



How to Extract a Small Sample

Frank S. Welsh Company

1. Outline the sample area to be extracted. The size should be no smaller than 1/4".

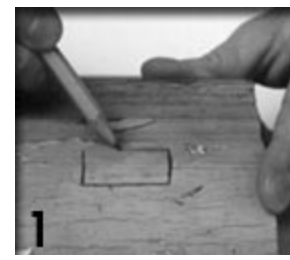




How to Extract a Small Sample

Frank S. Welsh Company

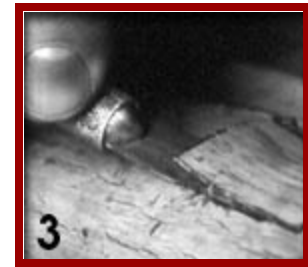
2. Use the scalpel or X-acto knife to cut along the pencil line approximately 1/16" deep into the wood or plaster.





How to Extract a Small Sample

Frank S. Welsh Company

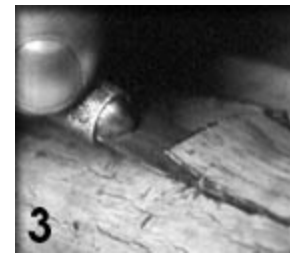
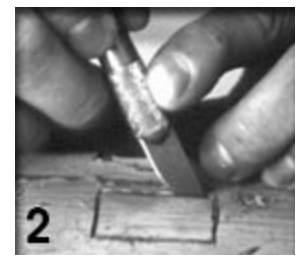
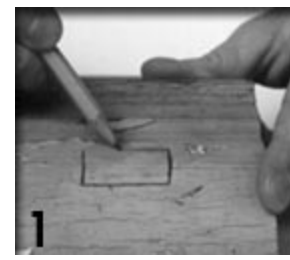


3. Turn the blade sideways slowly and carefully undercut the sample area. Make every effort to keep the sample in one piece.



How to Extract a Small Sample

Frank S. Welsh Company

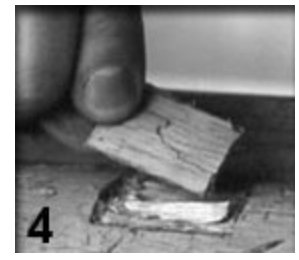
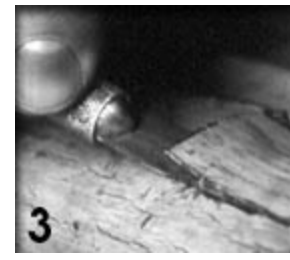
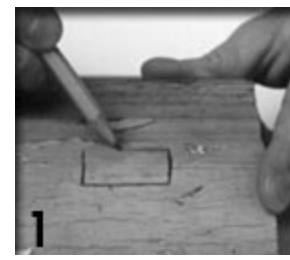


4. Remove the sample with all layers of paint.



How to Extract a Small Sample

Frank S. Welsh Company



5. Place the paint sample into a small envelope that has the number of the sample, the name of the resource, and the exact location the sample was taken from written on it. Seal it so that no part of the sample can fall out.

Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**





Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**





Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



In reality, conditions are not textbook perfect...



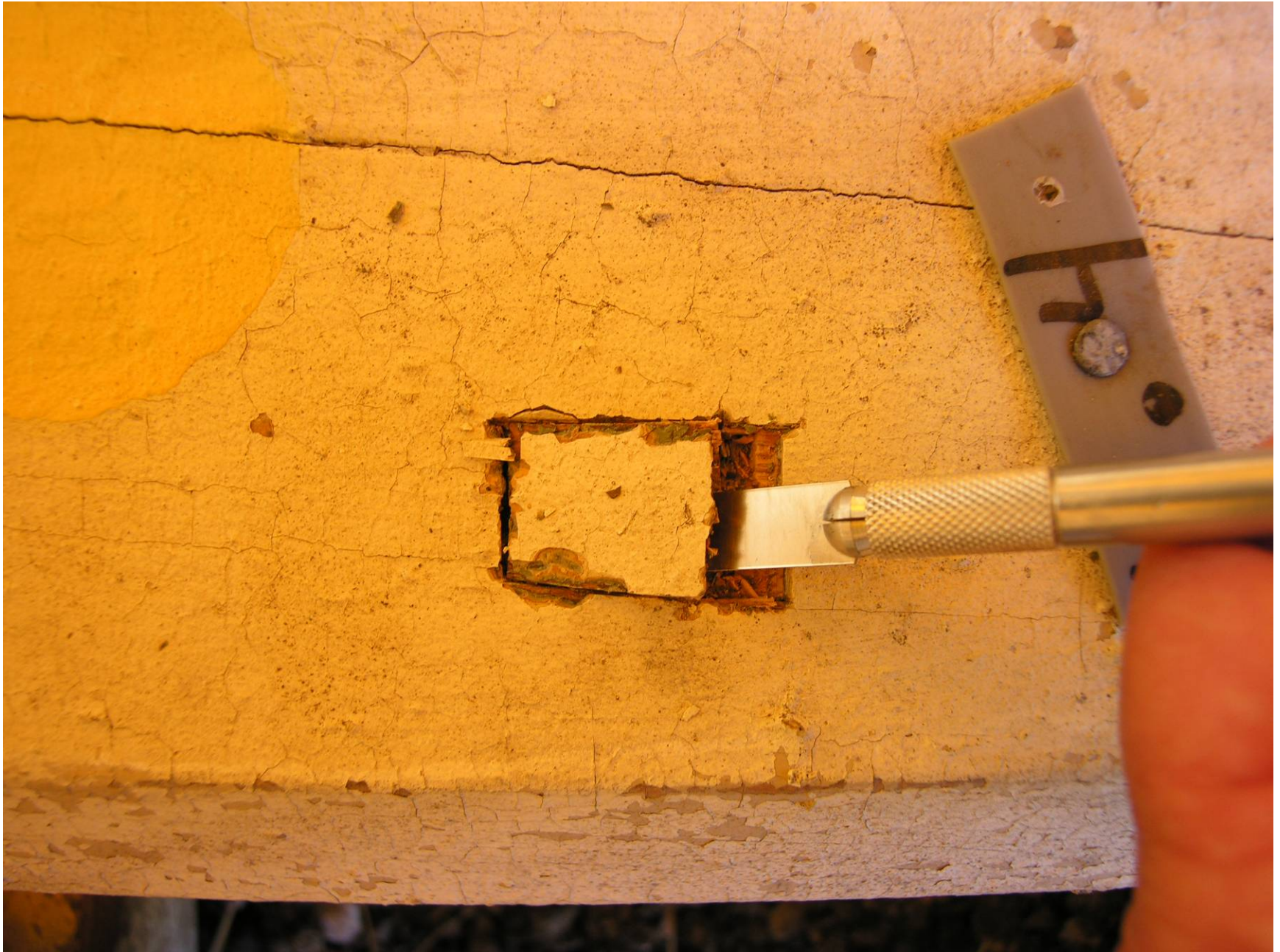
Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



Sampling
Toolkit...plus
hammer



Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**





Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**





Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**





Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



THH - MARKET
17.1/1 SMALL BRACE
9/11/08
IPT for QEA





Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



Sampling metal is a lot harder...



