lead-bearing layers in the cross-sections. Upon contact with the solution, those layers containing lead either as Lead Carbonate (Lead White) or Lead Sulfate will turn brown to black, leaving those layers not containing lead unaffected.

Interpretive Process

Once all paint layers have been objectively identified and sequences recorded, interpretation involves comparative stratigraphy analysis among similar elements as well as other elements in the room. Consideration is given to typical painter's craft and historic practice regarding the use of primers, finish layers, decorative layers, or glazes and varnishes. Further, signs of disruption that may mark a sanding or stripping or patch repair event are noted, along with the converse, signs of extended exposure such as particulate accumulation at a paint layer surface. The general optical qualities of a paint film can suggest the time period in a broad sense, as paints manufactured after the First World War generally incorporate new synthetic resin and manufacturing technologies that make them appear visually distinct from older, more traditional paints.

In this courtroom, evidence collected from apparent changes and repair areas were critical to providing the physical benchmarks needed to assign a finishing layer to the target period of time. Known changes to the room at documented points in time were explored where, for example, wood 'dutchmen' (spliced-in pieces of new wood to fill a gap) were used to repair the wood columns where joins were no longer needed for the built-in furniture of platforms, risers, and similar fixtures.

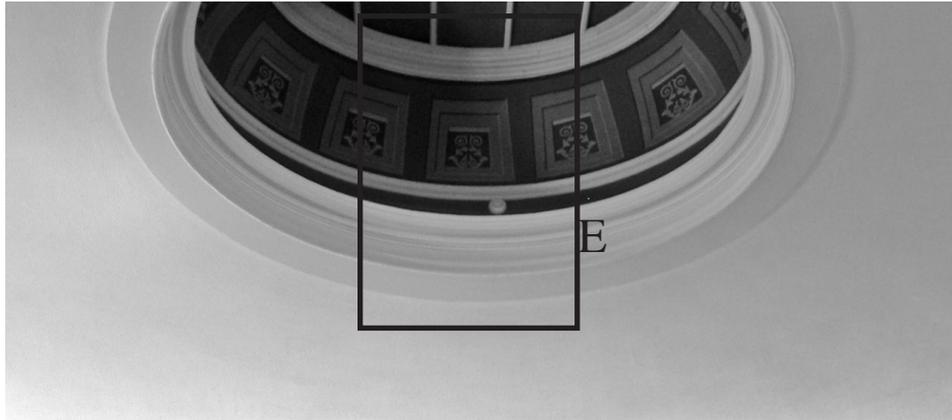
Paint Sample Documentation

Paint Study Areas

For the purposes of documenting the paint study, the decorative elements of the courtroom have been divided into 5 paint study areas as follows.

A: column bases, plinths, lower shafts; B: column capitals, upper shafts; C: door surround trim and doors; D: entablature/cornice; and E: laylight dome. In addition the plaster walls were surveyed and sampled in multiple locations (area P)

Due to the extent of intervention in the form of replacement, patching and repair, paint samples may represent a survey of all like elements within the room.



Plaster Walls

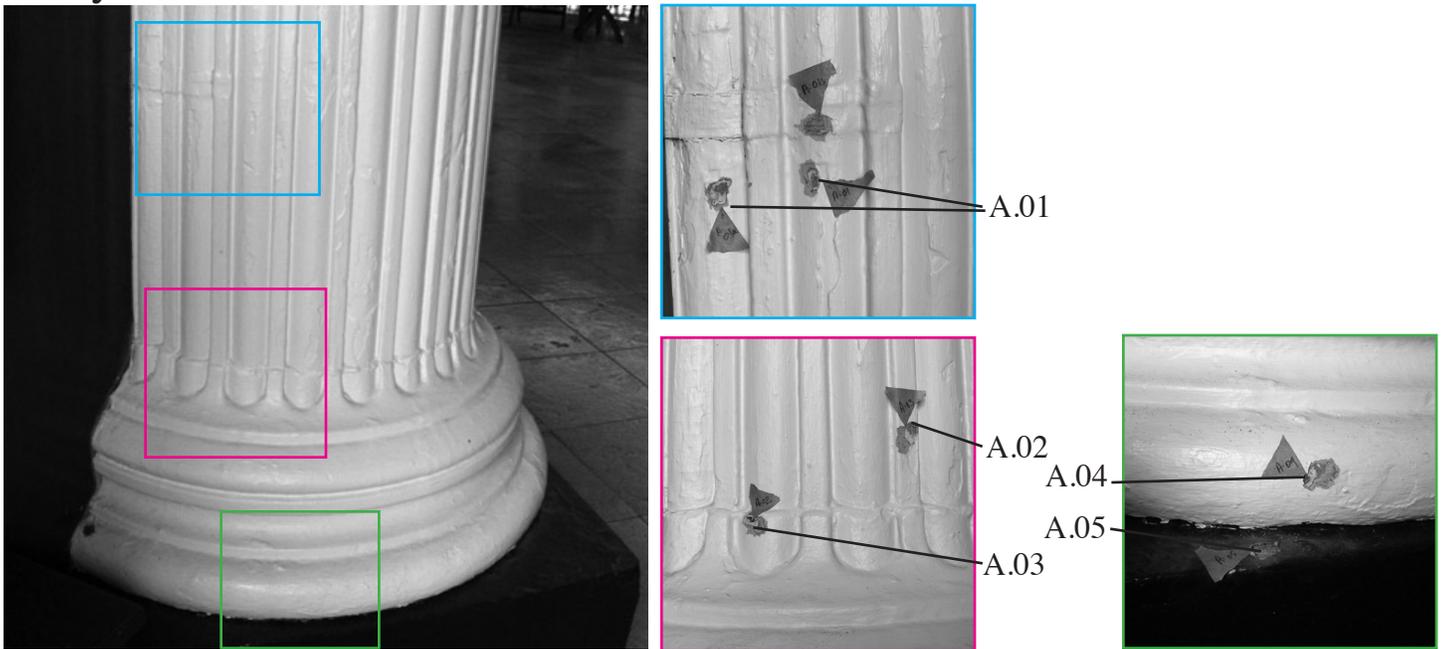
P.01	southwest corner, between West door and south wall
P.02	south wall behind column at bottom
P.03	pier adjacent sample P.02 location
P.04	east wall, between door to jury room and column
P.05	east wall adjacent witness stand, to right
P.06	east wall adjacent Jury's door header to left
P.07	east wall adjacent Jury's door header to right
P.08	north wall behind column
P.09	north wall at edge of riser
P.10	west wall above entry door
P.11	east wall, at gap above Bailiff's door
P.12	side room (Jury room) in northeast corner, exterior wall
P.13	side room (Jury room) in northeast corner, interior wall
P.14a	north wall below platform, to west of bench
P.14b	north wall below platform, beneath window sill
P.14c	north wall below platform, to east of window
P.15	north wall below platform, curved wall to east of column
P.16	east wall above Jury door, adjacent column capital



	P.11	P.12	P.10	P.01 02 03 04 05 06 07 08 13	P.15
XIX		red 5R 5.5/6	red 5R 5.5/6	red 5R 5.5/6	
XVIII		maroon 5R 3/6	maroon 5R 3/6	maroon 5R 3/6	
XVII		dk mauve 10RP 4/2	grey 5GY 8/0.5	dk mauve 10RP 4/2	
XVI		rose 10R 6/4	rose 10R 6/4	rose 10R 6/4	
		tan 10YR 7.5/3.5			
					<wallpaper WP-04>
					<wallpaper WP-03>
					<wallpaper WP-02>
	<wallpaper>				<wallpaper WP-01>
III/IV	buff 5Y 8/1.5				buff 5Y 8/1.5
II/III	light ochre 7.5YR 7.5/4				light ochre 7.5YR 7.5/4
I	pink 7.5R 7.5/2.5 cream cream				pink 7.5R 7.5/2.5 cream cream
	plaster	plaster	plaster	plaster	plaster

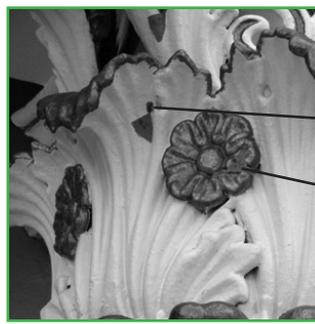
samples greyed-out were unsuitable for analysis and inclusion in the study due to compromised condition; refer to the catalog of recovered wallpapers in Appendix A

Study area A: Column Base, Plinth, Lower Shaft



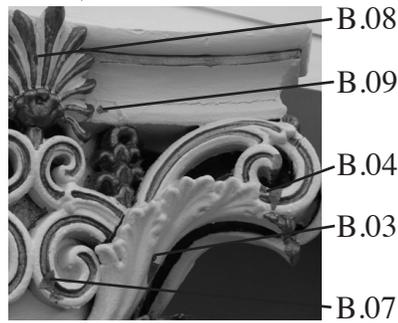
	A.01		A.02		A.03 04		A.05	
XIX	cream white	2.5Y 9/3	cream white	2.5Y 9/3	cream white	2.5Y 9/3	black	N 0.5
XVIII	light grey	5PB 8/1	light grey	5PB 8/1	light grey	5PB 8/1		
XVII	yellow	2.5Y 8.5/3.5	yellow	2.5Y 8.5/3.5	light grey	5PB 8/1	black	N 0.5
XVI	beige	10R 6.5/2	beige	10R 6.5/2	beige	10R 6.5/2		
XV	beige	10R 6.5/2	beige	10R 6.5/2	beige	10R 6.5/2	black	N 0.5
XIV	yellow white	2.5Y 8/3.5	yellow white	2.5Y 8/3.5	yellow white	2.5Y 8/3.5	black	N 0.5
XIII	yellow	10YR 8/5	yellow	10YR 8/5	yellow	10YR 8/5	dark red	2.5YR 2.5/2
XII	yellow	9YR 7.5/6	yellow	9YR 7.5/6	yellow	9YR 7.5/6	dark varnish tan	10R 2.5/2 10YR 6/2
XI	varnish ochre buff	6.125YR 6/5	varnish ochre buff	6.125YR 6/5	varnish ochre buff	6.125YR 6/5	dark green ochre buff	7.5GY 2.5/3
X	grey	5Y 7/1.5	grey	5Y 7/1.5	grey	5Y 7/1.5	light buff	7.5Y 8/1
IX	dark brown	7.5YR 4.5/2	dark brown	7.5YR 4.5/2	dark brown	7.5YR 4.5/2	dark brown	7.5YR 4.5/2
VIII	salmon greenish crm	7.5YR 6/3.5	salmon greenish crm	7.5YR 6/3.5	salmon greenish crm	7.5YR 6/3.5	salmon greenish crm	7.5YR 6/3.5
VII	dark red buff	5R 3/4	dark red buff	5R 3/4	dark red buff	5R 3/4	dark red buff	5R 3/4
VI	buff	10Y 7/1	buff	10Y 7/1	buff	10Y 7/1	green-buff	7.5Y 6.5/3
V	cream	10YR 8.5/2.25	cream	10YR 8.5/2.25	cream	10YR 8.5/2.25	dark varnish dark buff	10YR 6/2
IV	varnish white	10Y 9/7.5	varnish white	10Y 9/7.5	varnish white	10Y 9/7.5	varnish buff	7.5YR 7/1
III	varnish white	5Y 9.5/1.5	varnish white	5Y 9.5/1.5	varnish white	5Y 9.5/1.5		
II	varnish off-white	5Y 8.5/1.5	varnish off-white	5Y 8.5/1.5	varnish off-white	5Y 8.5/1.5		
I	varnish white cream	10YR 9/0.5	varnish white cream	10YR 9/0.5	varnish white pink-grey	10YR 9/0.5		
	wood		wood		cast iron		stone	

Study area B: Column capital (page 1 of 3)



	B.01		B.02		B.05	
XIX	cream white	2.5Y 9/3	metallic		cream white	2.5Y 9/3
XVIII	light grey	5PB 8/1	cream white	2.5Y 9/3	light grey	5PB 8/1
XVII	light grey	5PB 8/1	light grey	5PB 8/1	light grey	5PB 8/1
XVI	yellow	2.5Y 8.5/3.5	light grey	5PB 8/1	light grey	5PB 8/1
XV	beige	10R 6.5/2	yellow	2.5Y 8.5/3.5	yellow	2.5Y 8.5/3.5
XIV	grey		beige	10R 6.5/2	dark yellow	10YR 7.5/4
XIII	yellow	2.5Y 8/3.5	grey		yellow	2.5Y 8/3.5
XII	yellow	10YR 8/5	yellow	2.5Y 8/3.5	grey	
XI	light yellow	2.5Y 8/3.5	yellow	10YR 8/5	yellow	10YR 8/5
X	light grey		light yellow	2.5Y 8/3.5	grey	
IX	varnish		light grey		light yellow	2.5Y 8/3.5
VIII	sienna	2.5YR 5/5	varnish		light grey	
VII	grey		sienna	2.5YR 5/5	varnish	
VI	glaze		grey		sienna	2.5YR 5/5
V	grey	2.5Y 7/2.5	glaze		grey	
IV	green	7.5GY 6/3	grey	2.5Y 7/2.5	glaze	
III	(salmon)		green	7.5GY 6/3	grey	2.5Y 7/2.5
II	yellow	2.5Y 7.5/4	green	7.5GY 6/3	green	7.5GY 6/3
I	yellow	5Y 8/3	(salmon)		yellow	2.5Y 7.5/4
	purple grey	10PB 6.5/2	yellow	2.5Y 7.5/4	yellow	5Y 8/3
	buff	10YR 8/1	blue	5PB 7/4	purple grey	
			yellow		buff	10YR 8/1
			grey			
			cream	5Y 7.5/1		
			salmon	5YR 7/5		
	light sage	2.5GY 7.5/2	grey	5Y 7.5/0.75		
	pinkish cream	2.5YR 7.5/2	beige	10YR 7.5/1.5	light sage	2.5GY 7.5/2
	varnish		varnish		pinkish-cream	2.5YR 7.5/2
	off-white	5Y 8.5/1.5	off-white	5Y 8.5/1.5	varnish	
	white	10YR 9/0.5	varnish		off-white	5Y 8.5/1.5
	pink-grey		white	10YR 9/0.5	white	10YR 9/0.5
			pink-grey		pink-grey	
	cast iron		cast iron		cast iron	

Study area B: Column capital (page 2 of 3)



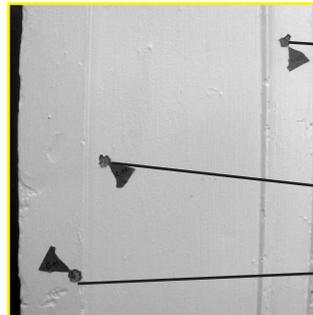
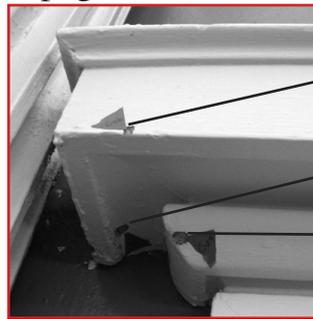
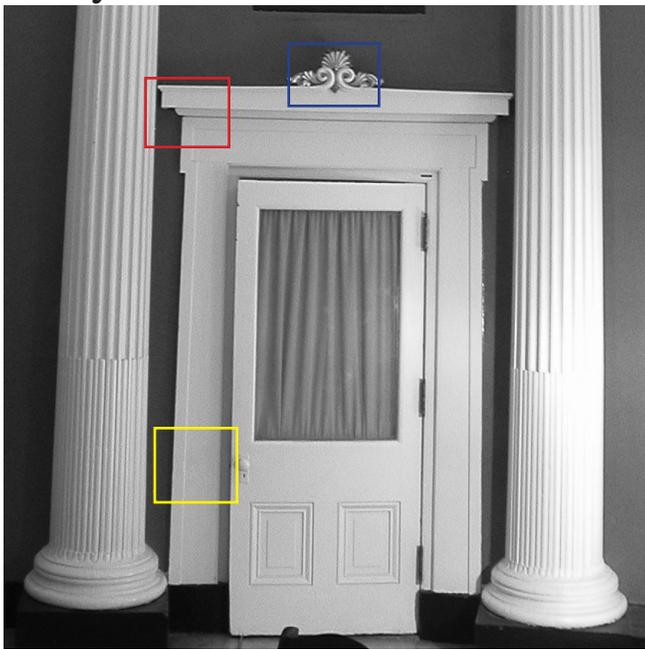
	B.03 07		B.04		B.08		B.09	
XIX	cream white	2.5Y 9/3	cream white	2.5Y 9/3	cream white	2.5Y 9/3	cream white	2.5Y 9/3
XVIII	light grey	5PB 8/1	light grey	5PB 8/1	light grey	5PB 8/1	light grey	5PB 8/1
XVII	light grey	5PB 8/1	light grey	5PB 8/1	light grey	5PB 8/1	light grey	5PB 8/1
XVI	yellow	2.5Y 8.5/3.5	yellow	2.5Y 8.5/3.5	yellow	2.5Y 8.5/3.5	yellow	2.5Y 8.5/3.5
XV	beige	10R 6.5/2	beige	10R 6.5/2	beige	10R 6.5/2	beige	10R 6.5/2
	grey		grey		grey		grey	
XIV	yellow	2.5Y 8/3.5	yellow	2.5Y 8/3.5	yellow	2.5Y 8/3.5	yellow	2.5Y 8/3.5
	grey		grey		grey		grey	
XIII	yellow	10YR 8/5	yellow	10YR 8/5	yellow	10YR 8/5	yellow	10YR 8/5
XII	light yellow	2.5Y 8/3.5	light yellow	2.5Y 8/3.5	light yellow	2.5Y 8/3.5	light yellow	2.5Y 8/3.5
	light grey	7.5Y 8/1.5	light grey	7.5Y 8/1.5	light grey	7.5Y 8/1.5	light grey	7.5Y 8/1.5
XI	varnish		varnish		varnish		varnish	
	sienna	2.5YR 5/5	sienna	2.5YR 5/5	sienna	2.5YR 5/5	sienna	2.5YR 5/5
	grey		grey		grey		grey	
X			(yellow)	7.5Y 6.5/2				
	grey	5PB 4.5/1	grey	5PB 4.5/1	grey	5PB 4.5/1	grey	5PB 4.5/1
IX	green	5G 7/3	green	5G 7/3	green	5G 7/3	dark salmon	6.25YR 5/3
VIII			(dark salmon)	6.25YR 5/3	dark salmon	6.25YR 5/3	dark salmon	6.25YR 5/3
	yellow	2.5Y 7.5/4	yellow		yellow			
	dark grey		dark grey		dark grey		dark grey	
VI	(salmon)	5YR 7/5			(salmon)	5YR 7/5		
	yellow	5Y 8/3	yellow	5Y 8/3	yellow	5Y 8/3	yellow	5Y 8/3
	purple grey		purple grey		purple grey		dk grey	
VI	buff	10YR 8/1	greenish cream	7.5Y 8/2.5	buff	10YR 8/1	buff	10YR 8/1
V			dk grey	2.5Y 7/2.5				
			cream					
IV	light sage	2.5GY 7.5/2	light sage	2.5GY 7.5/2	light sage	2.5GY 7.5/2	pink	2.5YR 7.5/2
			buff					
III	beige	10YR 7.5/1.5	pinkish cream	2.5YR 7.5/2	pinkish cream	2.5YR 7.5/2	beige	10YR 7.5/1.5
II	varnish		varnish		varnish		varnish	
	off-white	5Y 8.5/1.5	off-white	5Y 8.5/1.5	off-white	5Y 8.5/1.5	off-white	5Y 8.5/1.5
I	varnish		varnish		varnish		varnish	
	white	10YR 9/0.5	white	10YR 9/0.5	white	10YR 9/0.5	white	10YR 9/0.5
	pink-grey		pink-grey		pink-grey		cream	
	cast iron		cast iron		cast iron		wood	