#4

JH
cast iron spiral

CS

9/2/08

NST





Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



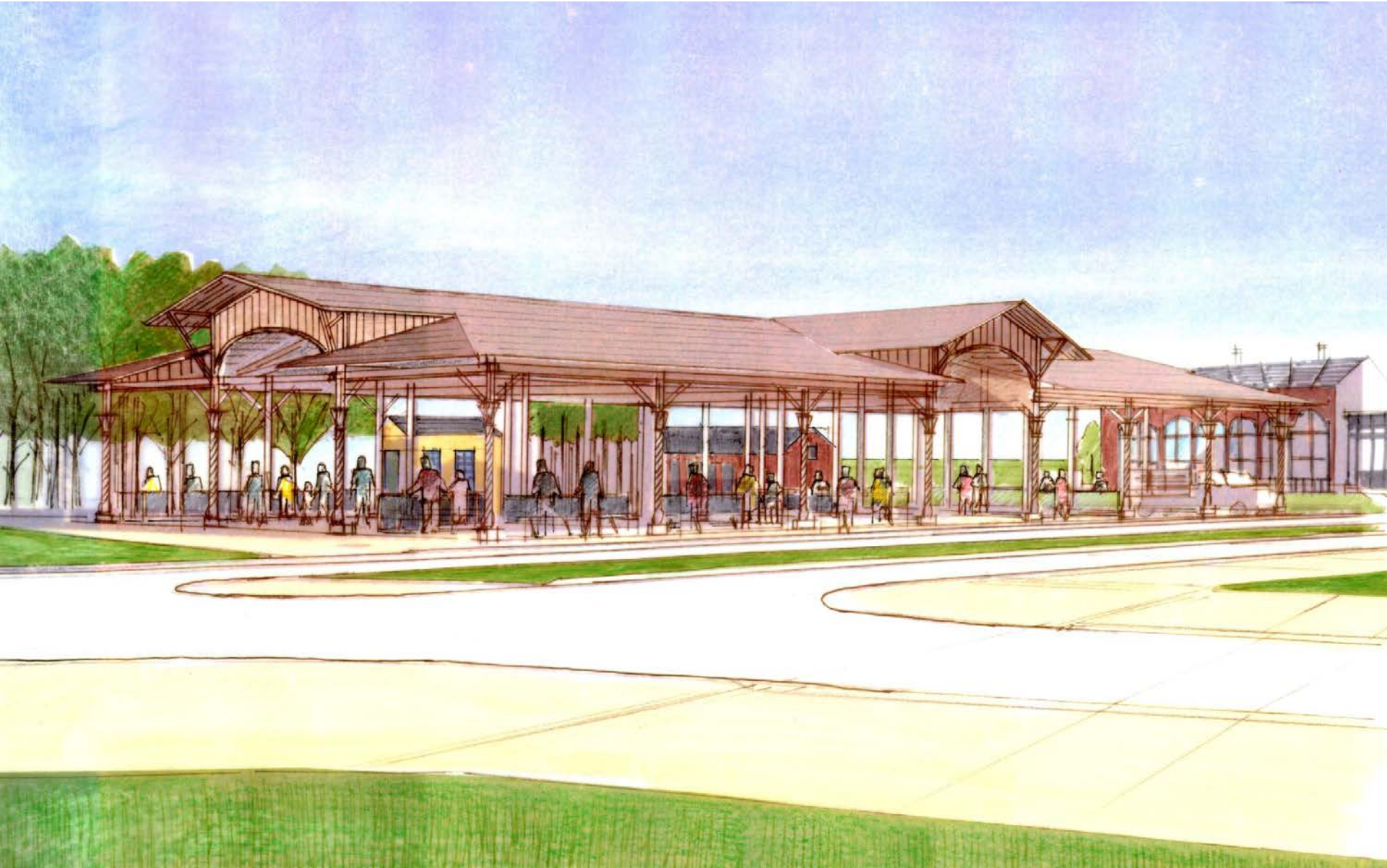
Zinc-based paint made from the crushed ore of franklinite and zincite in New Jersey



Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



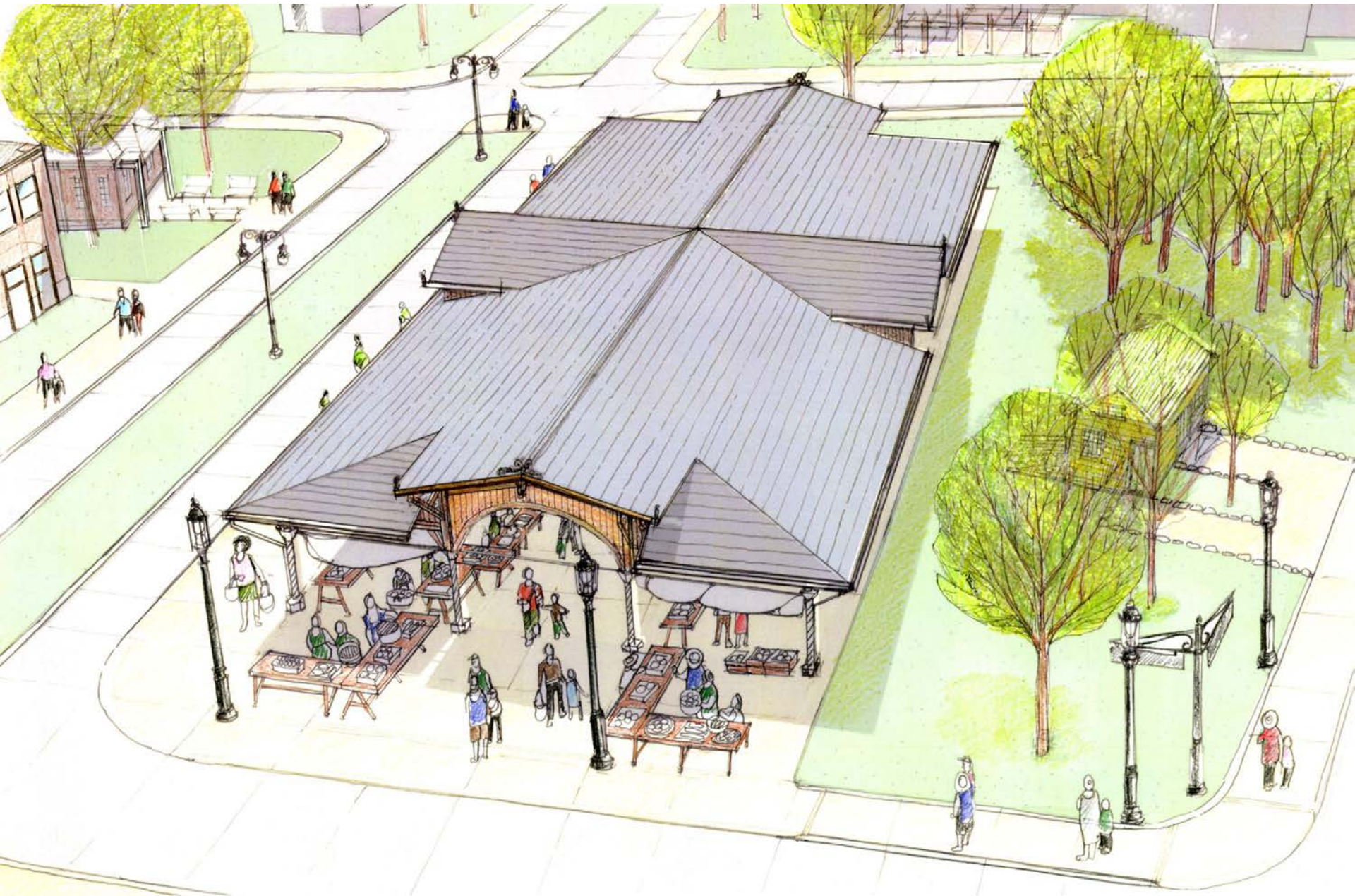
Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**





Color information is in the eye of the beholder, affected by:

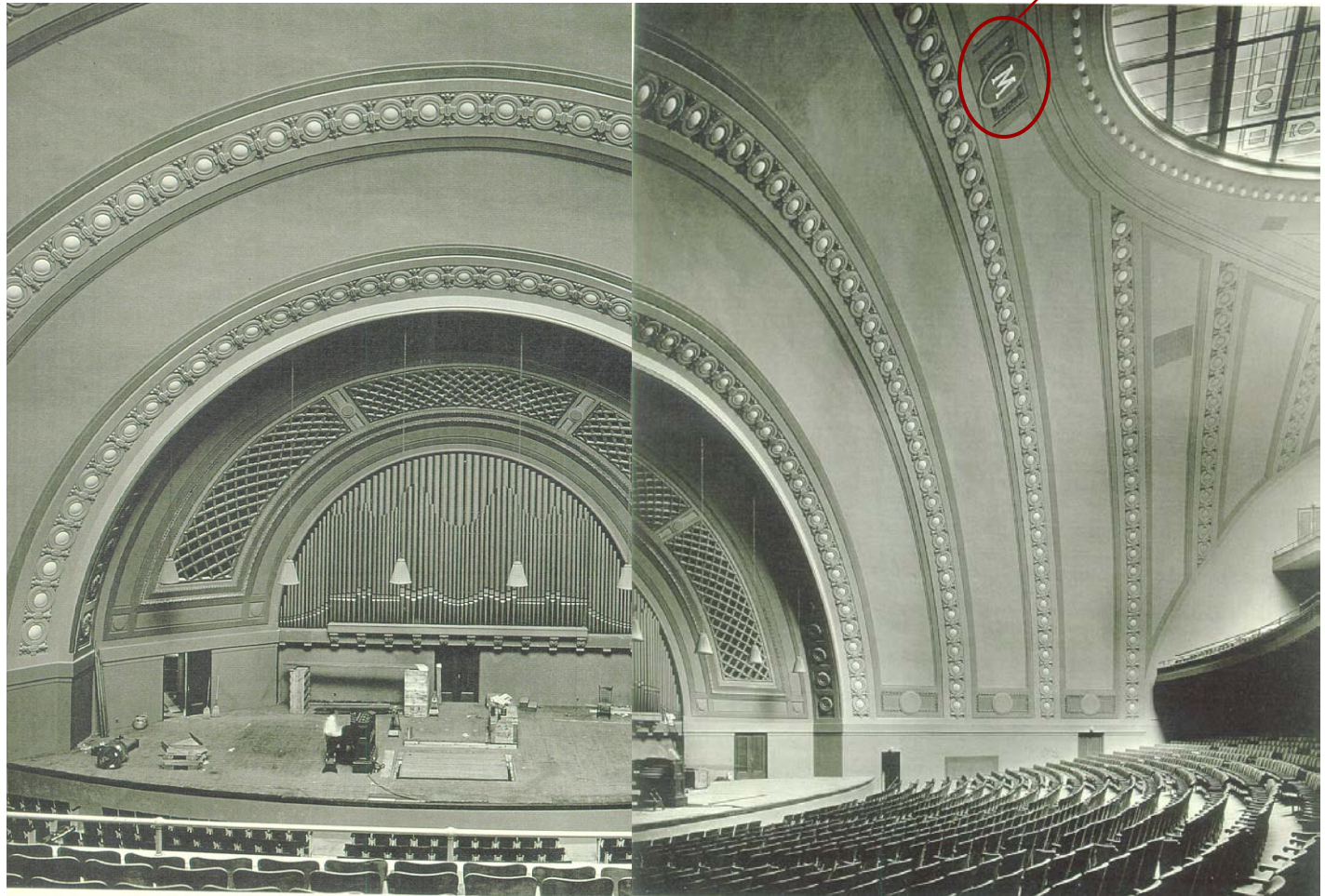
- Color perception and
- Lighting conditions



Hill Auditorium, 1913
Albert Kahn, Architect
Did you know that Albert Kahn was color blind?