Study area B: Column capital (page 3 of 3)



	B.06	B.10	B.10a
XIX	metallic cream white 2.5Y 9/3	cream white 2.5Y 9/3	cream white 2.5Y 9/3
XVIII	light grey 5PB 8/1	light grey 5PB 8/1	light grey 5PB 8/1
XVII	light grey 5PB 8/1	light grey 5PB 8/1	light grey 5PB 8/1
XVI	beige 10R 6.5/2	beige 10R 6.5/2	beige 10R 6.5/2
XV	yellow 2.5Y 8/3.5	yellow 2.5Y 8/3.5	yellow 2.5Y 8/3.5
XIV	beige 10R 6.5/2 grey	beige 10R 6.5/2 grey	beige 10R 6.5/2 grey
XIII	yellow 10YR 8/5	yellow 10YR 8/5	yellow 10YR 8/5
XII	yellow 9YR 7.5/6 lt grey	yellow 9YR 7.5/6	yellow 9YR 7.5/6
XI	varnish sienna 2.5YR 5/5 grey	varnish ochre 6.125YR 6/5 buff	varnish ochre 6.125YR 6/5 buff
X	dk glaze grey 2.5Y 7/2.5	dk glaze grey 2.5Y 7/2.5	dk glaze grey 2.5Y 7/2.5
IX	green 5G 7/3	grey 2.5Y 7/2.5	grey 2.5Y 7/2.5
VIII	yellow 2.5Y 7.5/4 grey	yellow 2.5Y 7.5/4	yellow 2.5Y 7.5/4
VII	yellow 5Y 8/3 purple-grey	yellow 5Y 8/3	yellow 5Y 8/3
VI	dk buff 10YR 6/1	buff 10YR 8/1	buff 10YR 8/1
V	cream 5Y 7.5/1	buff 10YR 8/1	buff 10YR 8/1
IV	varnish white 10Y 9/7.5	varnish white 10Y 9/7.5	varnish white 10Y 9/7.5
III	varnish white 5Y 9.5/1.5	varnish white 5Y 9.5/1.5	varnish white 5Y 9.5/1.5
II	varnish off-white 5Y 8.5/1.5	varnish off-white 5Y 8.5/1.5	varnish off-white 5Y 8.5/1.5
I	varnish white 10YR 9/0.5 pink-grey	varnish white 10YR 9/0.5 pink-grey	varnish white 10YR 9/0.5 cream/stop
	cast iron	cast iron	wood

Study area C: Door and Door Trim (page 1 of 2)



	C.01 02 03 04	C.05	C.07 08	C.09
XIX	cream white 2.5Y 9/3	cream white 2.5Y 9/3	cream white 2.5Y 9/3	metallic cream white 2.5Y 9/3
XVIII	white 10YR 9.25/0.5	light grey 5PB 8/1	light grey 5PB 8/1	light grey 5PB 8/1
XVII	light grey 5PB 8/1	light grey 5PB 8/1	white 10YR 9.25/0.5	white 10YR 9.25/0.5
XVI	white 10YR 9.25/0.5	light grey 5PB 8/1	white 10YR 9.25/0.5	white 10YR 9.25/0.5
XV	light grey	grey 5Y 7.5/0.5	grey 5Y 7.5/0.5	grey 5Y 7.5/0.5
XIV	light grey	grey 5Y 7.5/0.5	grey 5Y 7.5/0.5	grey 5Y 7.5/0.5
XIII	grey 5Y 7.5/0.5	grey 5Y 7.5/0.5	grey 5Y 7.5/0.5	grey 5Y 7.5/0.5
XII	dk varnish 10R 2.5/2 tan 10YR 6/2	dk varnish 10R 2.5/2 tan 10YR 6/2	dk varnish 10R 2.5/2 tan 10YR 6/2	dk varnish 10R 2.5/2 tan 10YR 6/2
XI	br green 7.5GY 4.5/3	br green 7.5GY 4.5/3	br green 7.5GY 4.5/3	br green 7.5GY 4.5/3
X	light buff 2.5Y 8/2	light buff 2.5Y 8/2	light buff 2.5Y 8/2	light buff 2.5Y 8/2
IX	dk green buff 2.5GY 2.5/2	dk green buff 2.5GY 2.5/2	dk green buff 2.5GY 2.5/2 2.5Y 6.5/2	dk green buff 2.5GY 2.5/2
VIII	glaze buff 2.5Y 7/2.5	glaze buff 2.5Y 7/2.5		glaze buff 2.5Y 7/2.5
VII	green-grey 5G 6/1	dk salmon 7.5YR 4.5/3	dk salmon 7.5YR 4.5/3	dk salmon 7.5YR 4.5/3
VI	yellow 2.5Y 8/3	buff 10YR 8/1	dk salmon 5YR 5.5/4	dk salmon 5YR 5.5/4
V	cream 2.5Y 7.5/2	yellow-buff 2.5Y 6/2	yellow 2.5Y 8/3	salmon 5YR 5.5/4 yellow 2.5Y 8/3 blue-grey
IV	dark buff 10YR 6/1	dark buff 10YR 6/1	dark buff 10YR 6/1	dark buff 10YR 6/1
III	varnish cream 2.5Y 8/2	varnish cream 2.5Y 8/2	varnish cream 2.5Y 8/2	varnish cream 2.5Y 8/2
II	varnish	varnish	varnish	varnish
I	varnish cream 2Y 8.5/3	varnish cream 2Y 8.5/3	varnish cream 2Y 8.5/3	varnish cream 2Y 8.5/3
	wood	wood	wood	wood

Study area C: Door and Door Trim (page 2 of 2)



C.13

C.12
recessed panel

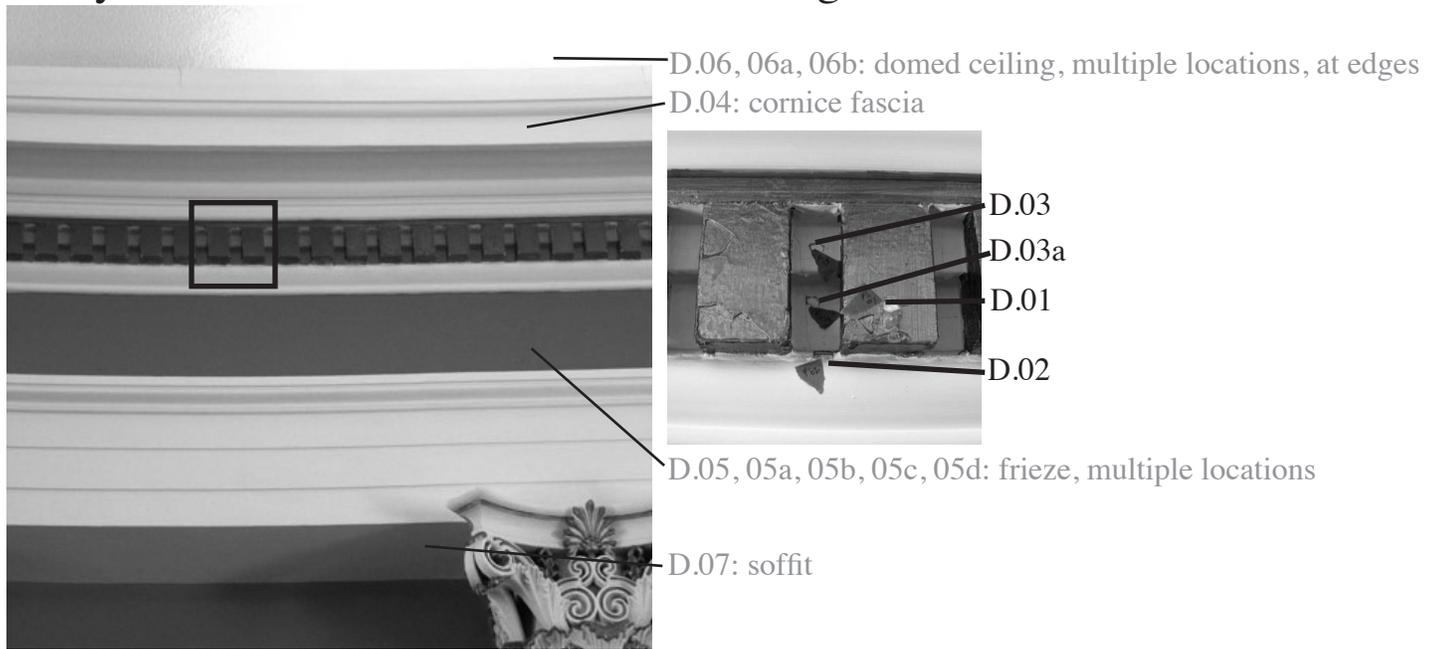
C.11

C.10



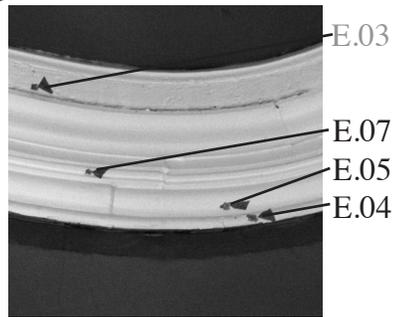
	C.12		C.13		C.10 11	
XIX	cream-white	2.5Y 9/3	cream-white	2.5Y 9/3	cream white	2.5Y 9/3
XVIII	light grey	5PB 8/1	light grey	5PB 8/1	light grey	5PB 8/1
XVII	grey	5Y 7.5/0.5	grey	5Y 7.5/0.5	grey	5Y 7.5/0.5
XVI	light grey	5PB 8/1	light grey	5PB 8/1	light grey	5PB 8/1
XV	grey	5Y 7.5/0.5	grey	5Y 7.5/0.5	grey	5Y 7.5/0.5
XIV	grey	5Y 7.5/0.5	grey	5Y 7.5/0.5	grey	5Y 7.5/0.5
XIII	grey	5Y 7.5/0.5	grey	5Y 7.5/0.5	grey	5Y 7.5/0.5
XII	dark varnish tan	10R 2.5/2 10YR 6/2	dark varnish tan	10R 2.5/2 10YR 6/2	dark varnish tan	10R 2.5/2 10YR 6/2
XI	bright green	7.5GY 4.5/3	bright green	7.5GY 4.5/3	bright green	7.5GY 4.5/3
X	light buff	2.5Y 8/2	light buff	2.5Y 8/2	light buff	2.5Y 8/2
IX	dark green buff	2.5GY 2.5/2	dark green buff	2.5GY 2.5/2	dark green buff	2.5GY 2.5/2
VIII	glaze buff	2.5Y 7/2.5	glaze buff	2.5Y 7/2.5	glaze buff	2.5Y 7/2.5
VII	lt salmon	10YR 6.5/4	green-grey	5G 6/1	buff	10YR 8/1
VI	cream	5Y 7.5/1	yellow	2.5Y 8/3	dk salmon	5YR 7/5
V	cream	2.5Y 7.5/2	cream	2.5Y 7.5/2	salmon greenish crm	7.5YR 6/3.5
IV	dark buff	10YR 6/1	dark buff	10YR 6/1		
III	varnish cream	2.5Y 8/2	varnish cream	2.5Y 8/2	varnish cream	2.5Y 8/2
II	varnish		varnish		varnish	
I	varnish dark cream	10YR 7.5/2.5	varnish dark cream	10YR 7.5/2.5	varnish cream	2Y 8.5/3
		wood		wood		wood

Study area D: Entablature, Cornice, Ceiling



	D.01		D.02		D.03/03a	
XIX	metallic cream white	10YR 8/1	metallic cream white	10YR 8/1	metallic cream white	10YR 8/1
XVIII	light grey cream	5PB 8/1	light grey	5PB 8/1	light grey	5PB 8/1
XVII	dark yellow	10YR 7.5/4	dark yellow	10YR 7.5/4	dark yellow	10YR 7.5/4
XVI	yellow	2.5Y 8.5/3.5	yellow	2.5Y 8.5/3.5	yellow	2.5Y 8.5/3.5
XV	beige grey	10R 6.5/2	beige grey	10R 6.5/2	beige light grey	10R 6.5/2
XIV	yellow	2.5Y 8/3.5	yellow white	2.5Y 8/3.5	yellow	2.5Y 8/3.5
XIII	yellow	10YR 8/5	yellow	10YR 8/5	yellow	10YR 8/5
XII	light yellow white	2.5Y 8/3.5	light yellow	2.5Y 8/3.5	light yellow	2.5Y 8/3.5
XI	varnish ochre buff	6.125YR 6/5	varnish ochre buff	6.125YR 6/5	varnish ochre buff	6.125YR 6/5
X	dark glaze grey	2.5Y 6/1.5	dark glaze grey	2.5Y 6/1.5	dark glaze grey	2.5Y 6/1.5
IX	grey	2.5Y 6/1.5	grey	2.5Y 6/1.5	grey	2.5Y 6/1.5
VIII	pink-beige	10YR 6.5/3.5	pink beige	10YR 6.5/3.5	pink-beige	10YR 6.5/3.5
VII	warm glaze beige	2.5Y 6.5/3.5	glaze yellow	5Y 8/3	glaze yellow	5Y 8/3
VI	yellow	2.5Y 7.5/3.5	(olive) dark cream sage grey	10YR 5/1.5	yellow (purple-grey)	2.5Y 7.5/3.5
V	glaze yellow-buff	5Y 7/2.5	glaze yellow-buff	5Y 7/2.5	glaze yellow-buff	5Y 7/2.5
IV	grey-buff	2.5Y 7.5/2	grey	5Y 7.5/0.75	dark grey	2.5Y 7/2.5
III	cream-yellow	2.5Y 8.5/3.5	light salmon cream	5YR 5.5/4	(olive) cream-yellow	2.5Y 8.5/3.5
II	pinkish-cream	7.5YR 8/3	pinkish-cream	7.5YR 8/3	pinkish-cream	7.5YR 8/3
I	cream sealer	10YR 8/2.5	sienna sealer	7.5R 5.5/3	sienna sealer	7.5R 5.5/3
	plaster		plaster		plaster	

Study area E: Laylight Dome (page 1 of 3)

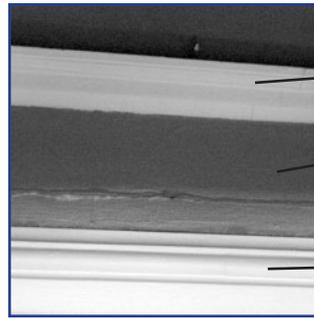


E.01a/b/c/d: plaster dome, various locations

	E.01a/b/c/d	E.04	E.05	E.07
XIX		white 5Y 9/1.5	white 5Y 9/1.5	white 5Y 9/1.5
XVIII		light grey N 7.5	light grey N 7.5	light grey N 7.5
XVII		light grey N 7.5	light grey N 7.5	light grey N 7.5
XVI	olive yellow white <canvas> 5Y 4/2	dk yellow 10YR 7.5/4	dk yellow 10YR 7.5/4	dk yellow 10YR 7.5/4
XV		beige 10YR 8/3	beige grey 10YR 8/3	beige grey 10YR 8/3
XIV		light yellow white 2.5Y 8.5/5	lt yellow white 2.5Y 8.5/5	lt yellow white 2.5Y 8.5/5
XIII		yellow 10YR 8/5	yellow 10YR 8/5	yellow 10YR 8/5
XII		light grey 10Y 8/1	light grey 10Y 8/1	light grey 10Y 8/1
XI		varnish sienna buff 2.5YR 5/5	varnish sienna buff 2.5YR 5/5	varnish sienna buff 2.5YR 5/5
X		dark glaze grey 2.5Y 7/2.5	dark glaze grey 2.5Y 7/2.5	dark glaze grey 2.5Y 7/2.5
IX		brown 7.5YR 4.5/2	glaze dark brown 7.5YR 4.5/2	glaze warm buff 2.5Y 6/2
VIII		dark salmon 7.5YR 6/3.5	dark salmon dark grey 7.5YR 6/3.5	yellow 5Y 8/3
VII	dk green white 10G 4/3	salmon cream 7.5YR 6.5/3	salmon cream 7.5YR 6.5/3	salmon cream 7.5YR 6.5/3
VI	light grey 5PB 7.5/2	grey 5Y 7.5/0.75	dark grey 2.5Y 7/2.5	buff 10Y 7/1
V	yellow 7.5Y 7.5/2	blue-grey 2.5PB 6/3	blue-grey 2.5PB 6/3	grey 5Y 7.5/0.75
IV	grey 5PB 7.5/2	pinkish-cream 2.5YR 7.5/2	pinkish-cream 2.5YR 7.5/2	light ochre 10YR 6.5/4
III	pink white 5YR 8/3.5	warm glaze cream 7.5Y 8/2	warm glaze cream 7.5Y 8/2	warm glaze cream 7.5Y 8/2
II				
I				
	plaster	wood	wood	wood

All finished surfaces of this laylight dome are believed to have been first installed in 1870. The painted canvas of the dome is documented as a mid-1950s treatment.

Study area E: Laylight Dome (page 2 of 3)



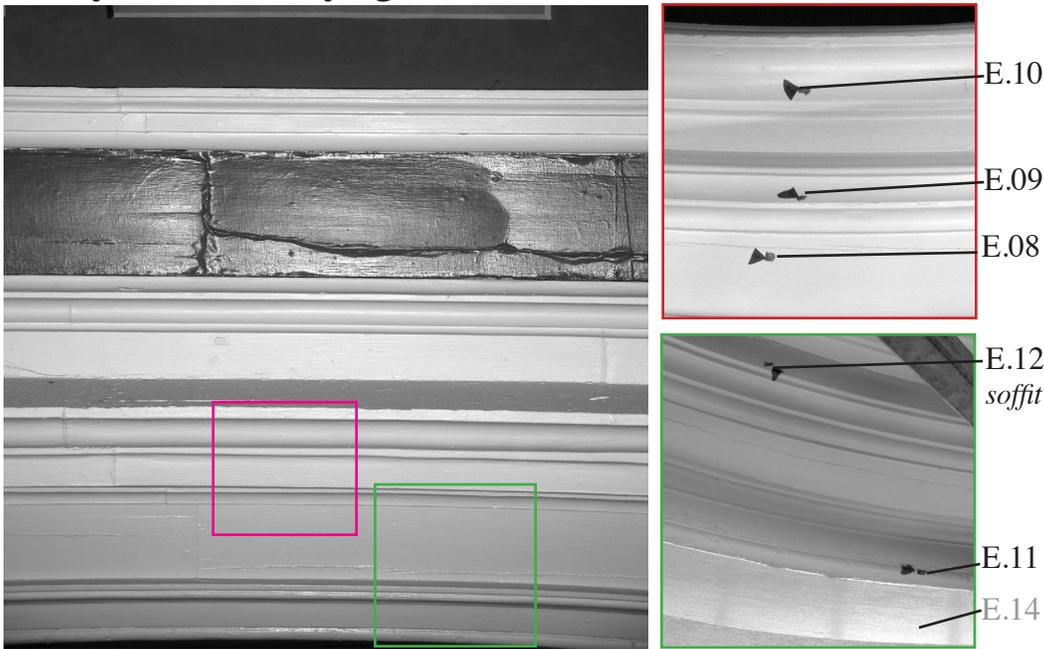
E.06

E.02a/b/c/d
frieze, multiple locations

E.13

	E.02b		E.06 13	
XIX	red <canvas>	10R 4/8	white	5Y 9/1.5
XVIII	red pink	10RP 2.5/6	light grey	N 7.5
XVII	white	5Y 9/1.5	light grey	N 7.5
XVI	yellow	2.5Y 8.5/3.5	dk yellow	10YR 7.5/4
XV	beige grey	10YR 8/3	beige grey	10YR 8/3
XIV	yellow light grey	2.5Y 8/3.5	lt yellow white	2.5Y 8.5/5
XIII	yellow	10YR 8/5	yellow	10YR 8/5
XII	light grey	10Y 8/1	light grey	10Y 8/1
XI	varnish sienna buff	2.5YR 5/5	varnish sienna buff	2.5YR 5/5
X	glaze grey	2.5Y 7/2.5	glaze grey	2.5Y 7/2.5
IX	warm buff	2.5Y 6/2	dark salmon	7.5YR 4.5/3
VIII	yellow	10YR 7.5/3	dark salmon	7.5YR 4.5/3
VII	yellow	2.5Y 7.5/3	dk yellow buff	2.5Y 6/2
VI	dk grey buff	10YR 6/1	dk grey buff	10YR 6/1
V	(red/dk grey) light buff	5Y 7.5/1	grey white	5Y 7.5/0.75
IV	(white) sienna peach grey	2.5YR 4.5/4	light ochre	10YR 6.5/4
III	pink cream	5YR 7/4	warm glaze cream	7.5Y 8/2
II				
I				
		wood		wood

Study area E: Laylight Dome (page 3 of 3)



	E.09 10		E.08		E.12		E.11	
XIX	white	5Y 9/1.5	white	5Y 9/1.5	white	5Y 9/1.5	white	5Y 9/1.5
XVIII	light grey	N 7.5	light grey	N 7.5	light grey	N 7.5	light grey	N 7.5
XVII	light grey	N 7.5	light grey	N 7.5	light grey	N 7.5	light grey	N 7.5
XVI	yellow		dk yellow	10YR 7.5/4	dk yellow	10YR 7.5/4	dk yellow	10YR 7.5/4
XV	beige	10YR 8/3	beige	10YR 8/3	beige	10YR 8/3	beige	10YR 8/3
XIV	lt yellow	2.5Y 8.5/5	lt yellow	2.5Y 8.5/5	lt yellow	2.5Y 8.5/5	lt yellow	2.5Y 8.5/5
XIII	yellow	7.5YR 9/6	yellow	7.5YR 9/6	yellow	7.5YR 9/6	yellow	7.5YR 9/6
XII	lt yellow	2.5Y 8/3.5	lt yellow	2.5Y 8/3.5	lt yellow	2.5Y 8/3.5	light yellow	2.5Y 8/3.5
XI	varnish sienna buff	2.5YR 5/5	varnish sienna buff	2.5YR 5/5	varnish sienna buff	2.5YR 5/5	varnish sienna (ochre) buff	2.5YR 5/5
X	dark glaze grey	2.5Y 7/2.5	dark glaze grey	2.5Y 7/2.5	dk glaze grey	2.5Y 7/2.5	dk glaze grey	2.5Y 7/2.5
IX	dark salmon	7.5YR 4.5/3	ochre	10YR 7.5/3	dk ochre	2.5Y 6/2	glaze green	7.5GY 6/3
VIII	dk salmon dk grey	5YR 5.5/4	ochre	2.5Y 7.5/3	ochre	2.5Y 7.5/3	green	7.5GY 6/3
VII	yellow	5Y 8/3	grey	5G 6/1			dk yellow buff	2.5Y 6/2
VI	dk grey	10YR 6/1	dk grey	10YR 6/1	buff	10YR 8/1	buff	
V	cream	2.5Y 7.5/2	dk grey	10YR 6/1	dk grey	10YR 6/1	dk grey	10YR 6/1
IV	cream	10YR 7.5/2.5	purple-grey	10PB 6.5/2	cream	2.5Y 7.5/2	lt grey	5Y 7.5/0.75
III	cream	10YR 7.5/2.5	cream	10YR 7.5/2.5	cream	10YR 7.5/2.5	grey	5Y 7.5/0.75
II	warm glaze cream	7.5Y 8/2	warm glaze cream	7.5Y 8/2	warm glaze cream	7.5Y 8/2	pink cream	5YR 7/4
I								
	wood		wood		wood		wood	

Summary of Paint Findings

Walls (study area P)

The archival records show that in November 1855 Patrick Gregory was paid \$500 for plastering of the east wing. The painter, M. L. Julian, was paid \$200 in 1856, a modest sum considering the extent of finishing work required in the east wing. This may have been a partial payment, or some finishing work may have been delayed. Indeed, while Julian was paid in May 1856, a newspaper article of July 1856 describes the room as unfinished, though by October of that year the courts were moving in. In 1865 they recorded cleaning “frescoed walls;” by 1891 they were cleaning wallpapered walls.

By the 1930s HABS survey, there had been a “crude” wainscot installed over the lower walls, which when removed in the 1950s, revealed “decorated plaster” on the walls below.

Site Observations

Careful survey of all accessible wall surfaces confirms that the historic plaster was largely removed and replaced and/or skimcoated during the 1950s renovation, leaving few traces of the historic wall treatments.

A small area of surviving painted plaster and historic wallpaper is encapsulated beneath the judge's bench platform on the north wall. The application of wallpapers would post-date the documented 1865 cleaning of “frescoed” walls,¹ and pre-date or coincide with the 1891 documentation of cleaning of wallpapered walls, and certainly pre-date the 1903 repositioning of the bench to this location, which served to encapsulate the wall. One section of this north wall, to the east of the window as the wall curves along the witness room partition, was found to retain what appears to be the full finishes history from original up to the finish before the 1903 encapsulation. That this area of wall was repeatedly refinished indicates that the original 1856 judge's bench platform was either much smaller than it is now, or was not centered on that wall, to have not covered this section of wall as the 1903 platform does now. Several layers of wallpaper in this location also show that the walls were sequentially re-papered without fully removing the old layers in these decades of the 19th century. The adjacent sections of the north wall below the window and to the west of the window bay do not have this extensive finishes history. The center bay below the window has no apparent finishes on the plaster wall, baseboard, or the wood sill. The wall to the west of the window has only a single wallpaper adhered directly to the finish coat plaster, the paper which would have immediately preceded the 1903 encapsulation.

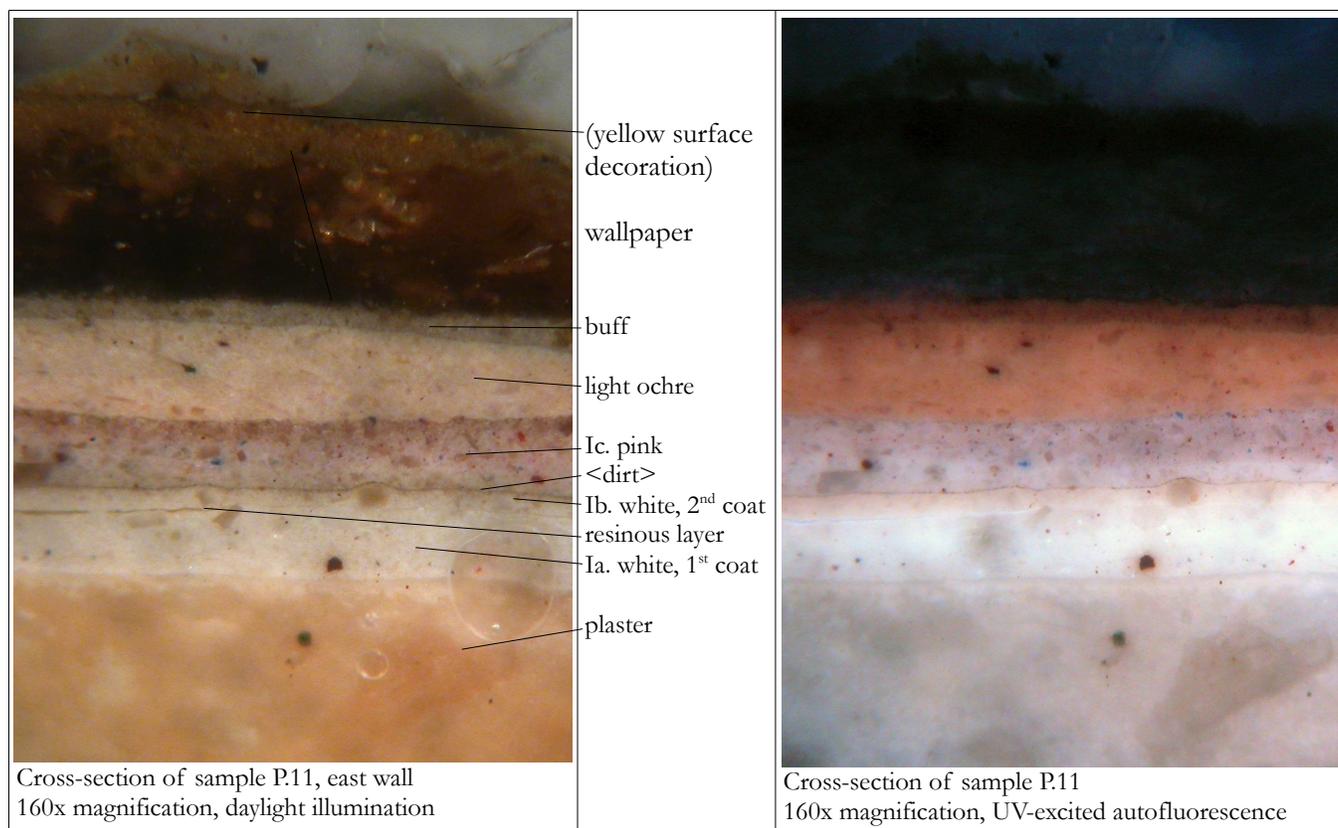
Paint Sample Findings

Eighteen paint samples were extracted from areas of plaster wall based on careful survey of conditions in all

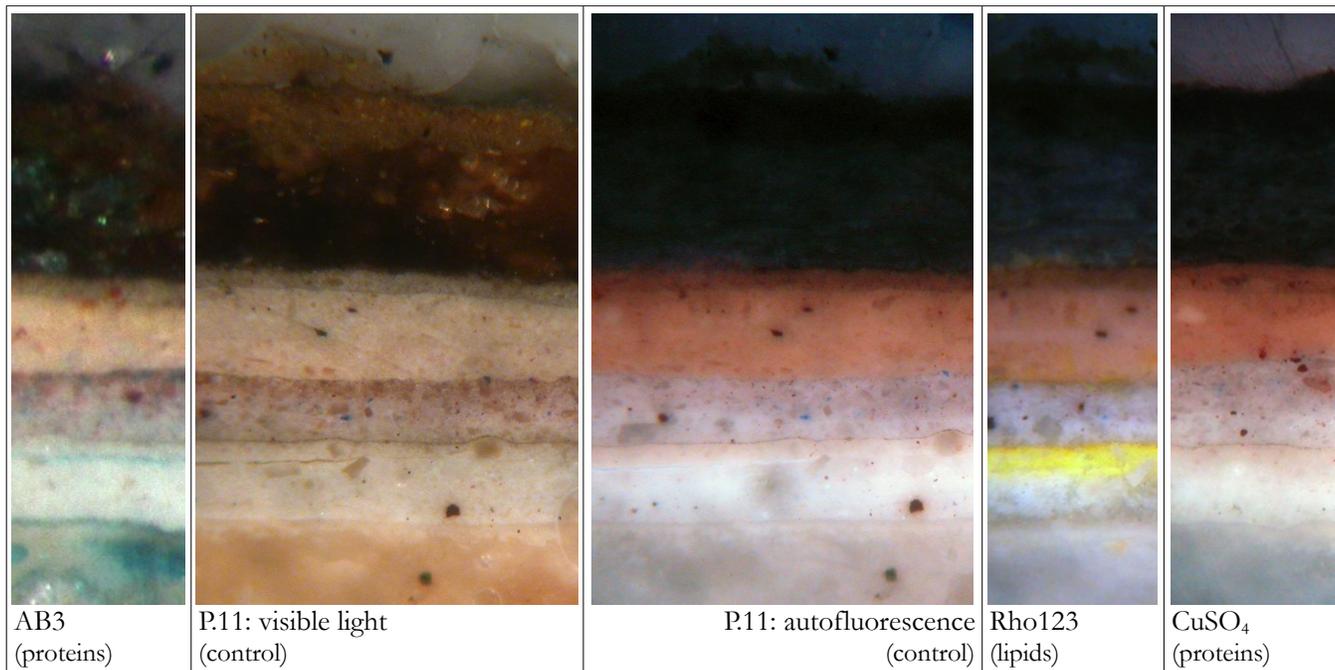
¹“Fresco” is a term with a wide usage, to mean anything from the traditional use of paint applied onto wet mortar or lime or plaster (“buon fresco”) or anything applied quickly, in a “fresh” fashion such as distemper, to something decorative, scenic or figurative, i.e. a mural painting or trompe l'oeil, regardless of the medium. Inconsistencies in terminology were pervasive in the 19th century just as they are now in this respect.

accessible locations. The overwhelming majority of these samples represent 1950s replacement plaster and exhibit only four recent paint layers, the first likely corresponding to the “crushed strawberry” color that was recorded as chosen for the walls in the 1950s.

One paint sample on plaster recovered *in-situ* from the east wall against the door header for the bailiff’s door shows 4 early paint layers prior to a remnant wallpaper (paint layers in white, pink, light ochre, then grey-buff). The white layer, applied in two coats, was judged to be a base on which a decorative painting scheme was executed, in which case the pink layer which follows is believed to have been the intended finish, potentially decoratively applied. The first coat of white appears to be an emulsion type paint (adding casein to an oil bound paint), which would have facilitated faster drying. A thin varnish or glaze applied over it may have been used to create a smooth and nonporous surface for the second coat, which was executed in oil. These base layers were left to dry for a period of time, as demonstrated by the accumulation of light surface dirt. In this sample, the paint layer that follows, in pink, is interpreted to be the original decorative finish.



This rare surviving sample of the original plaster wall surface reveals the campaigns of paint finishes applied prior to the first wallpaper. The generation of the wallpaper evidence in this sample is unknown. The sample shows the original execution of the original finish, with a first coat in white, followed by a thin and inconsistent resinous layer. The visible breaks and inconsistency in this thin resinous glaze may be due to quick brush-strokes. A fine layer of accumulated surface dirt on the second paint coat is testament to the time this base-coat system was allowed to dry prior to the installation of the decorative treatment. The pink layer which follows is the suspected intended decorative finish for the walls, and is remarkably coarse in texture, with prominent pigment particles in red and blue. A thin penetrating sealer at the surface may be part of the original application, or may be a sealer applied prior to repainting in the later light ochre paint. The two subsequent paint layers may not necessarily correlate with the repainting sequence on the trim in the room; the “frescoed” walls may have been valued enough not to have been immediately overpainted along with the trim elements.



This series of staining tests was used to preliminarily test the early pink decorative layer for typical binding media based on lipids (i.e. linseed oil) or proteins (i.e. hide glue or casein). The layer did not yield strong positive reactions for either of these classes of media. Based on visual characteristics of the layer and the lack of a significant oil or protein binder, the paint might be interpreted to be an alternative medium such as a limewash, which could have been integrally pigmented, and/or used as a base for execution of a “limewash fresco” technique, involving decorative application of penetrating watercolor wash over a fresh limewash coating.

While sample P.11 above is representative of the upper wall, a sample representative of the lower wall was extracted from the north wall at the curved witness room wall, from the encapsulated section below the judge's bench platform. This sample is consistent with P.11, exhibiting the same sequence of early paint layers, including the white base, pink decoration, light ochre paint and buff paint. On this lower wall sample (P.15) four layers of wallpapers survive in sequence after the buff paint, although it should be acknowledged that some interim papers may have been removed.² The first paper (WP01) has a cream-white paper base and traces of decoration in fuchsia, rust and mustard colors. The second paper (WP02) has a similar cream-white paper base, and evidence of teal blue decoration with possible pinstripes and bronze-powder design. The third paper (WP03) has a very subtle decoration in cream and pale blue with mica. The fourth surviving paper (WP04) has a brown paper base and is very brittle. This paper was the last applied to the area prior to the 1903 encapsulation and survives largely intact where it was applied over sections of the encapsulated area of the north wall. This paper survives in large enough sections to appreciate the full repeat of the pattern; it has a repeating *fleur-di-lis* pattern, with cartouches showing white roses surrounded by red flourishes.

Discussion

It is notable that in the 1950s when the “crude wainscot” was removed to reveal decorated plaster below, they did not attempt to recreate or document it, or even make referential use of the color or colors revealed. While they opted to

² See the catalog of recovered wallpaper fragments in Appendix A.

recreate the panel design found in the laylight dome, for the walls they chose instead an arbitrary paint color based on one used historically at the US Capitol. By “decorated” they may have been describing one or more of the wallpapers, rather than a painted decoration. It is likewise feasible that they observed an area of the early pink “fresco” on the wall and chose a pinkish color accordingly.

There is no evidence, *in-situ*, of wall finishes between the estimated periods of 1890s and 1954. Limited areas of wall survive to represent original construction through circa 1890s, although the ephemeral and reversible nature of wallpapers may limit interpretation of these earliest campaigns further. Recovered debris suggests that wallpapers had been successively applied, and had also potentially been routinely removed.