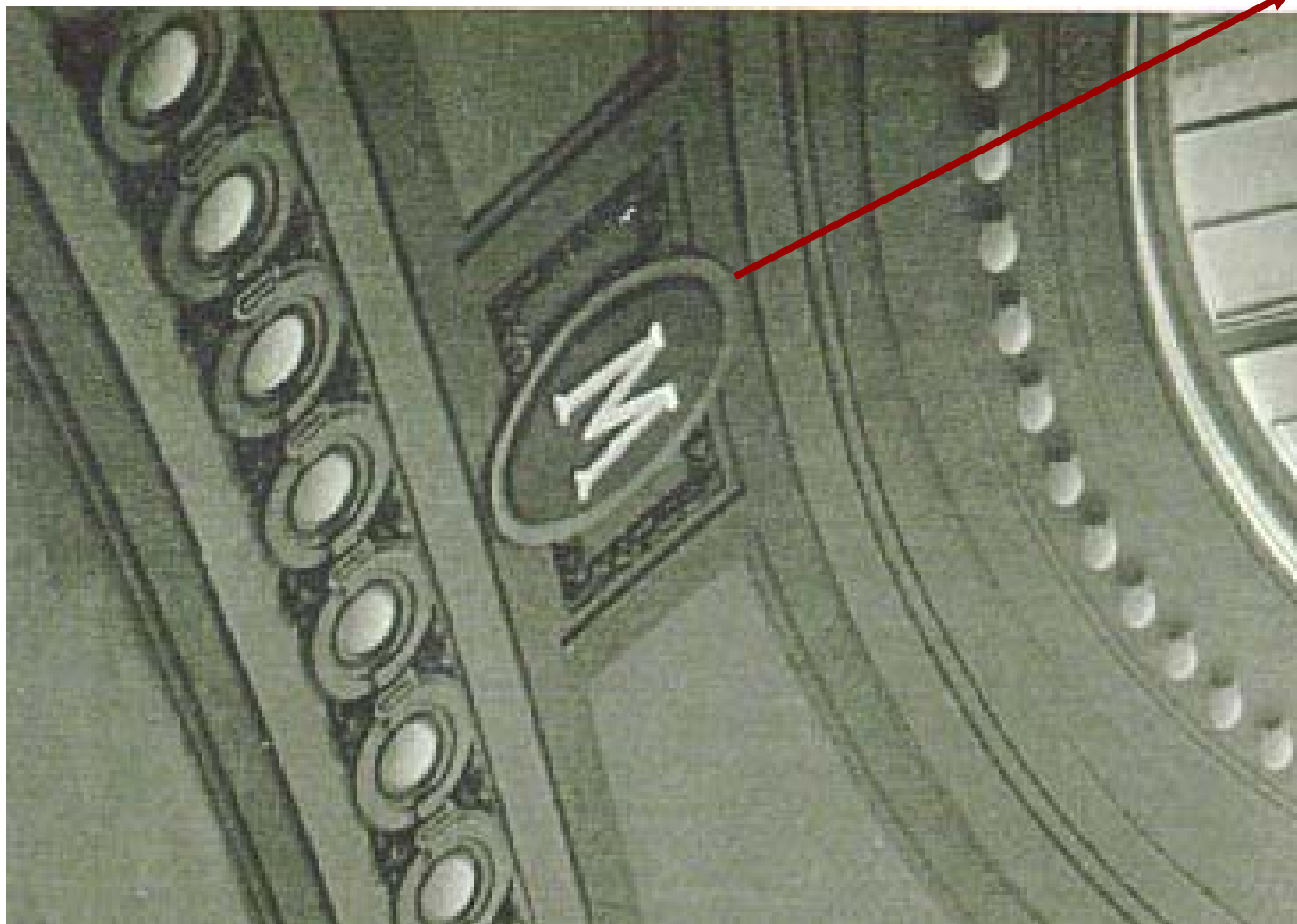


What can we learn about historic colors from black and white photos?





Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**





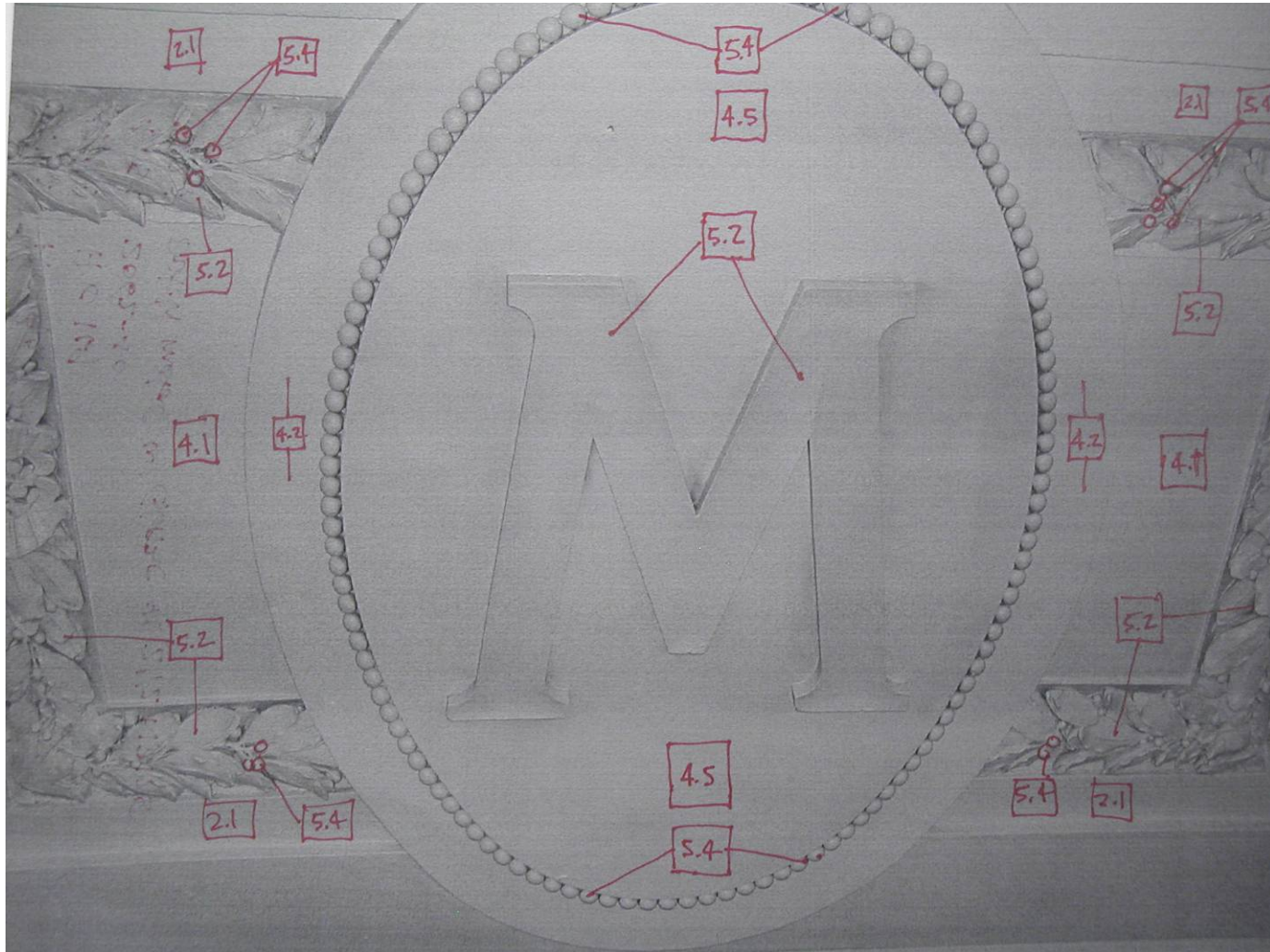
Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**