The only intact section of original plaster wall survives on a small area of the north wall, to the east of the window, encapsulated below the judge's platform. However the finish sequence here ends before the turn of the 20th century. By May 1856 when Julian was paid for painting in the east wing, it is speculated that he had laid down the base coats on the walls to prepare them for receiving a decorative paint treatment. The oil-based paint he used would have required a matter of weeks to fully cure before being painted, so when the newspaper reported in July that the room was unfinished, it may be that the frescoer had not yet completed the decorative work on the plaster walls. Whether this work was done before the court moved in in October 1856 is likewise a matter of speculation. It is also conceivable that Julian himself was not the frescoer, but did the base painting to prepare the room for an artist to decorate.

While we have convincing evidence to show the earliest decorative treatment for the walls, there are no benchmarks that allow for interpretation of the wall finishes at the 1870 renovation, nor for later periods, including the significant 1903 or 1910s target periods. Each generation of paint or wallpaper after the original can only be speculated, in terms of when it was applied.

Column Bases, Plinths, Lower Shafts (study area A)

There are no recorded changes that affected the columns historically. Column finishes have been affected by adjacent installations, such as platform risers which were built against the stone plinth blocks or which encapsulated portions of the columns, by a possible early 20th century partition wall, or by a documented wainscot that may have been furred out against the column shafts. Furthermore, multiple historic relocations of built-in furniture, risers, railings and platforms has affected the columns where they were notched out to accept joinery, and later repaired with wood fills to re-integrate them.

Site Observations

Site observations indicate that the column surfaces represent the full and intact sequence of applied finishes. The column bases are cast iron, while the shafts are wood and the plinth blocks are stone. 'Dutchman' repairs were noted on columns at the east wall, where the judge's bench was located during the period 1870-1903. A dutchman repair was also noted on a north wall column shaft, potentially representing changes made either in 1870 or 1903. Vertical paint-edge lines were noted on the sides of the engaged columns. Similarly, ghost lines were noted on the columns along the west wall to the north of the entry, where a partition wall may once have stood. Horizontal lines mark the plinth blocks where risers had been built, as for the spectator gallery. There are column surfaces encapsulated below the 1903 judge's platform which have not been painted since before the turn of the 20th century.

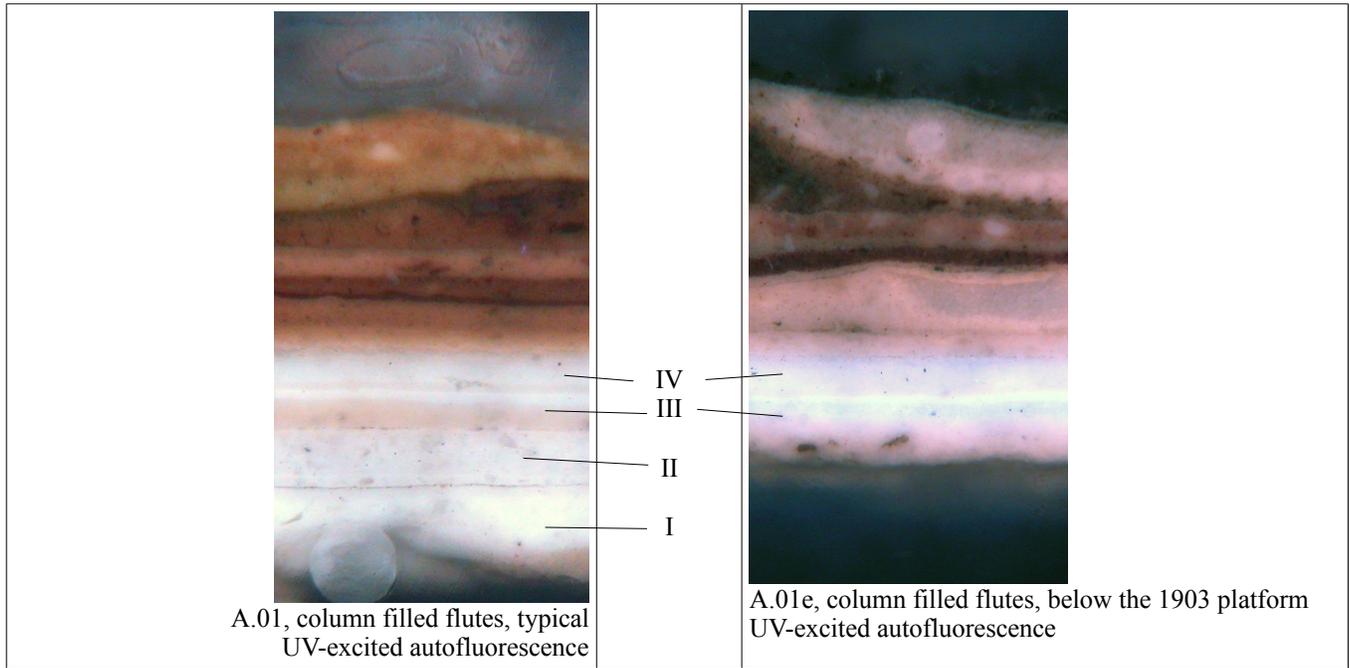
Paint Sample Findings

Samples were taken from both representative and atypical surfaces of the wood column shafts in the lower section where flutes are filled. The wood of the column shafts was treated with an initial "stopping" or priming layer which was noted to vary in color from white to amber, presumably in response to the absorption of resins from the wood. The paint evidence on all elements of the columns represents approximately 19 overall paint finishes. In the earliest sequences, the columns were painted a glossy white.

A01 filled flute, typical	A.01f 'dutchman' at column East	A.01g filled flute below 'dutchman' East	A.01e filled flute, beneath judge's platform	
white	white			
light grey	light grey			
beige	grey			
yellow	yellow			
white +beige	beige			
white +light yellow	white +light yellow			
yellow	yellow			
yellow	yellow	yellow		
buff +ochre	primer +buff +ochre	primer +buff +ochre	buff	
grey			dark brown	
dark brown			buff +salmon	
buff +dark salmon			buff +dark red	
buff +dark red			buff	
buff		cream	cream	
white		white	white	
white		white	white	
white				
white				

A.01e

The paint sequence on the 'dutchman' repair marks when the judge's platform was moved from the East wall, requiring fills to these joins in the columns prior to repainting. The sample from directly below the dutchman reveals that this area of the column was obscured for a period of time, after the initial white paint sequence until the 1903 renovation, presumably because it was below a riser platform in place for the judge's bench along that wall. Similarly, the sample taken from the column below the current judge's platform was not painted originally, as it may have been obscured in 1856 as well, but was then painted consistently up until just before the 1903 re-encapsulation.



The comparative fluorescence response of the earliest white paint treatments on the column shaft samples shows that the first white paint applied to the column where it was sampled below the judge's platform matches the characteristics of the third white paint application on the control sample, representative of typical columns in the room. Accordingly, this area of the column was not painted along with the other columns at original construction, nor during the subsequent repainting. It may therefore be deduced that it was first painted white in 1870, when the original judge's bench was relocated. This third scheme may be used as one benchmark for identifying the 1870 treatment throughout the room.

	A.01c filled flutes, column at entry door	A.01d column at entry door, behind paint-edge line		
				
	white +yellow			
	yellow			
	yellow	yellow		
	buff + green	buff + green		
	buff	buff		
	dark brown			
	buff +dark salmon	buff +dark salmon		
	buff +dark red	buff +dark red		
	buff	buff		
	buff	buff		
white	white			
white	white			
white				
white				

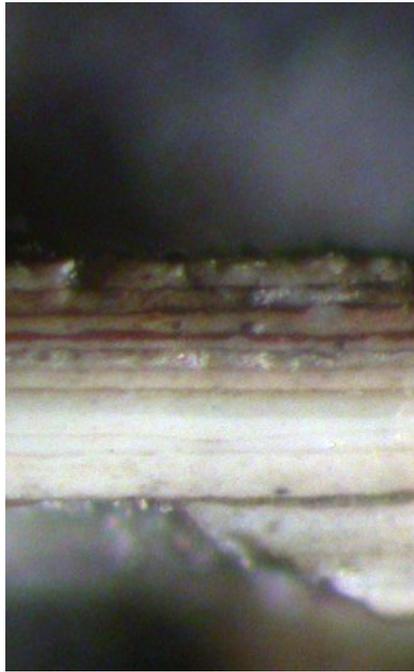
A.01c (partial) at 50x

These two samples, taken from either side of a vertical paint-edge line on a west wall column, reveal that the difference between them is in the earliest two paint layers. The sample closest to the wall is missing the first two layers, potentially due to a built-in fixture or molding in this location in 1856 which may have been removed in 1870. Evidence to support the partition wall shown in the 1903-1909 floorplan was not specifically noted in these sequences.

	A.02 typical, at filled flutes	A.02a dutchman repair at North column	A.02b typical, above filled flutes	A.02c behind paint-edge line at west wall
	white	white	white	white
	light grey	light grey	light grey	light grey
	light grey	light grey	light grey	light grey
	beige	beige	beige	beige
	yellow	yellow	yellow	yellow
	beige	beige	beige	beige
	light yellow	light yellow	light yellow	light yellow
	yellow	yellow	yellow	yellow
	ochre +varnish	primer +ochre +varnish	ochre +varnish	ochre +varnish
	grey		grey	grey
	buff +dark varnish		buff	buff
	dark brown		ochre	ochre
	buff +salmon		ochre	grey
	cream +dk red		buff	buff
	cream		white	white
white		white	white	
A.02 at 50x	white		white	
	white		white	

The paint sequence on the 'dutchman' repair provides a benchmark in the paint history for the circa 1903 re-arrangement of the room which would have required the removal of a bailiff's stand or similar structure in this north wall location and repair of the associated wood join. The sample from the shaft above the filled flutes shows that for three consecutive periods during the later 19th century, the upper part of the column shaft was painted in contrast to the lower part of the shaft.

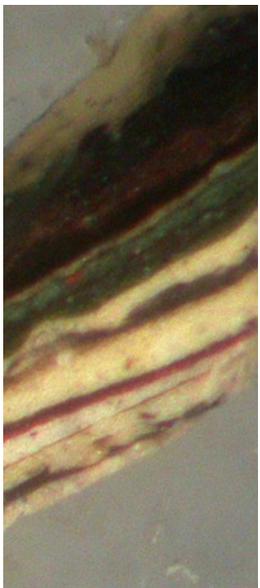
Three samples were taken from the cast iron column base. The cast iron was primed with a pink-grey primer with large flecks of presumably iron filings suspended in it. The sequence of finish paints on the cast iron matches that on the adjacent wood column members.

A.04 column base, typical	A.04a column base below 1903 judge's platform	
white		
light grey		
light grey		
beige		
beige		
white +yellow		
yellow		
buff +ochre		
buff	buff	
dark brown	dark brown (partial)	
buff +dark salmon	buff +dark salmon	
buff +dark red	buff +dark red	
buff	buff	
cream	cream	
white	white	

A.04a
gross sample, low magnification

Comparison of the paint sequence on a typical column base, with that on a column encapsulated below the 1903 judge's platform provides a reference for the last paint layer applied before 1903, as well as the paint layer associated with the 1903 work.

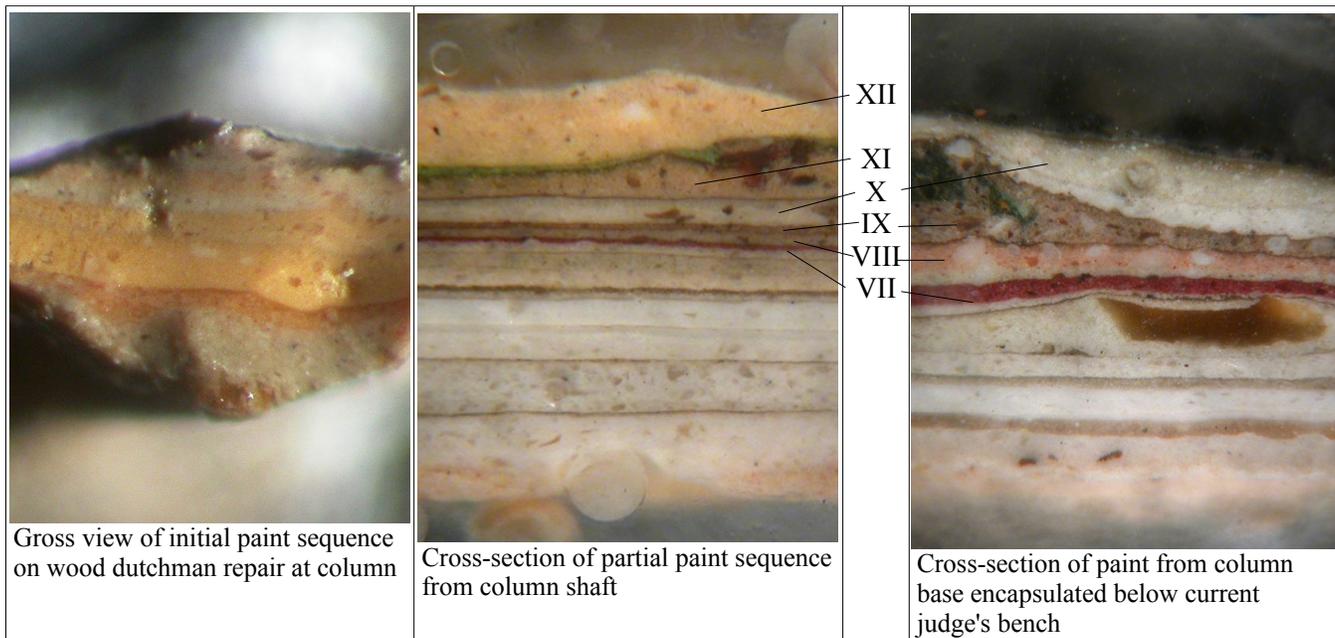
Five samples were taken from the stone baseboards or column plinths. The samples indicate that the stone was not painted originally, and may have matched the stone used for the floor tile.

	A.05 stone base, typical	A.05c column base below judge's platform	A.05d baseboard below judge's platform, at curved north wall	A.05b column plinth below gallery riser line
	black, glossy			black, glossy
	black, glossy			black, glossy
	dark red			
	tan +dark varnish			
	green			
	green			
	buff +dark green			
	light buff	light buff		
	dark brown	dark brown		
	dark salmon greenish-cream	salmon greenish-cream		
	cream +dark red	cream +dark red	cream +dark red	
	buff +varnish	buff +varnish	buff +varnish	
	grey-buff +dark varnish	grey-buff +dark varnish	grey-buff +dk varnish	
	buff +varnish	buff +varnish	buff +varnish	

Below the current judge's platform, the column base was apparently still an exposed part of the room at a time when the baseboard, on at least a portion of the north wall, was covered after the dark red treatment. The floorplan from 1899 shows a heater in this location, before the heating system was recorded as re-vamped in 1907 (after the platform was in place). The red would have been installed after 1870 but before 1899. The plinth sampled from a column in the southwest quadrant of the room, in an area below a paint edge-line, indicates that no paint had been applied here until the mid-20th century, suggesting that a riser had been in this location continuously. In the 1910s, the stone plinths had been painted in keeping with the wood surround trim, which would have created a continuous trim treatment.

Discussion

To establish the benchmark for the 1903 construction, three paint samples have been selected for comparison, all representing the wood column shaft. The sample shown below on the left is from a dutchman repair to a column along the north wall adjacent to the bench structure. The center sample is a typical sequence of early paints on the column shaft and is being used as the standard, and the sample on the right is from the column shaft below the platform which was conceivably not painted in 1903 or any period thereafter.



The earliest sequences on the two samples to the right are generally in line, through and including the dark red (VII), salmon (VIII), brown (IX), and light buff (X). Per this stratigraphy comparison, the light buff was the last finish applied to the columns before being encapsulated below the judge's bench in 1903. The ochre-buff paint which appears subsequently on the center sample would then correlate with refinishing work of 1903. It may be assumed that the relocation of this substantial feature created enough of a disturbance on especially the east wall to warrant a full refinishing of the space.

The dutchman repair at the column, shown left, begins with a buff base paint with an ochre finish and a varnish before the yellow (XII). The dutchman may have been a repair of a railing associated with the 1870-to-1903 configuration.

Column Capitals & Upper Shafts (Study Area B)

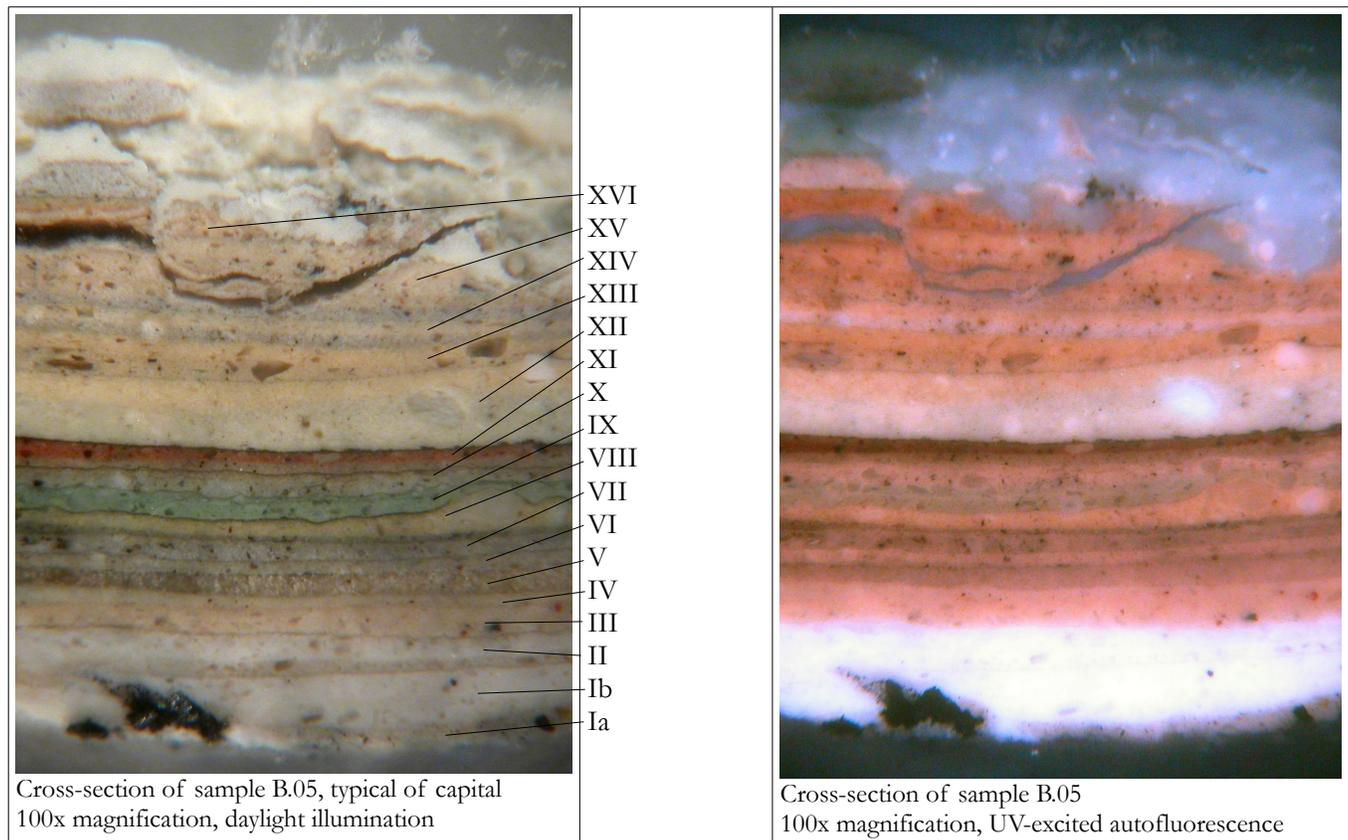
There are no recorded changes which have historically affected the column capitals.

Site Observations

The column capital components are cast iron, fastened as individual ornaments via bolts to the column. In isolated areas, individual cast iron elements have slipped, been removed, or collapsed. The top cap molding is wood, directly below the plaster entablature. Overall, the column capitals and the historic paint finish histories are intact.

Paint Sample Findings

Eleven samples were taken from the column capital. Samples reveal an extensive and vibrant sequence of paint treatments for these capitals. The earliest priming layer is pink-grey with visible iron flecks or filings suspended in it. The original finish layer matches that used on the wood shafts, in a white with a varnish. While the column shafts were painted in white in four sequential paint generations, by the third paint campaign the column capitals were painted a contrasting pinkish-cream. Decorative layers applied during the later 19th century (1880s-90s) appear as partial or overlapping layers, suggesting polychrome treatment in shades such as salmon, yellow, purple-grey and even blue.



The upper shafts of the columns, where the flutes are hollow rather than filled, were finished in contrast to the lower, filled-flute part of the shaft during the late 19th century.

In the 1903 period, the column capitals were painted uniformly in a burnt-sienna color with a varnish. The subsequent finish is a uniform light yellow.

Discussion

Among all the surfaces in the room, the column capitals appear to have received the most vibrant, polychromatic treatments especially in the late 19th century. In this context, it is conceivable that the most polychromatic treatments would have coordinated with monochromatic or subtly patterned wall treatments, while conversely, vibrant wall treatments or wallpaper patterns may have dictated a more restrained treatment of the decorative trim such as these capitals.

Surround Trim & Doors (study area C)

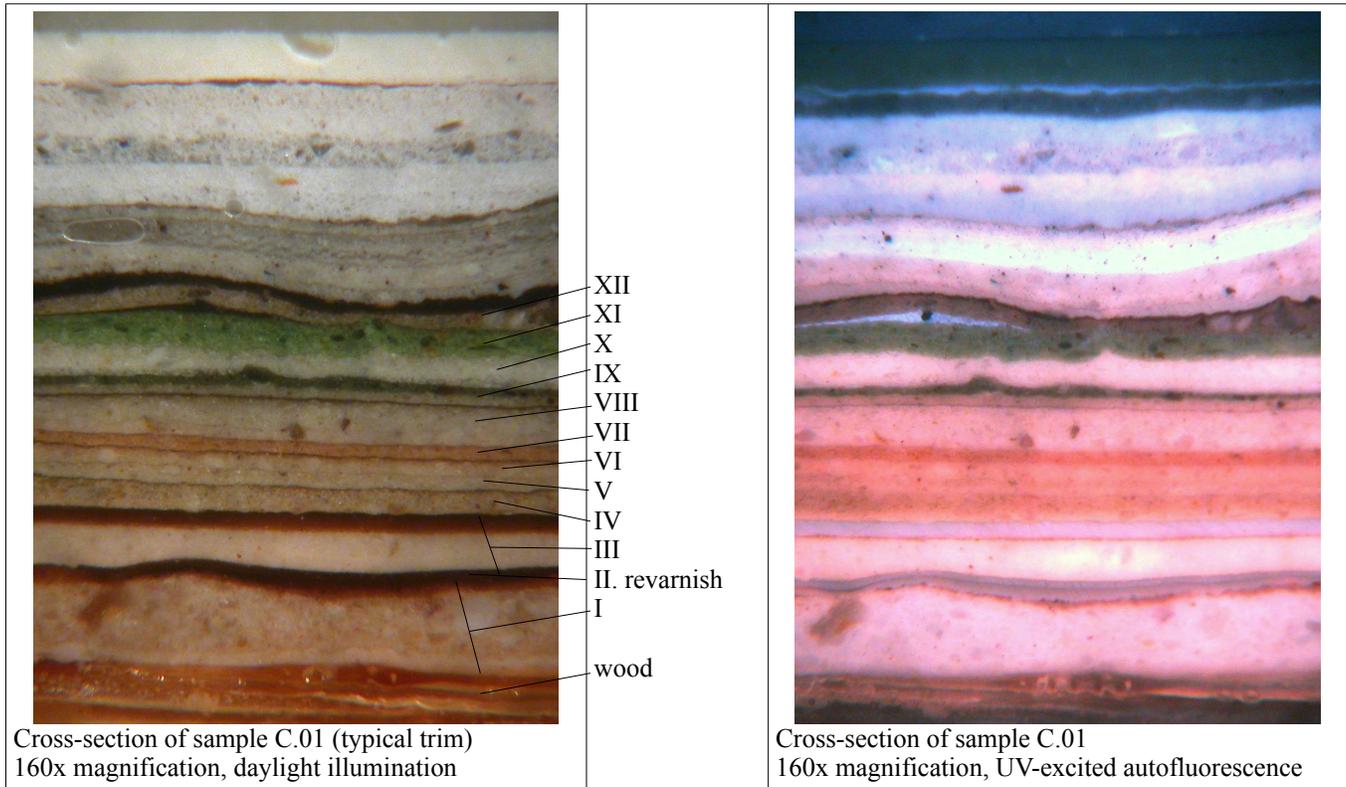
The 1903 photo shows no surround trim for the window openings, yet the stone baseboard has trim blocks. It may be speculated that the 1870 directive to provide more light to the courtroom resulted in not only the enlargement of the laylight dome, but potentially an alteration of the windows as well. The room may have had surround trim for the windows prior to 1870. By the time of the 1911 photograph, the windows are devoid of trim moldings. An 1860 artist's sketch of West Courtroom shows window trim, but that may be a subjective rendering, as the West Courtroom currently also does not have window trim.

Site Observations

The current bailiff's door on the east wall appears to be a later modification or addition. The decorative anthemion does not appear in the historic photo from 1911-14, and may have been reproduced from others in the room in the 20th century.

Paint Sample Findings

The woodwork of the door surrounds is intact, and samples retain the full sequence of approximately 19 historic finish campaigns. The earliest finishes are in cream paint with a varnish coating. Evidence of woodgraining has not been specifically observed, but the possibility has not been ruled out. The woodwork was revarnished once, then refinished using the same system of cream paint with amber varnish. In 1903 the wood trim was painted a green color, and in the subsequent campaign it was finished using a tan paint followed by a very dark varnish coating.



Cross-section of sample C.01 (typical trim)
160x magnification, daylight illumination

Cross-section of sample C.01
160x magnification, UV-excited autofluorescence

This cross-section of typical wood surround trim shows the earliest cream paint followed by a warm amber varnish. The fluorescence response shows one later re-varnish before the finish system was recreated.

	C.01 trim (typical)	C.01a trim at bailiff's door
	cream-white	cream-white
	light grey	light grey
	grey	grey
	light grey	light grey
	grey	grey
	grey	grey +light yellow
	tan +dark varnish	tan +dark varnish
	bright green	bright green
	light buff	light buff
	buff +dark green	buff +dark green
	cream +glaze	cream +glaze
	salmon	salmon
	cream, 2 cts +glaze	cream, 2 cts +glaze
	cream	
cream +varnish		
cream +varnish		

C.01

The trim comparison shows that the surround moldings at the bailiff's door are not original to construction, but were installed during a later generation finish.

	C.11, door to witness room (typical)	C.11a door at bailiff's stand	
	cream-white	cream-white	
	light grey	light grey	
	grey	grey	
	light grey	light grey	
	grey	grey	
	grey	grey	
	grey	grey	
	tan +dark varnish	tan +dark varnish	
	bright green	bright green	
	light buff	light buff	
	buff +dark green	buff +dark green	
	buff	buff	
	buff +glaze	buff	
	salmon	salmon	
	salmon	salmon	
cream	cream +salmon		
cream +amber varnish			
C.11, gross sample	cream +amber varnish		C.11a, cross-section

Comparison of paint on a typical door, and that on the bailiff's door, show that this was a later addition.

One sample (C.14) was taken from the window sill behind the judge's platform on the north wall. The paint sequence on this sample begins with a white primer, then the bright green paint associated with generation XI, circa 1903. This sill molding is partially below the platform itself, and observation of the wood below the platform shows that it has no finish coats of any kind. Sample C.14 represents a change, such as replacement of the sill, or that prior to 1903 the sill was more completely obscured, as by the bailiff's stand that presumably existed in this location from 1870 to 1903.

Discussion

The paint samples from the bailiff's door indicate that this was a later replacement or installation. There was a door opening shown in that location on the 1899 floorplan, so it may have been added after 1870 to serve the judge when the bench was located on the east wall. Based on stratigraphy comparison with known or suspected 1870 finishes, it can be concluded that the bailiff's door was not an 1870 addition, but was added sometime after 1870, but before 1903. While the judge's bench was relocated to this East wall area in 1870, this door was not added until a later period. Because one wallpaper was observed in place behind the door trim, a location to which it would have been impossible to evenly apply wallpaper, the door opening was created at the time of, or shortly after, the first use of wallpaper in the room (potentially 1870s or 1880s).

Entablature, Cornice, Ceiling (study area D)

There are documented changes to the coved ceiling, which historically required reinforcement, and was modified with changes in lighting fixtures. The historic photograph from the 1910s reveals a subtle striped pattern on the ceiling, which may be an indication of a wallpaper or similar wallcovering at that time. During the 1950s, substantial work to the room apparently included replacement of the plaster in the dome with an acoustical, textured, surface.

There are no historic changes specifically affecting the moldings of the entablature or cornice.

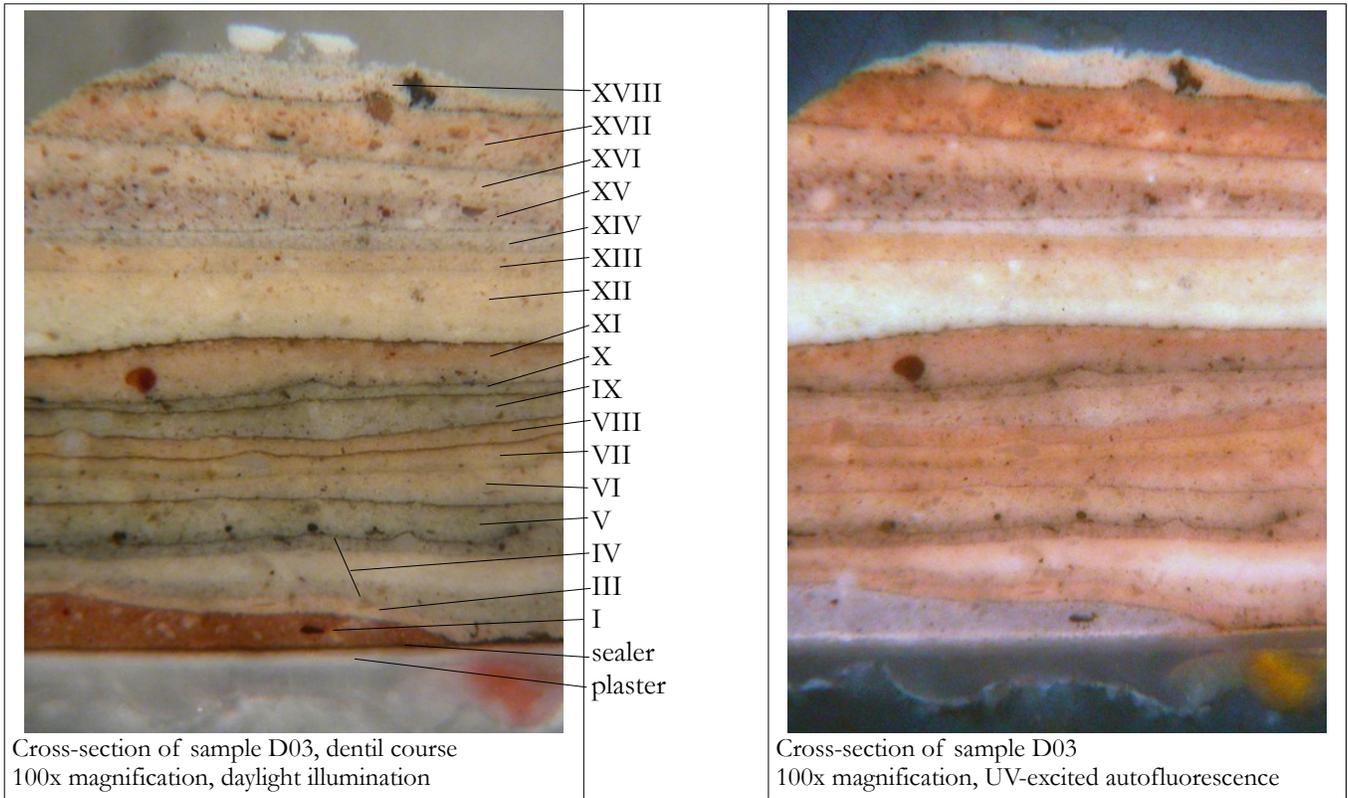
Site Observations

Inspection of all accessible surfaces of the entablature proves that all running moldings were removed and re-run, probably during the 1950s restoration. The historic painted surfaces which survive in this area are limited to the dentil molding, which at the time may have been considered too challenging to re-create. While isolated paint failures were noted on this dentil molding, substantial areas of paint accumulation survive intact.

Paint Sample Findings

Five paint samples were taken from different areas of the entablature frieze, one sample was taken from the cornice fascia, three samples were taken from the coved ceiling and one sample from the beam soffit. All of these samples confirm the site finding that to a substantial extent the entablature, cornice, ceiling and soffit were all replaced in the 20th century.

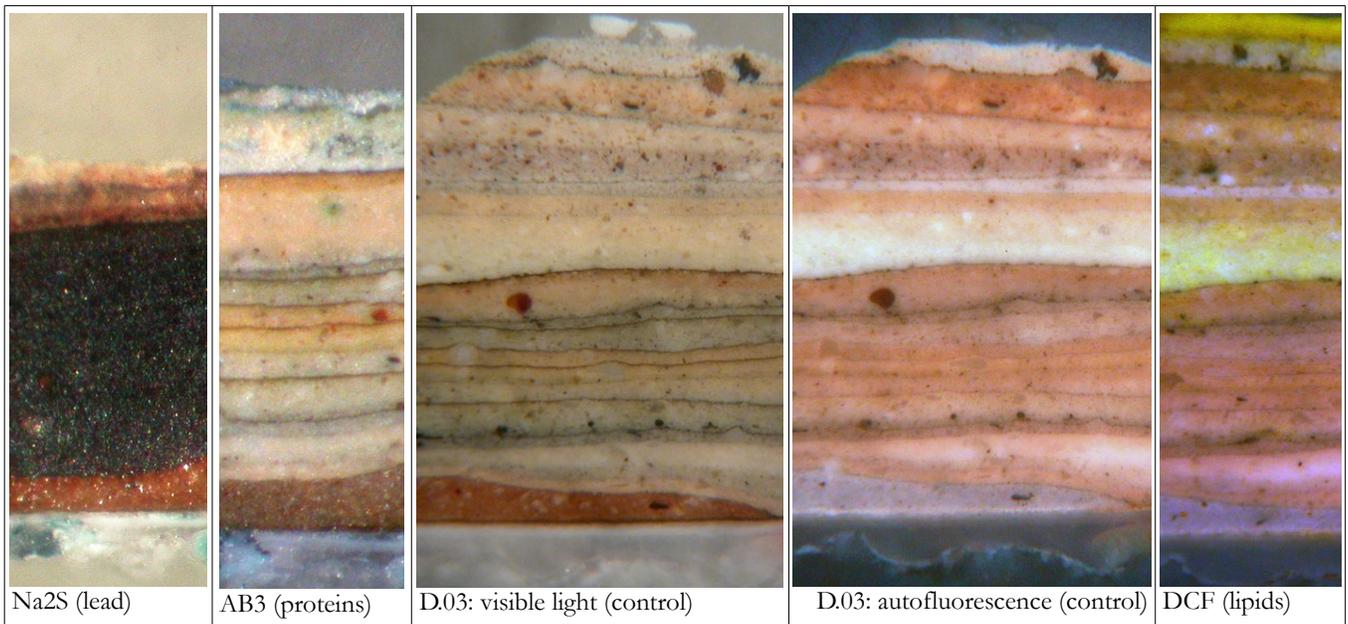
Four paint samples were taken from the dentil molding elements, and retain the full sequence of historic paint layers. The surface of the plaster exhibits a fine dirt accumulation, sealed in by the later applied preparation sealer coat. That the plaster was exposed in-situ for a short period of time is consistent with the findings on the wall surfaces as well, which were prepared and base coated, but not decorated immediately. The earliest finish observed on these few samples from a limited area of the entablature is visually consistent with the paint first applied to the walls, characterized historically as "fresco." Limited composition testing confirms that it is not oil-based, has no protein component, and is not lead-bearing. The original color on the dentil is cream, while the recess and the top edge of molding below the dentil course were both painted a burnt-sienna color. As suspected for the walls, the 'frescoed' plasterwork may not have been overpainted until the III generation, potentially 1870. In 1903 (XI), it was finished in ochre with a varnish, and in the subsequent period (XII) this area of the molding was uniformly light yellow.



Cross-section of sample D03, dentil course
100x magnification, daylight illumination

Cross-section of sample D03
100x magnification, UV-excited autofluorescence

This sample exhibits the full finishes history as it survives on the dentil molding. The earliest, “fresco” coating is in a burnt-sienna color. The fluorescence response of this layer is not consistent with a traditional oil, oil-casein, or distemper type paint, suggesting it may be an alternative paint medium.



Na2S (lead)

AB3 (proteins)

D.03: visible light (control)

D.03: autofluorescence (control)

DCF (lipids)

Supplementary staining tests for typical binding media confirm that this initial decorative treatment was not executed in a lead-white/oil nor in a protein binder, but an alternative medium. The test for lipids using 2,7 dichlorofluorescein (DCF) registers negative in that layer, compared with the control image. The AB3 test in normal light, to detect proteins, is likewise negative, and the test for lead in the form of lead-based pigments (typical for oil paints) is also negative for that first paint layer, although the series of layers which follow all turned black as a positive response.

Discussion

Substantial moldings of this entablature were observed on-site and confirmed in samples to represent 1950s work, and the historic paint evidence is gone. The limited sound area of historic paint accumulations in the dentil course indicates that the plasterwork was originally finished in keeping with the walls, though it did not require base-coating, potentially due to a quicker-curing plaster composition (such as a higher gypsum content versus the lime plaster of the walls) and/or to less of a requirement for creating a smooth and flat expanse to decorate as was the case with the walls. It is speculated that the 'fresco' treatment of this plasterwork, like the walls, was valued enough that it was not painted over in the second-generation painting scheme established for the trim of columns and doors. The first layer of overpaint here, in a pinkish-cream, may coincide with the 1870 redecoration. In subsequent campaigns, the dentil course was largely treated monochromatically and without some of the vibrant colors selected for other elements in the room during the later 19th century.

Some of the samples collected as loose fragments and described in the "Archaeology" section below may be relevant to this entablature and as such, may provide a fuller range of potential palette colors for especially the earliest, 1856 finishes.

Laylight Dome (study area E)

The laylight dome is a documented renovation, dating to 1870, when it replaced a previous ventilator in this location. In the 1950s the dome was described as lined with a gilded Lincrusta wallcovering,³ which when removed revealed a painted pattern which was roughly replicated at that time. In related field notes, the assertion was made that the painted decoration on the plaster dome dated to the 1850s, perhaps unaware that the entire laylight dome structure had been installed or enlarged subsequent to original construction.



Raking light observation of the frieze area, which currently has canvas applied over the painted wood, reveals a repeating pattern of what appears to be a classical wave motif. It was established in the field that this decoration was not applied to the canvas, but telegraphs through the canvas from an applied layer below. Notably, this telegraphing pattern is evident in the historic photo from the 1910s as well.

The current decorative painted pattern in the dome has been executed on canvas, applied over the historic painted plaster. Raking light inspection shows the extent of damage to the underlying paint layers.



Decorative Painting

Based on the records from the 1950s which describe historic decorative painting on the dome, the existing canvas, which dates to the 1950s renovations, was partially released and pulled back as an investigative approach. The canvas had been applied in small segments with numerous seams, and had been painted *in situ* once glued in place. One of the seams was opened, and the two adjoining segments gently pulled back by mechanically releasing the adhesive, which was found to be easily reversible. Despite the damage and losses to the historic paint layers below the canvas, due partially to the removal of the previous Lincrusta wallcovering in this location, as well as plaster repairs, the historic decorative scheme was found to partially survive.

³ Lincrusta, if that in fact, was invented in the UK in 1877. (lincrusta.com) First production in the US was in 1883. “Anaglypta,” a variation, launched in 1887.



Overall panel design; the historic panel is wider than the re-interpretation, resulting in 10 panels instead of the current 12



Detail of the historic painted decoration

The historic design and color scheme differ from the interpretation installed in the 1950s. The ground is a very dark green (approximate Munsell 2.5GY 4/3) with a design executed primarily in shades of ochre (approximate Munsell 2.5Y 6.5/4) and dark red (approximate Munsell 2.5YR 3.5/8).⁴

⁴ Approximate Munsell matches were generated on-site by comparison to limited representative areas of each of these three observed colors, where they were deemed to be sound and potentially unaltered.

To investigate the wave pattern telegraphing through the canvas on the wood frieze, the canvas in this area was partially pulled back and a small investigative scraping done to determine the nature and location in the sequence of this decorative feature. Each layer in the sequence was scraped down one at a time to look for evidence of a decorative treatment. In a very early layer close to the wood substrate, evidence was found of a built-up white line, outlining the wave pattern, possibly a gesso or “stucco” technique, or the edge of a previous applique.

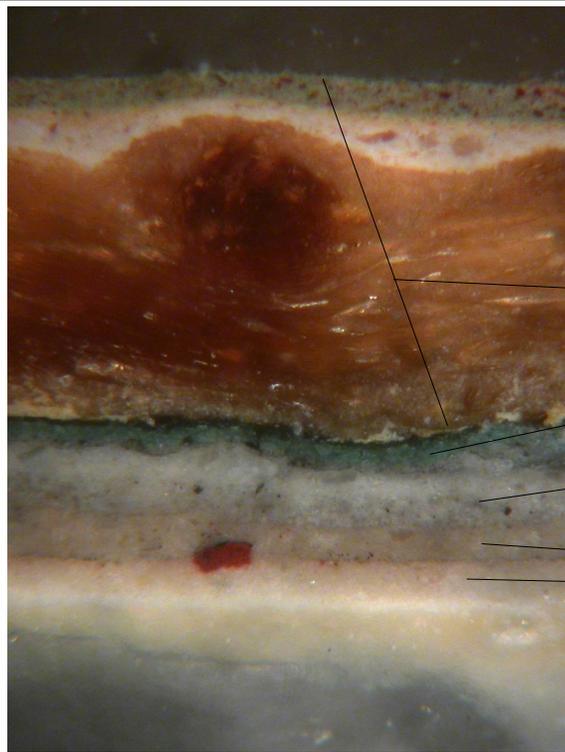


(dotted line added)

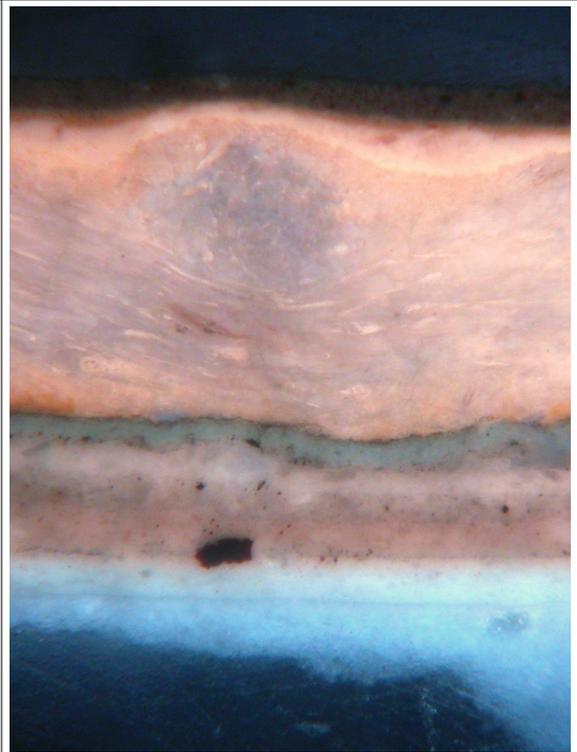
Paint Sample Findings

Four samples were taken from the plaster dome in various locations. The plaster dome has only four layers of paint prior to the current canvas. According to the historical record, the current canvas replaced an earlier Lincrusta wallcovering; this or another wallcovering may potentially have been in place for an extended period of time. The decorative paint scheme may likewise have been maintained for an extended period of time. There is no available reference for the generation of the decorative painted design.

The first layer on the plaster is an off-white base layer with pink finish. Noted variability in this earliest paint application could suggest a decorative treatment to the dome in the original 1870 scheme as well.



Cross-section of sample E.01, plaster dome
160x magnification, daylight illumination



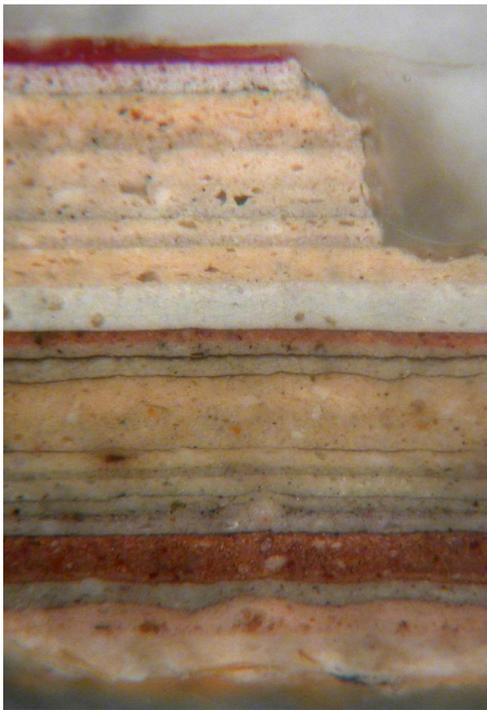
Cross-section of sample E.01
160x magnification, UV-excited autofluorescence

This cross-section shows a limited sequence of applied paint on the plaster dome prior to the canvas treatment. The deep green paint visible below the canvas represents the ground color of the decoratively painted trompe l'oeil panels.



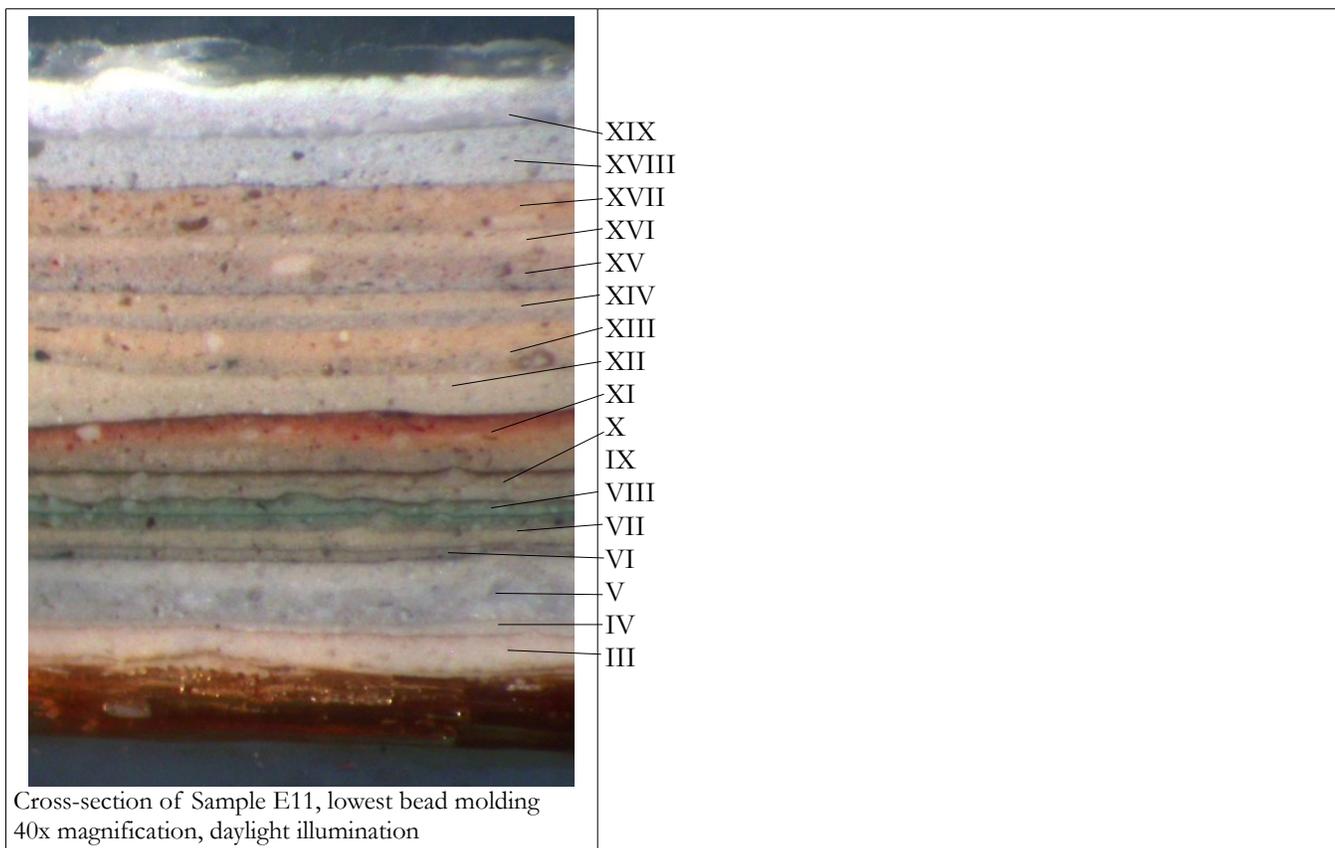
This wider view of cross-section E.01 illustrates the mechanical stress and disruption that the early paint layers suffered through the action of removing Lincrusta, which may have been applied with a high-strength adhesive.

Six paint samples were taken from areas of the wood frieze. The painted wood frieze has recently been covered with a canvas, painted red, though it retains an extensive paint history below the canvas. In 1870 the frieze was likewise painted pink, over a cream-white ground. The telegraphing feature was applied in a later generation.

 <p>Cross-section of sample E.02, frieze 100x magnification, daylight illumination</p>	E.02 typical	E.02a at 'wave'	 <p>Gross sample E.02a low magnification</p>
	white+bright red		
	grey+yellow	grey+yellow	
	grey+yellow	grey+yellow	
	grey+yellow	grey+yellow	
	dark yellow	dark yellow	
	light grey	light grey	
	buff+sienna	buff+sienna	
	buff+dark glaze	buff +dark glaze	
	dark yellow	dark yellow	
	yellow	yellow	
	yellow	yellow	
	grey	grey	
	grey+olive	grey +olive	
	deep red-brown decoration	white gesso/ impasto +dark glaze	
grey	grey		
cream+pink	cream+pink		

This comparison of frieze samples shows that the third finish after that from 1870 involved a decorative application of a relief “wave” pattern executed using a thick, gesso-like layer, with a dark surface treatment. The representative sample on the left shows that other areas of this frieze were painted a corresponding deep red-brown.

Twelve paint samples were extracted from the moldings and laylight sash. All moldings are wood except the lowest ring where the dome transitions to the ceiling. This was found to be recent replacement plaster. Complete paint sequences appear to survive on the woodwork of the moldings and sash. The earliest, 1870, finish for the wood moldings was a cream paint with a warm brown glaze.



Discussion

The earliest finish from 1870 construction in the laylight dome appears to correspond to the pinkish-cream observed on the column capitals from the third campaign of finishing. By the third, if not the second, generation of painting in this area, the frieze was detailed with an apparent relief wave pattern and accompanying decorative painting. There is likewise no external reference for when this work was executed, or whether it corresponded with the trompe l'oeil panels painted in the dome. Both treatments would have been installed after 1870, but before 1903.

Archaeology

In the course of site investigation and survey, numerous fragments were recovered of historic finish materials, out of their original placement or context. As such, the original location or source of these fragments is not known, and can only be speculated based on the site where each fragment was recovered.

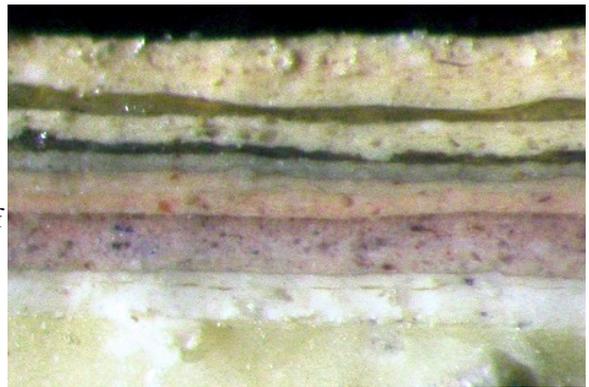
Painted plaster fragments were recovered from hollows at the top of some of the cast iron column capitals. These would have likely fallen during demolition of any plaster surface above column height, conceivably from the entablature, cornice, cove ceiling or even the wall. Fragments were additionally recovered of painted plaster and wallpapers from the gaps behind door headers. Scraps of at least four different wallpapers were recovered from these areas, as though having been wedged into these gaps in the course of being scraped off the wall. The different papers were distinguished by characteristics of the paper base as well as by sequence.

Loose fragments of painted plaster and wallpaper were also recovered from a debris field on the floor beneath the judge's bench platform.

Site X1

Site X1 is the door header on the West wall near the South corner. Wallpaper scraps were recovered from behind the door header where there is a gap between it and the wall. The wallpaper scraps recovered are all of the same apparent type, with a coarse, woody paper base suggesting a utilitarian wallcovering, and no obvious surface decoration (see WP-08 in the appendix Catalog of Recovered Wallpapers).

One fragment of painted plaster was recovered from this gap. The paint sequence is consistent with a wall surface, beginning with the white base coat, pink decorative layer, and later light ochre and buff paint. After the buff paint there is a layer of residual wallpaper glue, followed by a cream paint, another layer of glue residue and a final cream paint.



Gross sample at 40x magnification

Site X2

Site X2 is the gap behind the door header on the East wall, historically the Bailiff's door. Scraps of wallpaper, including 2 papers adhered together in sequence (WP-05/05a), were recovered, in addition to painted plaster fragments.



Scraps of wallpaper were recovered with a *fleur-di-lis* pattern matching the extant paper on the encapsulated north wall (WP04).



Two sequential scraps of wallpaper were recovered, one (WP05) with a partial design (as of ribbons). This paper has an earlier paper (WP05a) adhered below it.

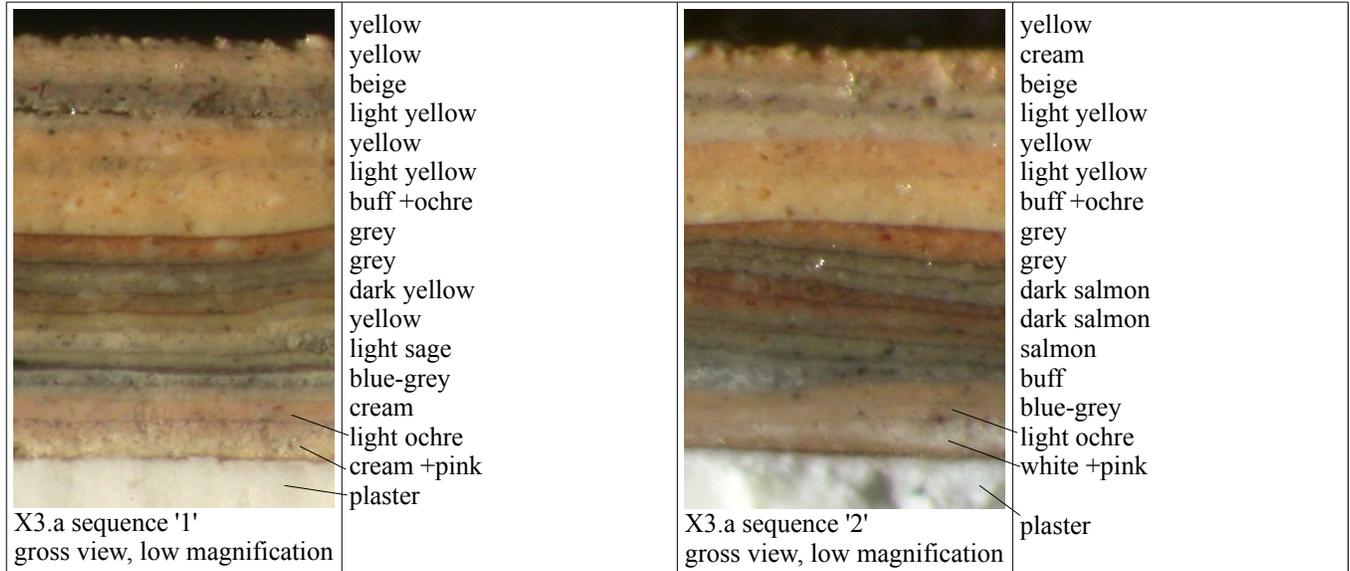
That fragments of WP04 (the *fleur-di-lis* pattern) were found in this door header location provides evidence that this paper was not limited to the dado area, but was also used for the upper wall.

Fragments of painted plaster recovered from this gap match the sequence found on paint sample P11 taken from the wall in this location, with four early paint layers before remnants of an applied wallpaper, one with a blonde paper base.

Site X3

Site X3 is the hollow at the top of a column capital along the West wall toward the north end of the room. These column capitals apparently collected debris from the demolition of plaster surfaces above column height, potentially from the entablature, cornice or cove ceiling. Assuming that this debris resulted from demolition which occurred in the 1950s, these fragments at the very least provide a benchmark for the last paint finish installed prior to 1954.

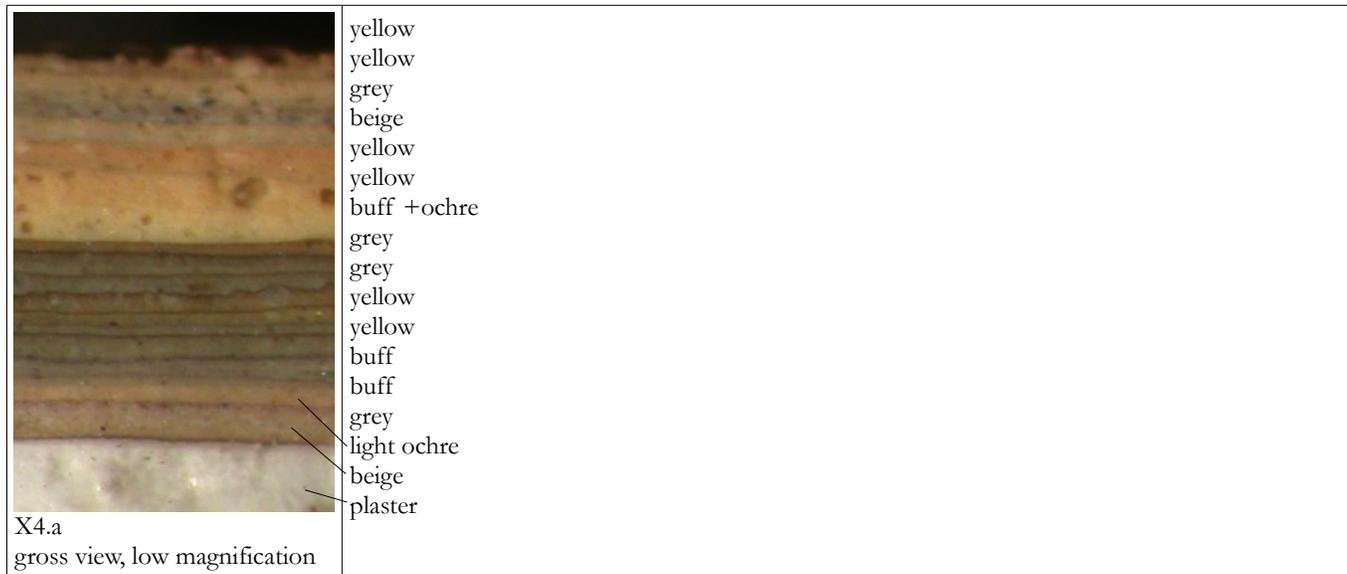
Among the fragments of painted plaster collected from Site X3 are two slightly different paint layer stratigraphies.



The two alternate paint sequences as shown at low magnification, viewed on edge. They reveal slight variations in the color scheme through the paint history. The last, buff color paint, provides a contextual reference for the paint finish immediately prior to 1954. These fragments may represent elements of the entablature. The visual characteristics of the earliest layers applied to plaster match those of the early “fresco” paints identified on the dentil molding of the entablature. The color of this layer on sequence '1' is a yellow-cream color, not observed on wall or dentil samples. The color applied to the sequence '2' fragment is cream-white, possibly in keeping with the color identified on the dentil molding. The slightly curved profile of this chip further suggests that this may have come from a running molding of the cornice. Both chips reveal a highly decorative historic treatment during the late 19th century.

Site X4

Site X4 is likewise the hollow of a column capital, one located in the southwest area of the room. One plaster fragment was recovered from this site. This sample is similar to, but reveals a subtle variation in paint treatment from the other two fragments shown above. The earliest paint sequence begins with a beige “fresco” type paint with a subtle pink surface application. This plaster was not base-coated prior to the “fresco” coating, and reveals no evidence of historic wallpaper use, ruling out the wall as the original location. Subsequent to the cream with pink, this element was painted light ochre, then grey. This fragment may likewise have come from an entablature element.



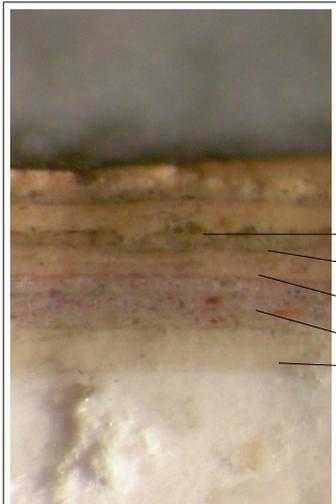
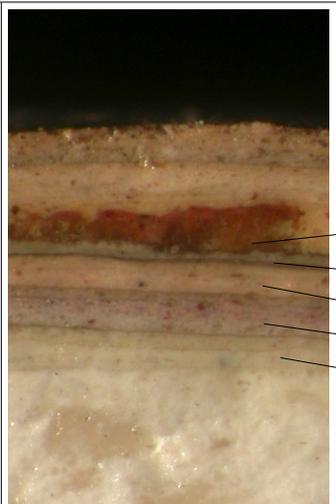
Site X5

Site X5 is the encapsulated area beneath the current judge's bench. The bench was re-installed in this north wall location in 1903, though modifications to the platform and stairs were made during the 1950s. As such the loose fragments in the debris field on the floor could have come from any surface that was demolished in 1903 or in the 1950s, and found its way swept under the platform. Many of the recovered plaster fragments in this area reveal wallpaper glue directly on the finish coat plaster, consistent with the findings on the wall in this location where sampled *in-situ*. Where paint is noted on plaster fragments in this area, it is more consistent with the recent, mid-20th century layers (estimated 1920s-40s). Loose wallpaper fragments were identified matching the existing *fleur-di-lis* wallpaper in design features. In addition, fragments were found of a wallpaper with a greenish-brown base, either loose or adhered directly to plaster, and in some cases with a second wallpaper adhered to it, one with a reddish-brown paper base. Both papers have no apparent applied decoration, though the reddish-brown paper has a uniform, light yellow paint applied over it.

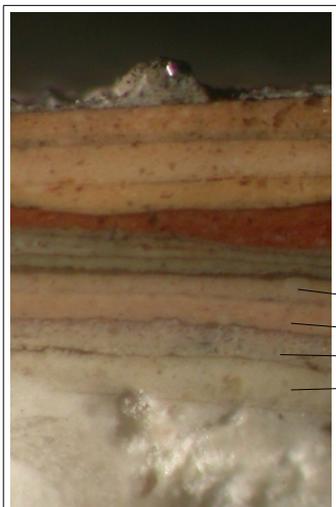
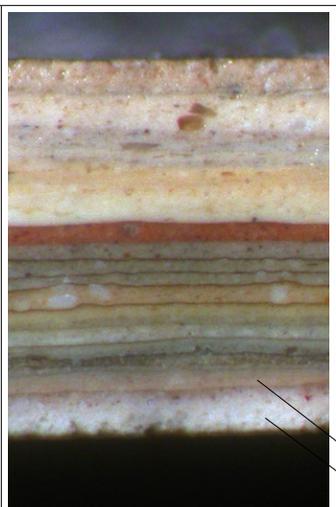
No samples of painted plaster representing the earliest wall finishes was located in this debris field.

Site X6

Site X6 is a hollow of a column capital on the south wall, in an east-side leaf hollow which would have been under the soffit. Several chips of painted plaster were recovered from this site.

 <p>X6.a.1 gross view, low magnification</p>	<ul style="list-style-type: none"> yellow grey yellow glue residue buff light ochre decorative "fresco" 2 coats white base coat 2 coats plaster 	 <p>X6.a.2 gross view, low magnification</p>	<ul style="list-style-type: none"> yellow cream yellow glue residue buff light ochre +olive decoration decorative "fresco" 2 coats white base coat 2 coats plaster
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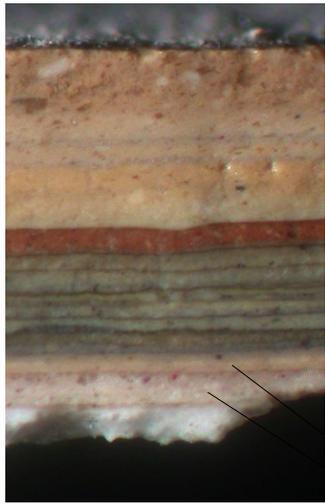
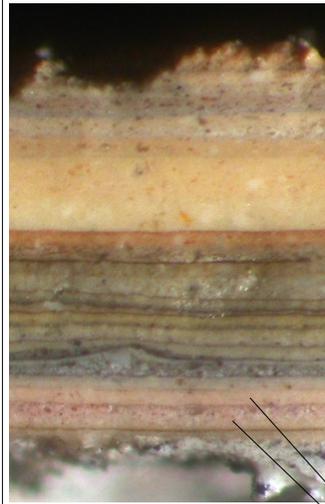
Based on the base-coating of the plaster in these samples prior to the decorative pink layer, these chips may be interpreted as originating from the wall rather than from an entablature molding. These chips show that some point in the early to mid 20th century the accumulated wallpapers were substantially removed and the wall plaster (at least above dado level) was painted three times in shades of cream or yellow before being removed in the 1950s.

 <p>X6.a.3 gross view, low magnification</p>	<ul style="list-style-type: none"> yellow cream light yellow buff + sienna grey buff light ochre +olive decoration pinkish-cream cream decoration +purple white base coat plaster 	 <p>X6.a.4 gross view, low magnification</p>	<ul style="list-style-type: none"> yellow cream grey white + light yellow buff + sienna grey grey ochre ochre green light grey grey coarse buff grey pinkish-cream cream decoration +pink
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Sample a3 on the left exhibits the white base coat on the plaster, with a decorative layer executed in cream with a purple surface application. The white base coat suggests wall, but the decorative color does not match that used for the wall. The subsequent paint layers are likewise not consistent with wall treatments. It is suspected that this chip may have originated in the soffit, and therefore would have been initially finished per the walls, but in a lighter, more purple hue, and was not wallpapered, but painted more in keeping with the adjacent entablature. The chip on the right, a4, appears consistent with chips recovered from suspected entablature moldings, with an original cream decorative layer and subtle pink surface treatment.

Site X7

Site X7 is the column capital on the north wall, to the right behind the judge, at a side-facing hollow leaf, under the soffit. From this location, chips of painted plaster were recovered with two slightly different paint sequences.

	<p>yellow cream cream yellow light yellow buff +sienna light grey light grey ochre ochre green grey grey dark blue-grey coarse buff blue-grey light ochre cream decoration +pink surface plaster</p>		<p>yellow cream beige cream yellow light yellow ochre buff buff buff ochre green buff buff dark blue-grey light grey coarse blue-grey light grey light ochre cream decoration +pink surface</p>
<p>X7.a1 gross view, low magnification</p>		<p>X7.a2 gross view, low magnification</p>	

These two chips from this site exhibit a similar paint sequence, but with a possible subtle difference in the pink of the first decoration. Likewise at the time of the 1903 redecoration, one element was painted in the sienna color, the other in ochre.

Interpretation and Chronology

1856

Surviving fragments of the original plaster wall show that the plaster received base layers of white in anticipation of receiving decoration. A fine soiling accumulation on the white paint shows that this decoration did not happen immediately, but that these oil coatings were allowed to dry for a period of time. The evidence of Julian's modest \$200 sum for painting the east wing seems to support the theory that he provided the base-coat work for the walls in 1855-56, but that an artist came in later to execute the final decoration. The layer that has been historically described as "fresco" has yet to be characterized, but can, based on preliminary tests, be considered an alternative paint binding medium. The technique appears to be a combination of integrally-pigmented paint (especially on the walls) with an additional applied color wash, possibly a watercolor or similar which would have penetrated the surface of the paint layer. This type of finish certainly suggests an artistic effect.

The same type of layer appears on the remaining dentil molding as the first layer, applied to the plaster over a sealer coat, which similarly sealed in some soiling accumulation at the plaster surface. The color used for the dentil itself is a cream, while the recesses between the dentils and the thin running molding below were finished in a burnt-sienna. Additional colors for the lost entablature moldings may be suggested by the fragments of painted plaster recovered as demolition debris from the 1950s work.

The columns from iron base to capitals were finished in a monochrome white paint applied over a primer layer appropriate to the wood or iron substrate. The white paint itself is judged to have been glossy, and it received an additional varnish coating. Based on stratigraphy comparisons, it is believed that the stone of the baseboards and column plinths was not painted originally, and potentially matched the stone tile of the floor.

Samples from the woodwork of doors and surround trim show an initial cream paint followed by an amber varnish. Evidence was not specifically observed in the samples to suggest a wood-grain treatment, nor in the small-scale on-site exposure of the earliest finish. However this possibility should not be ruled out, as the decorative glaze may simply have been very subtle, the pigment lightly applied in a hue very similar to the paint or varnish. The woodwork of the entry surround received the same initial finish layers, though the cream base paint was noted to be somewhat darker; it is possible that this more formal entry area was intended to simulate a darker or more exotic wood species.

The painted surfaces of the laylight dome were not in place in 1856. The ceiling has been modified and/or replastered, and evidence was not found of historic paint or paper finishes.

Pink (“fresco”) Munsell 7.5R 7.5/2.5	Cream (“fresco”) Munsell 10YR 8/2.5	Burnt-Sienna (“fresco”) Munsell 7.5R 5.5/3	White (10YR 9/0.5) +varnish Munsell 5Y 9/2.5	Cream (2Y 8.5/3) +warm varnish Munsell 7.5YR 5/7	Dark Cream (10YR 7.5/2.5) + warm varnish Munsell 5YR 5/7
walls	dentil face	recesses between dentils; thin molding below dentil course	column bases column shafts column capitals	surround trim doors	surround trim at entry door

Note the “fresco” coatings may have had more color variation and/or been more artistically applied than the samples exhibit.

1870

There is believed to have been a partial, interim repainting of elements of the room between 1856 and 1870. This is based on the layer sequence on especially the columns, which were repainted white during this period, and evidence that the wood surround trim was revarnished. There are few benchmarks to absolutely identify the finishes for the significant 1870 point in the room history, when changes were made to the room layout. Per the column where it is encapsulated below the 1903 bench, the third of the four early white paints is interpreted to be 1870, when it would have first been painted upon the removal of the 1856 bench. The coordinating third finish on the column capital, a pinkish-cream, coordinates well with the earliest finishes applied to the 1870 laylight dome moldings and frieze. Speculatively also, the light ochre paint which appears on the wall samples may date to 1870, the first event which would have required a redecoration of the walls, to reintegrate them after the reconfiguration of furnishings.

Intervening Years (1870s through 1890s)

There was anecdotal reference in the 1950s documentation of a major redecoration which occurred in 1894, although primary documentation of this has not been found. The 1894 date however, would be consistent with the *fleur-di-lis* wallpaper generation (immediately prior to the 1903 bench relocation). The last paint finish applied to the columns prior to 1903, and which would have coordinated with the *fleur-di-lis* paper is a light buff color.

The wave pattern in the frieze is discernible in the 1911 photograph, so this decoration is known to not only post-date the 1870 construction of the laylight (as it is not part of the original treatment in this location) but to pre-date the 1911 photograph. Both the decorative painting of the dome and the frieze would have been installed in a period after 1870 but before 1903, speculatively during or around the time of documented 1880 redecoration.

Around 1880 too, it is possible that the current bailiff's door was added, the trimwork applied over a layer of existing wallpaper applied either at that time or in the period immediately before. In these intervening years, it may be assumed that wallpapers continued to be used for redecorating the walls. In a scenario where a highly ornate paper pattern was used, the corresponding trim may be expected to have been monochromatic, such as the many dull buffs and greys observed in the paint sample sequences from these years. Conversely, the periods of more vibrant, polychromatic decoration of trim, especially in the column capitals, may have corresponded either with a simple paint

finish for the walls, or with a very subtly patterned or undecorated wallpaper. The timing of application of wallpapers may also not necessarily have coincided with repainting of the columns and trim, as it may have been much simpler and cheaper to replace wallpaper, and therefore done with more frequency, than relatively laborious painting.

1903-1910s

The target date of interpretation of the room is currently to a period between 1903 and 1914, due primarily to the current layout of the furnishings, specifically the judges bench, and structural work such as the laylight dome and bailiff's door. Further, there is available photodocumentation of the room in 1911-1914. There are only two documented points of reference for this target period after 1903 and into the 1910s. The judge's bench was relocated in 1903 to its current position on the north wall. No other changes to the room or finishes were specifically documented relating to that year. Likewise, there is no specific documentation suggesting that the room was redecorated, or was not, in the subsequent period between 1904 and 1911. A partition wall on the west side of the room may have been installed as part of the 1903 reconfiguration, but had been removed again before the photographs were taken in the 1910s.

1903

Initial interpretation of the 1903 period is focussed on the north wall bench location, and specifically those elements which would have been encapsulated or changed as a direct result of the re-installation of the bench platform. Analysis of paint sequences applied to dutchman repairs to the wood columns, in comparison with the early sequence on the columns as encapsulated below the current bench platform, provides the benchmark for the paint layer in place until 1902, and also for the paint layer applied once the column repairs were complete in 1903. This 1903 scheme involved a relatively bright green paint for the woodwork of the surround trim, an ochre with varnish for the column shafts and cornice, and a deep red or sienna with varnish for the column capitals. This scheme was noted to be consistently applied throughout the room, and to involve only this limited palette of colors on those historic surfaces remaining to be sampled.

Bright green Munsell 7.5GY 4.5/3	Ochre +varnish Munsell 6.125YR 6/5	Sienna +varnish Munsell 2.5YR 5/5
Surround trim and doors	Column shafts Dentil course	Column capitals Laylight dome moldings

Wall evidence from 1903 is missing or cannot be interpreted from the evidence at hand.

Comparison of these colors and values to those depicted in the historic photograph proves that the room was redecorated once after 1903, but before the 1911 or 1914 date of the photograph. Conceptually, this refinishing date may coincide with the 1909 date on a historic floorplan.

Circa 1909

Insufficient wall evidence survives to correlate the finishes with the room history. Based on the substantial evidence of wallpaper found, it is possible that the wall finish shown in the photographs of the 1910s may be a wallcovering, or two contrasting wallcoverings, with a tack strip or similar between them. The wallcovering on the walls may have been solid-color, potentially one of the integrally-colored or utilitarian kraft papers discovered among loose fragments.

Similarly, the subtle striation pattern visible on the ceiling in the historic photo may suggest a patterned wallcovering.

The paint finishes identified as those immediately after the 1903 finishes on the columns, dentil course, and surround trim are in colors and relative values consistent with what appears in the historic photographs. This finish was likewise consistently applied to all surfaces, in a limited palette of yellow, light yellow and light grey colors, with a treatment of the surround trim in a dark tan paint followed by a very dark varnish. Specific evidence of woodgraining was not found in this layer on the samples nor the on-site exposure, however the finish is very dark in its final effect. The stone baseboards and column plinths were painted in kind with the woodwork, which would have made for a continuous trim treatment in the room.

Yellow Munsell 9YR 7.5/6	Light Yellow Munsell 2.5Y 8/3.5	Tan (10YR 6/2) +dark varnish Munsell 10R 2.5/2	Light grey Munsell 10Y 8/1
Column bases and shafts	Column capitals Lower laylight moldings	Door surrounds Doors Stone baseboards, plinths	Upper laylight moldings

Post-1910s

There are four paint finishes after the circa 1909 layer observed on samples from the debris related to 1950s demolition. These surfaces, whatever the origin, were therefore last painted sometime prior to the mid-1950s. As courthouse use diminished in the 1930s, it is possible that the last paint layer on these samples was installed at or before the courtroom was decommissioned.

At some point in the early 20th century, the evidence suggests that all the accumulated wallpapers were removed and the walls were painted a cream-yellow color. This may have coincided with the installation of the tongue-and-groove wainscot, possibly in the 20s, 30s or 40s.

All surviving paint layers in the sequences after the circa 1909 finish are in relatively pale shades of yellow, cream, beige, grey and white. The current “gold” metallic accents of the dentil course and column capitals was found to be strictly a 21st century choice; there is no historic evidence of use of metallic leafs or bronze-powder paints on any of the room elements. Evidence of wall treatments between the 1890s and 1950s is lost. The 1950 color selected for the walls is a rose color, which was repainted in a dark mauve, then maroon and finally the current red.

Recommendations

Wallpaper Research

A number of wallpaper scraps have been recovered from this room, suggesting that beginning as early as the 1870s, wallpaper was regularly used for the wall finishes. Consideration might be given to having these paper fragments further analyzed for fiber content, which in turn can be used to estimate a time period for each paper based on the known evolution of paper manufacturing technologies.

Rag fiber papers (flax, cotton) have a broad range of possible manufacture dates, beginning after 1790. Mechanical wood pulp was used after 1869. Mechanical wood was initially mixed with rag or straw fibers and later with chemically processed wood fibers. Mechanical hardwood pulp was used in the mid to later 19th C but was generally replaced with mechanical softwood by the 20th c. (though mechanical hardwood had a resurgence in the later 20th C). Unbleached wood fibers present in the paper would post-date the 1870-1880's. Papers that do not contain any rag fibers are probably post turn of the 20th C. Unbleached sulfite pulp was patented in Europe in the 1870's and in the USA in the late 1880's. Paper pulp with mixtures of mechanical wood and unbleached sulfite is common from late 19th C through much of the 20th C. Unbleached kraft process paper was introduced circa 1907. Modifications to mechanical pulping and kraft process were made through the 20th century.

Documentation of Decorative Painting in Laylight Dome

The historic decorative scheme uncovered in the laylight dome has not been fully documented. It is recommended that at such time that access to the laylight dome is again available, the pattern be traced as much as conditions allow, and colors matched, for the purposes of documentation as well as for potential future re-installment if appropriate. The canvas sections which were released for the purposes of this study have been returned to plane and temporarily secured with thumb-tacks, facilitating access for future investigation in this area.

Composition Analysis for 1856 Finishes on Plaster

There is surviving evidence of 1856 paint finishes on especially the plasterwork of walls and cornice which dictates further research to better understand. cursory testing indicated that the paint applied originally to plaster is an alternative paint binding medium, i.e. not oil-based and not apparently with a substantial protein component either. Further instrumental testing may be employed to better characterize the nature of this original paint, historically described as "fresco." In conjunction with a better understanding of the nature of the earliest "fresco" for the plasterwork, re-installment of the finish might be considered as an option, possibly likewise dictating an alternative paint medium and/or installation by an artist or decorative painter.

Further Investigation beneath Judge's Bench Platform

A cursory investigation was done in the course of this paint survey of the area below the 1903 platform, for the purposes of locating intact historic finishes. The physical evidence demonstrated on those encapsulated wall, column, baseboard and window sill surfaces suggests that a more thorough architectural investigation be undertaken. There may be clues in the surfaces and configurations which may lead to a better understanding of the construction history and changes in the room, beyond the paint-related scope of this investigation.

Historical Finish Re-instatement Options

There is insufficient evidence remaining to present a complete picture of the room at any point in time prior to the 1950s. Due to radical removals over the course of its history, surface finishes for the coved ceiling, much of the entablature, and to a great extent the walls, will never be understood adequately enough to provide an accurate recreation.

There is surviving evidence of the earliest, 1856 finishes, which would also correlate with the “Dred Scott -era” of room interpretation. A more complete palette of colors used during this period is available than is available for the 1903-14 period, due to the compromised history for the walls. Some interpretation and design judgement would be required to establish color placement for areas where evidence is missing, as well as the final effect of the treatment on the walls. While not enough wall surface remains to determine a pattern or texture, the historic color identified for the walls can be referenced in a re-interpretation. In re-instating the 1856 scheme, however, the room would be incongruous, with the 1870 laylight dome and current bailiff's door, both not in place in 1856.

The 1904-14 finish is less substantiated by physical evidence for the walls, which may have been a now long-gone wallcovering. However, this finish scheme and related era more accurately describes the current layout and structural changes to the room.

East Courtroom Old Courthouse

Jefferson National
Expansion Memorial,
St. Louis Missouri



digital image colorization by Sean Mannion www.sean-mannion.com

Interpretation of the room finishes installed circa 1856 based on paint analysis by Richbrook Conservation (contract #P11PC61853) November 2011

Historic evidence for the wall surfaces is limited to small fragments; the original wall finish may have been more artistically conceived and executed than the limited surviving chips reveal; Further variations in the 'fresco' colors are likely for the entablature moldings; The cream-white paint for the columns had an original varnish which may have been subject to slight yellowing with age; Stone bases were unpainted and likely matched the floor tile.

	Pink: Munsell 7.5R 7.5/2.5		Burnt-Sienna: Munsell 7.5R 5.5/3		Cream: Munsell 10YR 8/2.5	"FRESCO" COLORS ON PLASTER
	Cream-White (10YR 9/0.5) with varnish: Munsell 5Y 9/2.5		Cream (2Y 8.5/3) with golden varnish: Munsell 7.5YR 5/7	WOOD FINISHES		

colors as rendered and printed are approximate, for presentation purposes only; refer to the Munsell color designations for accurate matches

East Courtroom Old Courthouse

Jefferson National
Expansion Memorial,
St. Louis Missouri

Interpretation of the room finishes
installed during the period after 1903
up until circa 1914
(estimated 1909)
based on paint analysis by
Richbrook Conservation
(contract #P11PC61853)
November 2011



digital image colorization by Sean Mannion www.sean-mannion.com

Yellow: Munsell 9YR 7.5/6



Light Yellow: Munsell 2.5Y 8/3.5



Tan (Munsell 10YR 6/2)
with dark varnish: Munsell 10R 2.5/2
(as matched to surface)



Historic evidence is lost for the ceiling
and walls in the East Courtroom; the
best evidence suggests that wallcover-
ings and/or ceiling paper were in place at
the time this photograph was taken.

colors as rendered and printed are approximate, for presentation purposes only; refer to the Munsell color designations for accurate matches

Appendix A:

Catalog of Recovered Wallpapers

Catalog number	Location found	Visual characterization of paper base	Visual characterization of decoration	Notes/photo
WP-01	In-situ, on North wall below judge's bench (sample P-15); Above painted finishes; below WP-02	white	Fuchsia, rust and mustard colors	
WP-02	In-situ, on North wall below judge's bench (sample P-15); Above WP-01, below WP-03	white	Teal blue, possible stripes with bronze-powder feature	
WP-03	In-situ, on North wall below judge's bench (sample P-15); Above WP-02, below WP-04	white	Subtle pattern in cream or white, with pale blue, mica	
WP-04	In-situ, on North wall below judge's bench	Brown, brittle	pattern with white rose motif, red flourish, repeating fleur-di-lis with "silver" metallic ink	 18" wide from vertical seam to seam

WP-05a	Loose, from East wall gap behind bailiff's door header; found adhered below WP-05	brown	Structured, graphic pattern in cream, white, dark olive	 <p>Found behind door header- would have come from upper wall.</p>
WP-05	Loose, from East wall gap behind bailiff's door header	brown	Subtle pattern with ribbons, in white, cream, mica particles	 <p>Found behind door header- would have come from upper wall.</p>
WP-06	Loose debris from debris field below judge's bench; adhered below WP-07	Greenish	No apparent decoration	May be integrally-colored ("ingrain") wallcovering
WP-07	Loose debris from debris field below judge's bench	Reddish	Uniform cream, suspected to be painted (later) rather than printed	May be integrally-colored ("ingrain") wallcovering
WP-08	Loose debris from behind door header, southwest corner	Heavy, coarse, brown "kraft"	No apparent decoration	May be liner paper or integrally-colored ("ingrain") wallcovering/utilitarian; Found behind door header- would have come from upper wall.

Appendix B:

Report of Independent Lead Paint Inspection

On October 24, 2011, independent lead paint inspection firm Sherlock's Environmental Services LLC conducted an inspection of the courtroom's painted surfaces using a Niton XLp300 portable X-Ray Fluorescence instrument. Surfaces were analyzed per the direction of Richbrook Conservation, to address all primary painted surfaces with the exception of the laylight dome which was not accessible at that time.

- cove ceiling
- dentil at cornice
- frieze at entablature
- wood cap at column capital
- column shaft
- cast iron column base
- stone plinth
- door surround trim
- door
- "bailiff's" door
- "bailiff's" door surround trim
- window sill
- column capital, rosette
- plaster wall, adjacent bailiff's door
- plaster wall, south, between windows
- plaster wall, east, adjacent entry door
- plaster wall, north, at platform stair
- plaster wall in secondary room (witness room)
- door from witness room side
- door surround trim, witness room side

As anticipated, historic painted surfaces which retain full finishes histories were found to register high levels of lead, generally in the range of 18-46 mg/cm². Surfaces installed and painted in the 1950s registered trace levels of lead, levels likely attributable to the ambient lead dust generated by demolition at that time which may have been incorporated in the freshly run plaster of moldings, or in the applied paint.

It is recommended that these lead-bearing painted surfaces not be disturbed, not only for environmental and public health reasons but also for the continued preservation of intact paint histories in the room.

Index	SITE/ADDRESS	INSPECTOR	Time	Type	Duration	Units	Sequence	COMPONENT	SUBSTRATE	SIDE	CONDITION	COLOR
1			2011-10-24 10:15	SHUTTER_CAL	72.68	cps	Final					
2	11 N 4th	C. NORRIS	2011-10-24 10:17	PAINT	1.08	mg/cm ²	Final	CALIBRATE - FRONT				
3	11 N 4th	C. NORRIS	2011-10-24 10:17	PAINT	9.99	mg/cm ²	Final	CALIBRATE - FRONT				
4	11 N 4th	C. NORRIS	2011-10-24 10:25	PAINT	3.19	mg/cm ²	Final	CEILING	PLASTER	C	INTACT	WHITE
5	11 N 4th	C. NORRIS	2011-10-24 10:27	PAINT	20.00	mg/cm ²	Final	Dental Molding	PLASTER	C	INTACT	TAN
6	11 N 4th	C. NORRIS	2011-10-24 10:29	PAINT	20.00	mg/cm ²	Final	Dental Molding	PLASTER	C	INTACT	TAN
7	11 N 4th	C. NORRIS	2011-10-24 10:30	PAINT	0.35	mg/cm ²	Final	Dental Molding	PLASTER	C	INTACT	TAN
8	11 N 4th	C. NORRIS	2011-10-24 10:32	PAINT	3.20	mg/cm ²	Final	UPPER WALL	PLASTER	C	INTACT	RED
9	11 N 4th	C. NORRIS	2011-10-24 10:33	PAINT	7.84	mg/cm ²	Final	UPPER WALL	PLASTER	C	INTACT	RED
10	11 N 4th	C. NORRIS	2011-10-24 10:35	PAINT	0.72	mg/cm ²	Final	COLUMN TOP	WOOD	C	INTACT	WHITE
11	11 N 4th	C. NORRIS	2011-10-24 10:39	PAINT	0.35	mg/cm ²	Final	COLUMN	WOOD	C	INTACT	WHITE
12	11 N 4th	C. NORRIS	2011-10-24 10:39	PAINT	0.36	mg/cm ²	Final	COLUMN BOTTOM	WOOD	C	INTACT	WHITE
13	11 N 4th	C. NORRIS	2011-10-24 10:41	PAINT	0.36	mg/cm ²	Final	COLUMN BASE	STONE	C	INTACT	BLACK
14	11 N 4th	C. NORRIS	2011-10-24 10:42	PAINT	0.35	mg/cm ²	Final	DR. TRIM	WOOD	C	INTACT	WHITE
15	11 N 4th	C. NORRIS	2011-10-24 10:42	PAINT	0.36	mg/cm ²	Final	DOOR	WOOD	C	INTACT	WHITE
16	11 N 4th	C. NORRIS	2011-10-24 10:44	PAINT	0.35	mg/cm ²	Final	DOOR	WOOD	A	INTACT	WHITE
17	11 N 4th	C. NORRIS	2011-10-24 10:45	PAINT	0.35	mg/cm ²	Final	DR. TRIM	WOOD	A	INTACT	WHITE
18	11 N 4th	C. NORRIS	2011-10-24 10:46	PAINT	0.35	mg/cm ²	Final	WNDW SILL	WOOD	A	INTACT	WHITE
19	11 N 4th	C. NORRIS	2011-10-24 10:52	PAINT	0.36	mg/cm ²	Final	COLUMN ROSETTE	IRON	A	INTACT	BROWN
20	11 N 4th	C. NORRIS	2011-10-24 10:59	PAINT	3.57	mg/cm ²	Final	WALL	PLASTER	A	INTACT	RED
21	11 N 4th	C. NORRIS	2011-10-24 10:59	PAINT	3.21	mg/cm ²	Final	WALL	PLASTER	B	INTACT	RED
22	11 N 4th	C. NORRIS	2011-10-24 11:00	PAINT	3.21	mg/cm ²	Final	WALL	PLASTER	C	INTACT	RED
23	11 N 4th	C. NORRIS	2011-10-24 11:00	PAINT	2.15	mg/cm ²	Final	WALL	PLASTER	D	INTACT	RED
24	11 N 4th	C. NORRIS	2011-10-24 11:03	PAINT	3.22	mg/cm ²	Final	WALL	PLASTER	C	INTACT	RED
25	11 N 4th	C. NORRIS	2011-10-24 11:04	PAINT	1.07	mg/cm ²	Final	DOOR	WOOD	C	INTACT	WHITE
26	11 N 4th	C. NORRIS	2011-10-24 11:04	PAINT	0.35	mg/cm ²	Final	DR. TRIM	WOOD	C	INTACT	WHITE
27	11 N 4th	C. NORRIS	2011-10-24 11:05	PAINT	0.35	mg/cm ²	Final	DOOR	WOOD	C	INTACT	WHITE
28	11 N 4th	C. NORRIS	2011-10-24 11:08	PAINT	1.07	mg/cm ²	Final	CALIBRATE - BACK				
29	11 N 4th	C. NORRIS	2011-10-24 11:08	PAINT	2.49	mg/cm ²	Final	CALIBRATE - BACK				

ROOM TYPE	Results	Depth Index	Action Level	PbC
	Negative	1.00	1.00	3.94 ± 0.00
	Positive	1.09	1.00	0.00 ± 0.02
	Positive	1.10	1.00	1.10 ± 0.10
2nd Floor Courtroom East	Negative	2.99	1.00	0.01 ± 0.02
2nd Floor Courtroom East	Negative	2.06	1.00	0.08 ± 0.02
2nd Floor Courtroom East	Negative	2.63	1.00	0.10 ± 0.03
2nd Floor Courtroom East	Positive	1.92	1.00	34.90 ± 27.20
2nd Floor Courtroom East	Negative	4.09	1.00	0.06 ± 0.10
2nd Floor Courtroom East	Positive	7.81	1.00	1.60 ± 0.60
2nd Floor Courtroom East	Positive	9.16	1.00	18.90 ± 11.30
2nd Floor Courtroom East	Positive	3.30	1.00	33.90 ± 27.10
2nd Floor Courtroom East	Positive	4.79	1.00	37.10 ± 29.70
2nd Floor Courtroom East	Positive	7.47	1.00	45.10 ± 34.20
2nd Floor Courtroom East	Positive	7.58	1.00	46.00 ± 36.70
2nd Floor Courtroom East	Positive	4.45	1.00	37.30 ± 29.50
2nd Floor Courtroom East	Positive	4.66	1.00	37.90 ± 30.20
2nd Floor Courtroom East	Positive	5.53	1.00	43.70 ± 32.50
2nd Floor Courtroom East	Positive	3.54	1.00	33.80 ± 27.70
2nd Floor Courtroom East	Positive	1.00	1.00	25.80 ± 22.70
2nd Floor Courtroom East	Negative	1.85	1.00	0.05 ± 0.04
2nd Floor Courtroom East	Negative	3.58	1.00	0.06 ± 0.09
2nd Floor Courtroom East	Negative	2.15	1.00	0.12 ± 0.10
2nd Floor Courtroom East	Negative	1.00	1.00	0.01 ± 0.02
Jury Room	Negative	1.96	1.00	0.04 ± 0.05
Jury Room	Negative	1.00	1.00	0.06 ± 0.11
Jury Room	Positive	7.43	1.00	41.20 ± 32.10
Jury Room	Positive	4.51	1.00	39.00 ± 30.50
	Negative	1.00	1.00	0.00 ± 0.02
	Positive	1.23	1.00	1.30 ± 0.30