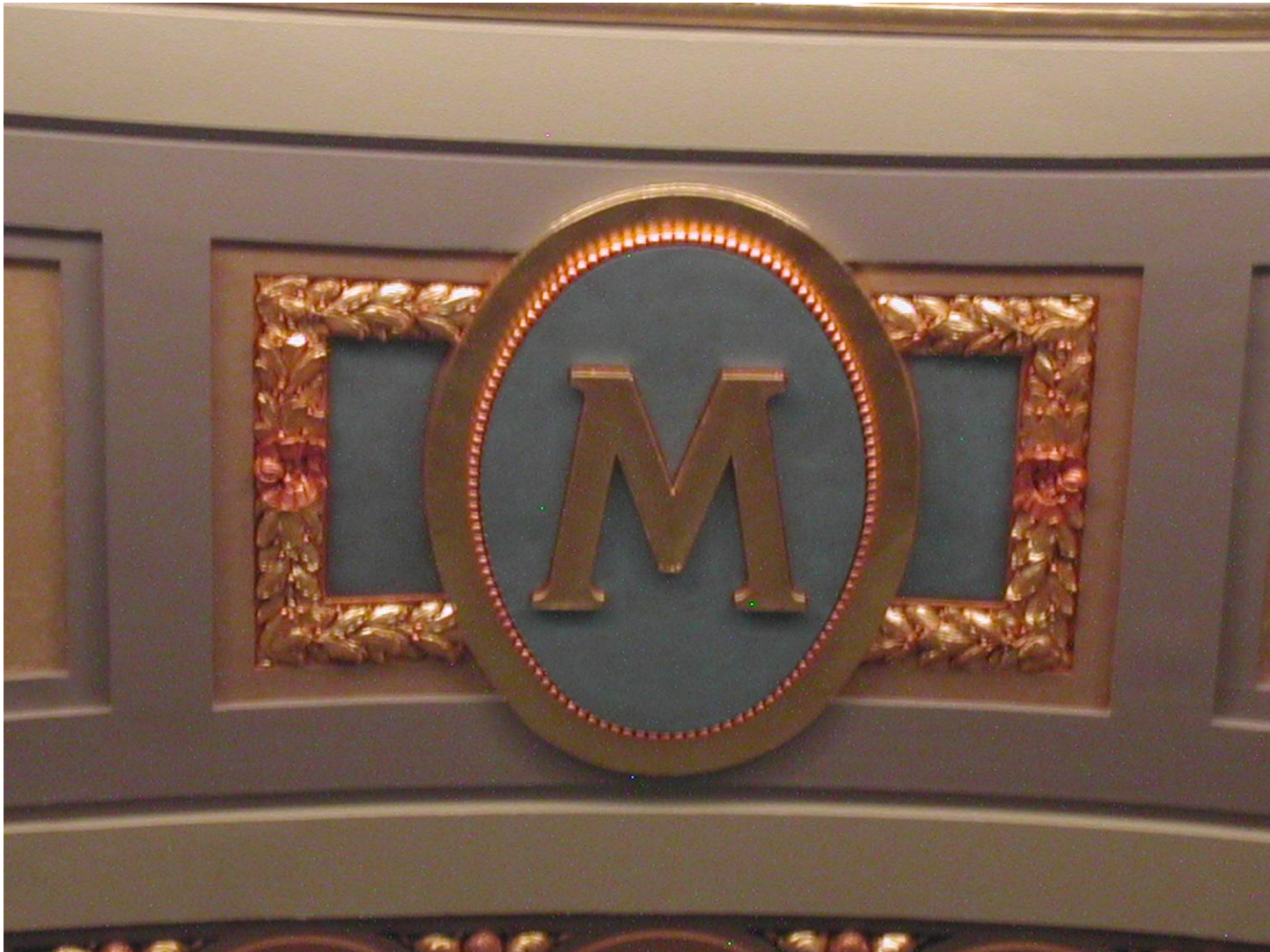
Winter Semester 2013 - GHPR 651 Principles of Preservation Technology

Lecture # 11: Investigation and Analysis of Paint Color & Coatings



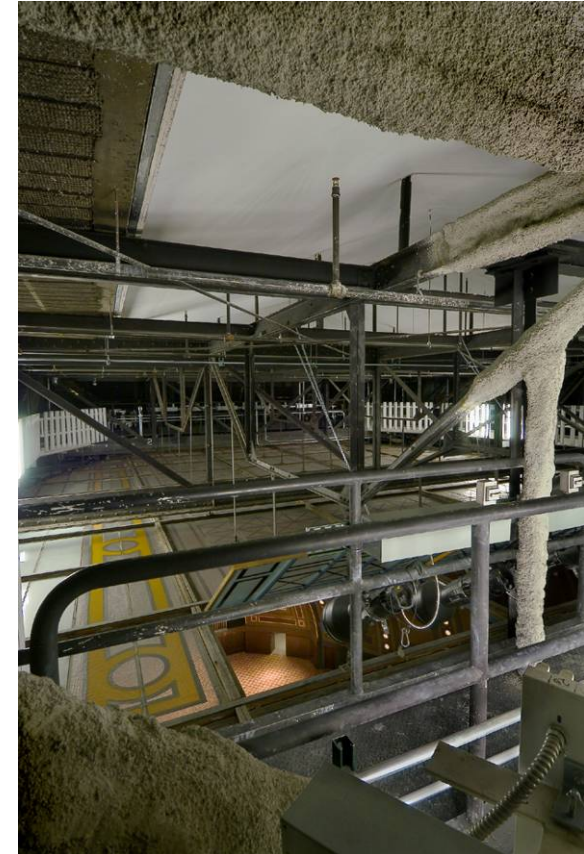
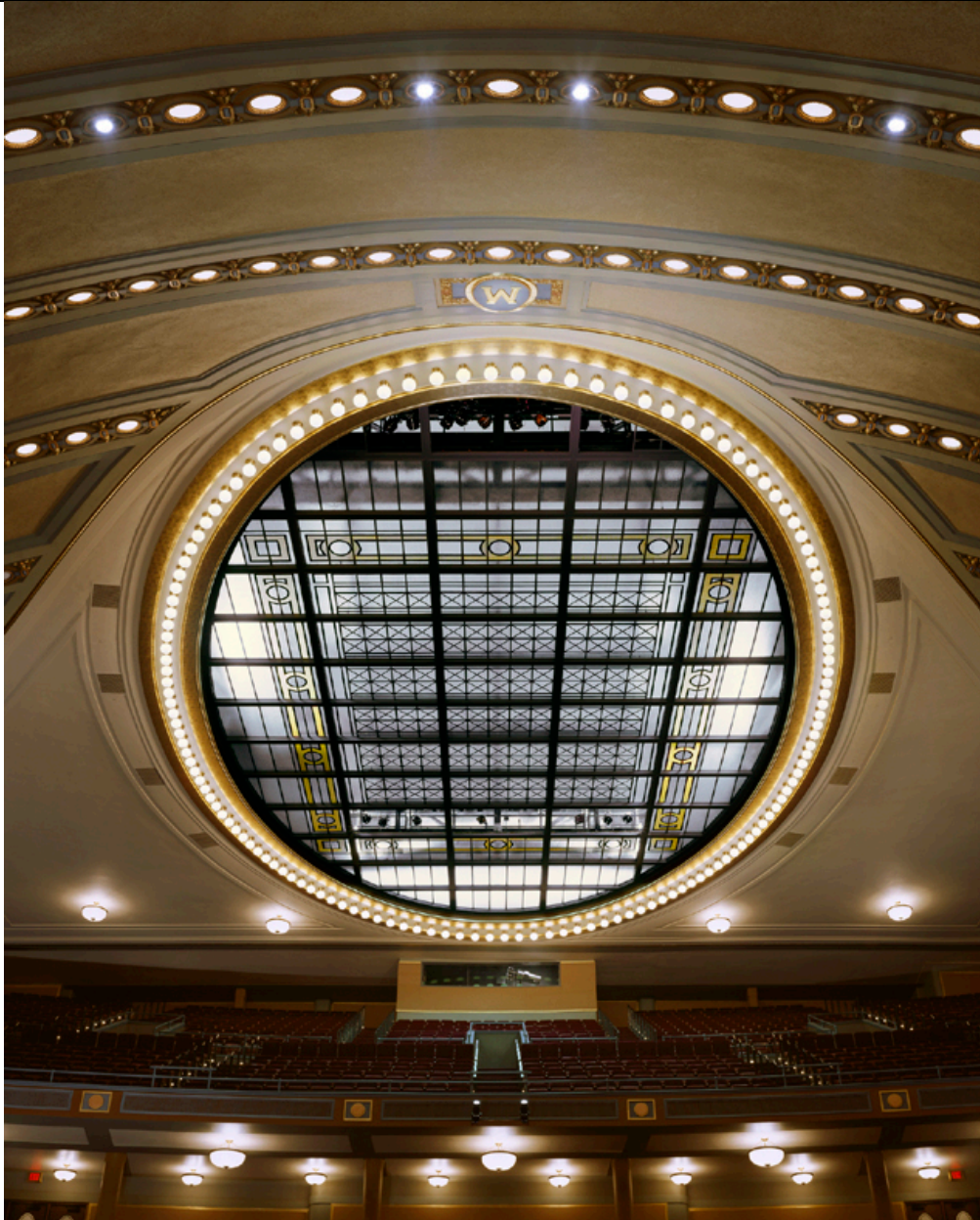


Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



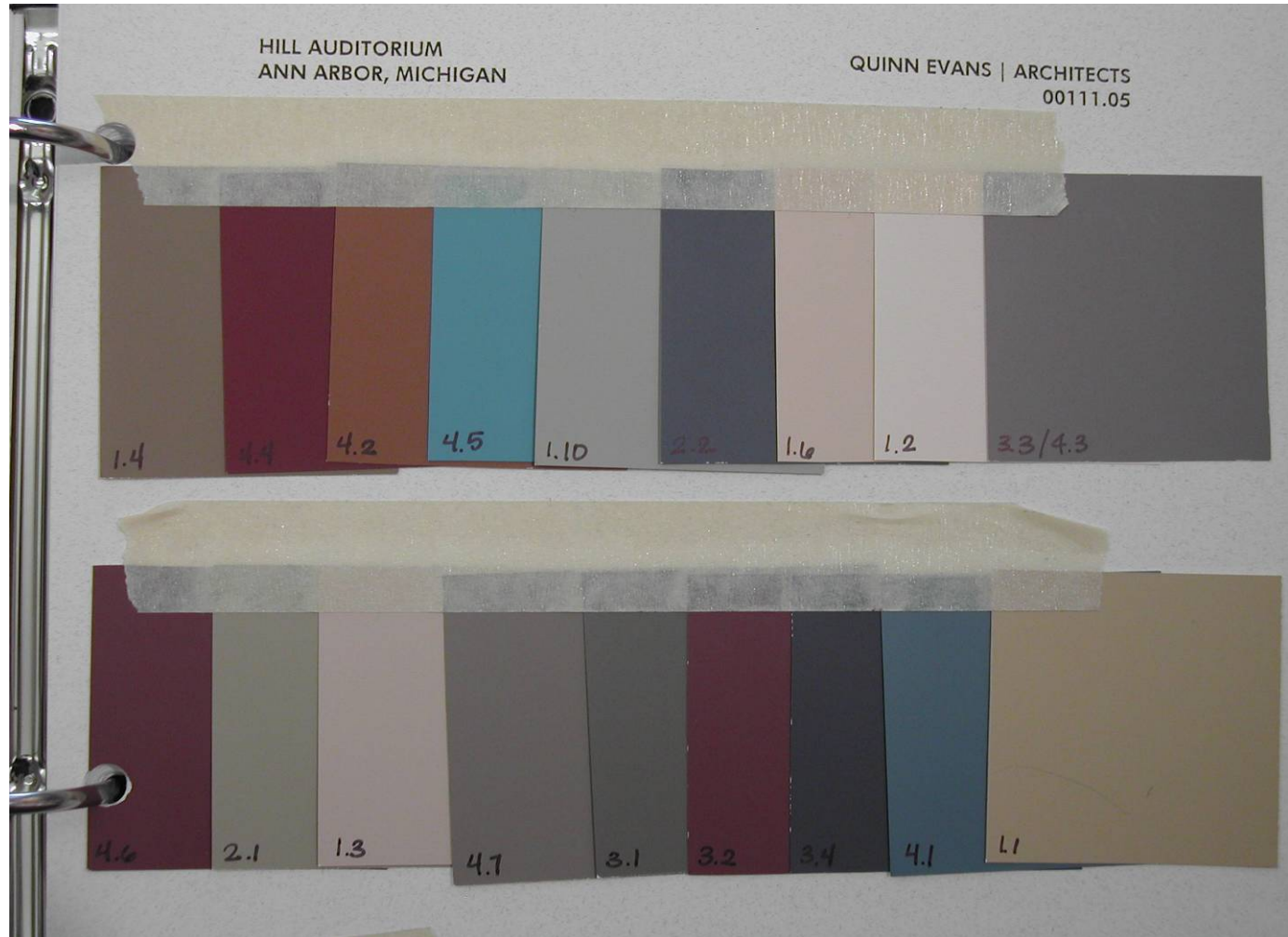


Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**





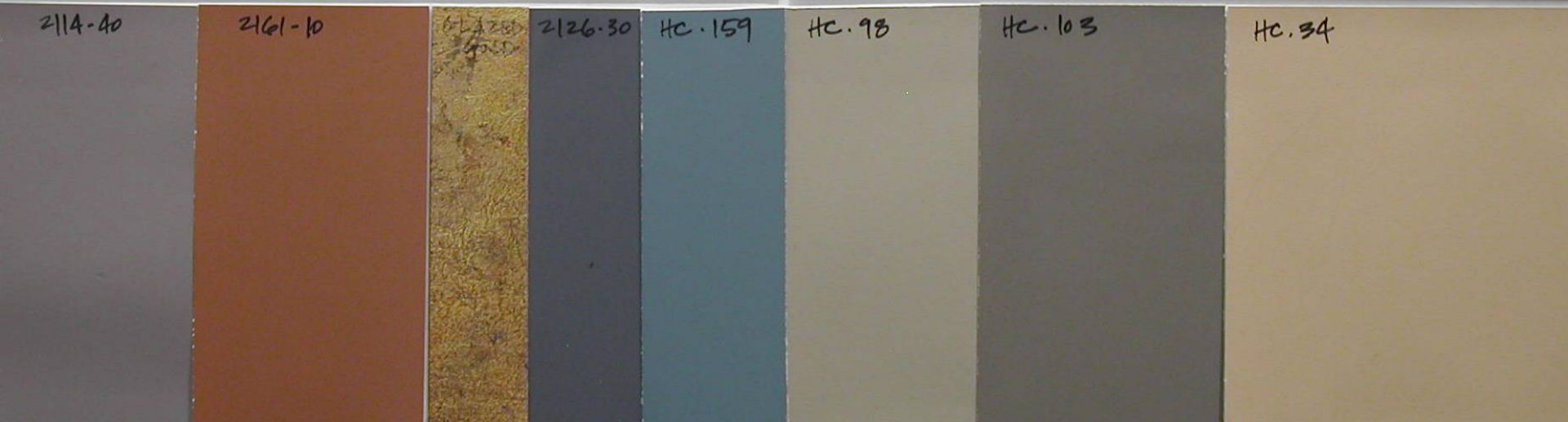
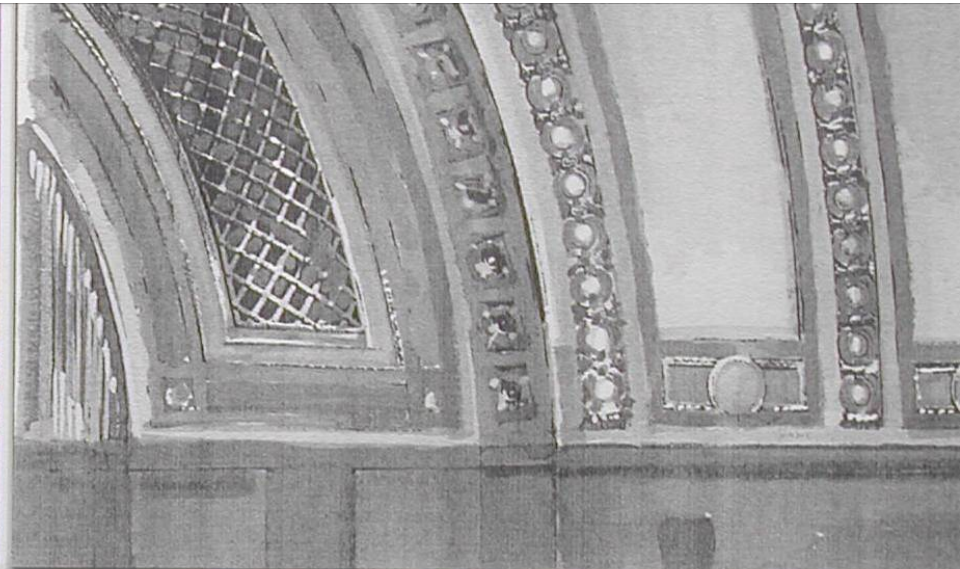
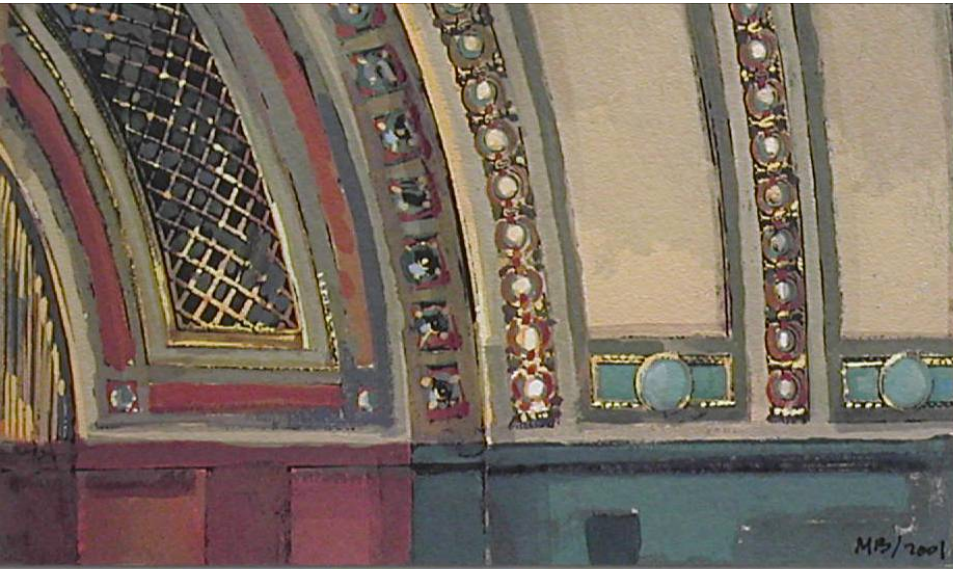
Color palette determined from analysis in the field





Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**

Interpreted palette for proposed decorative paint finishes



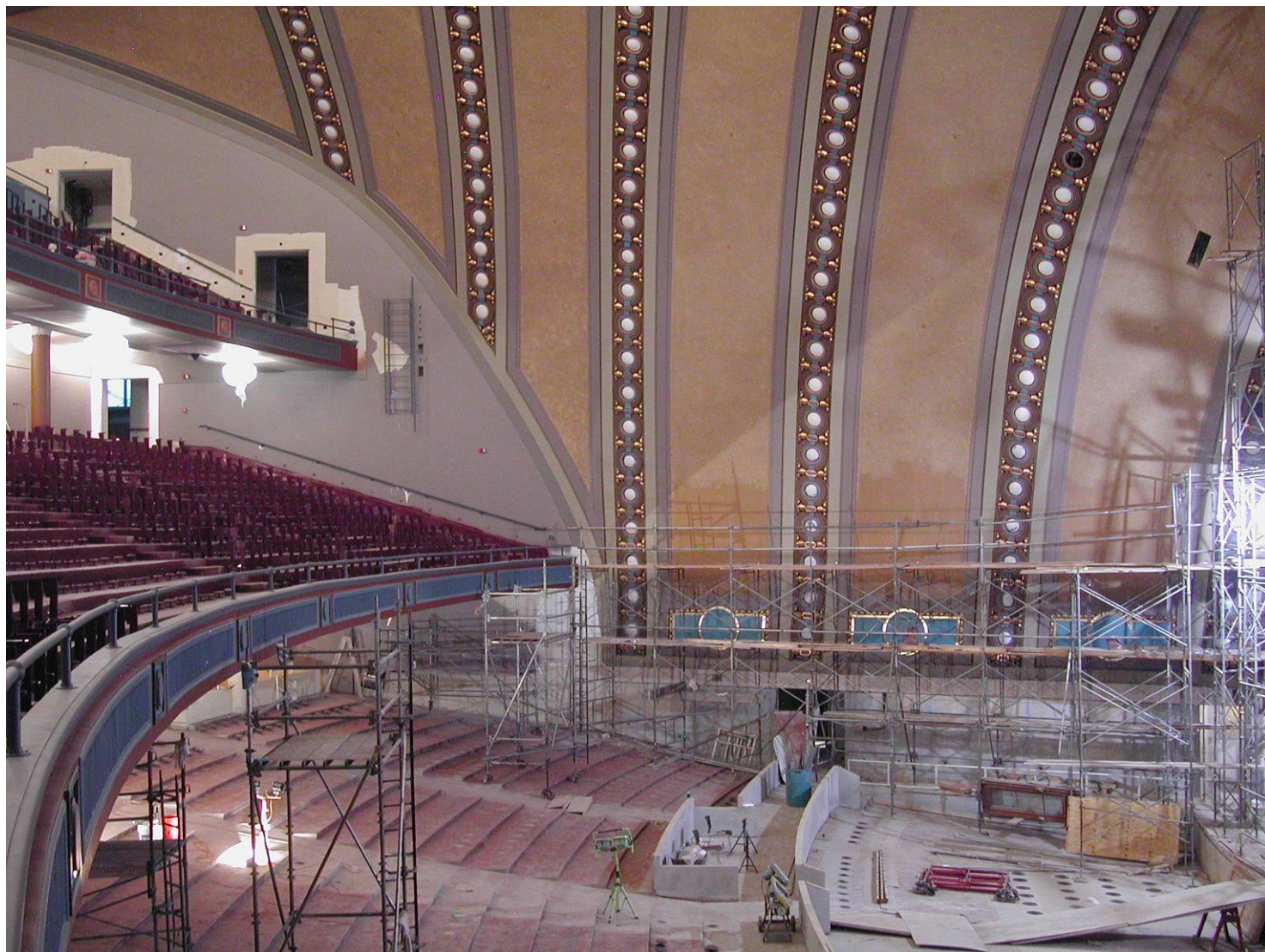


Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**





Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**





Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**





Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**





Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



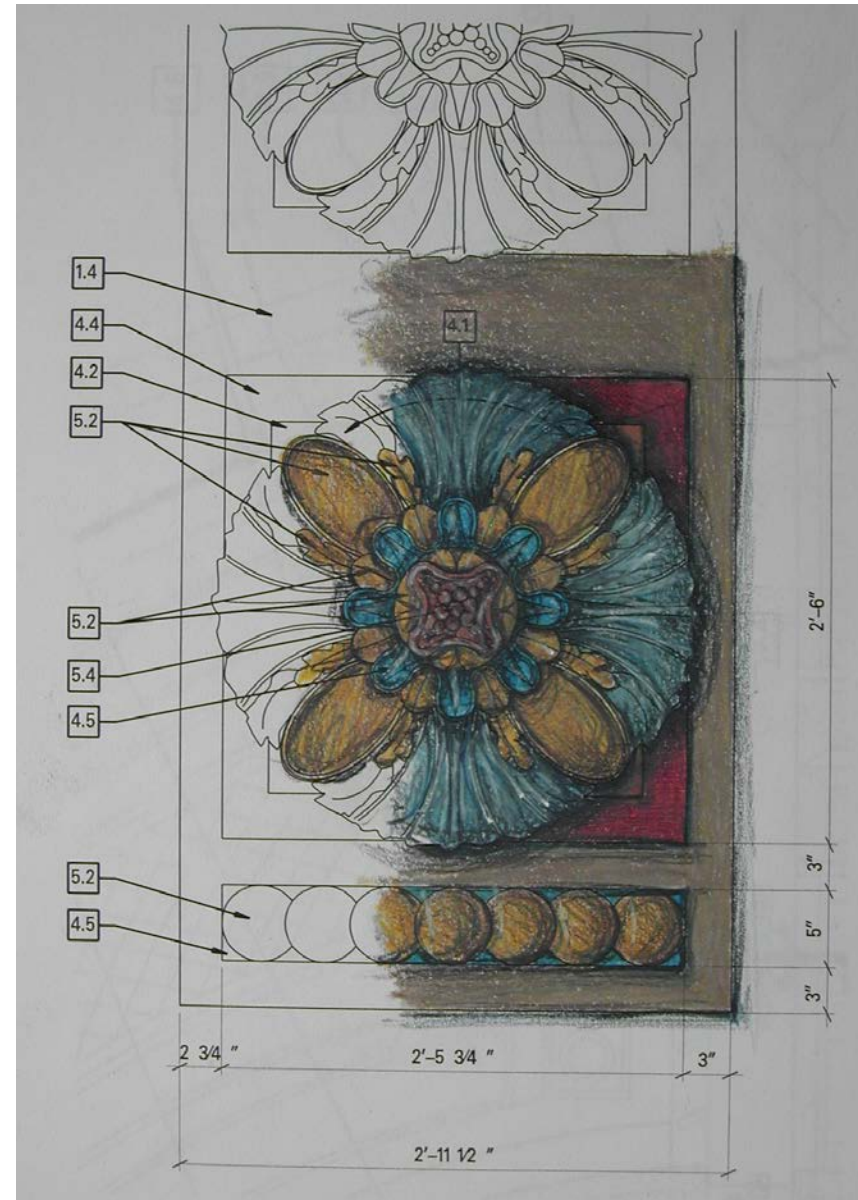


Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



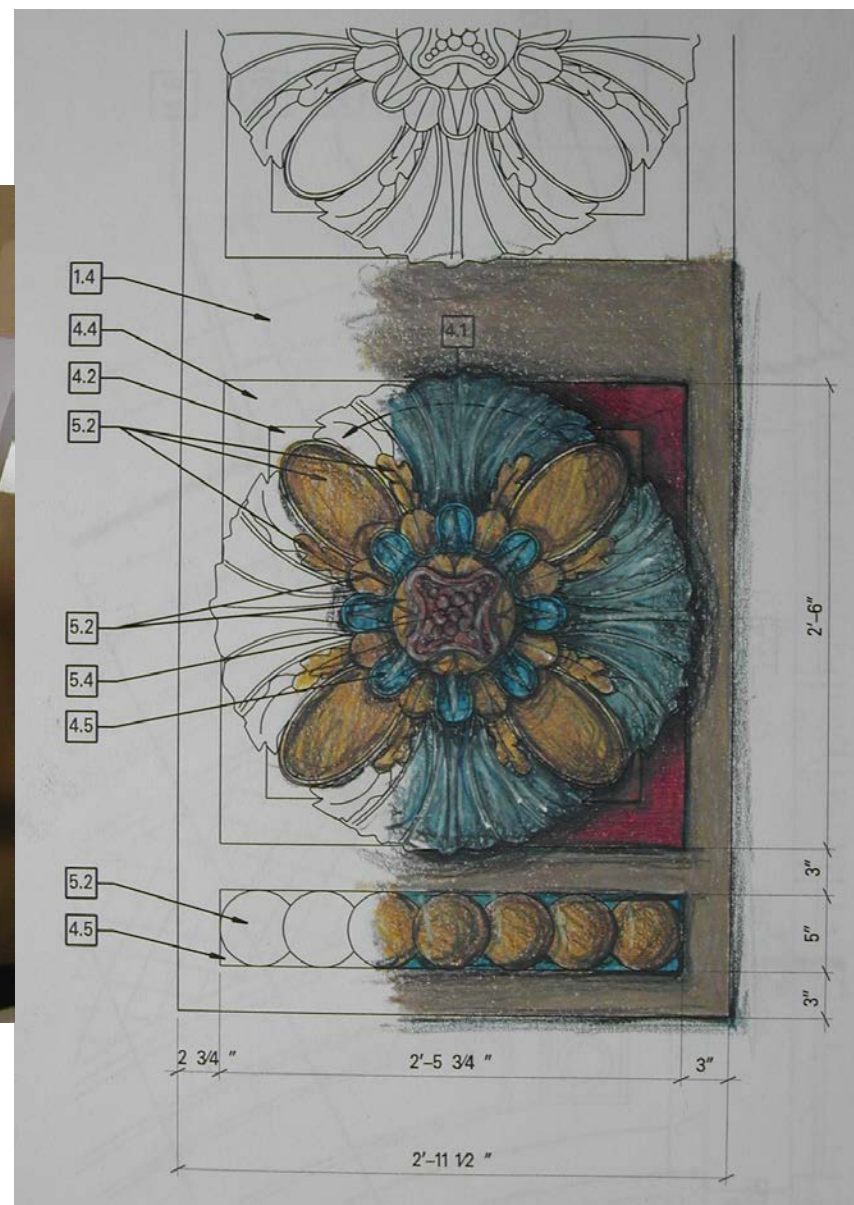


Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



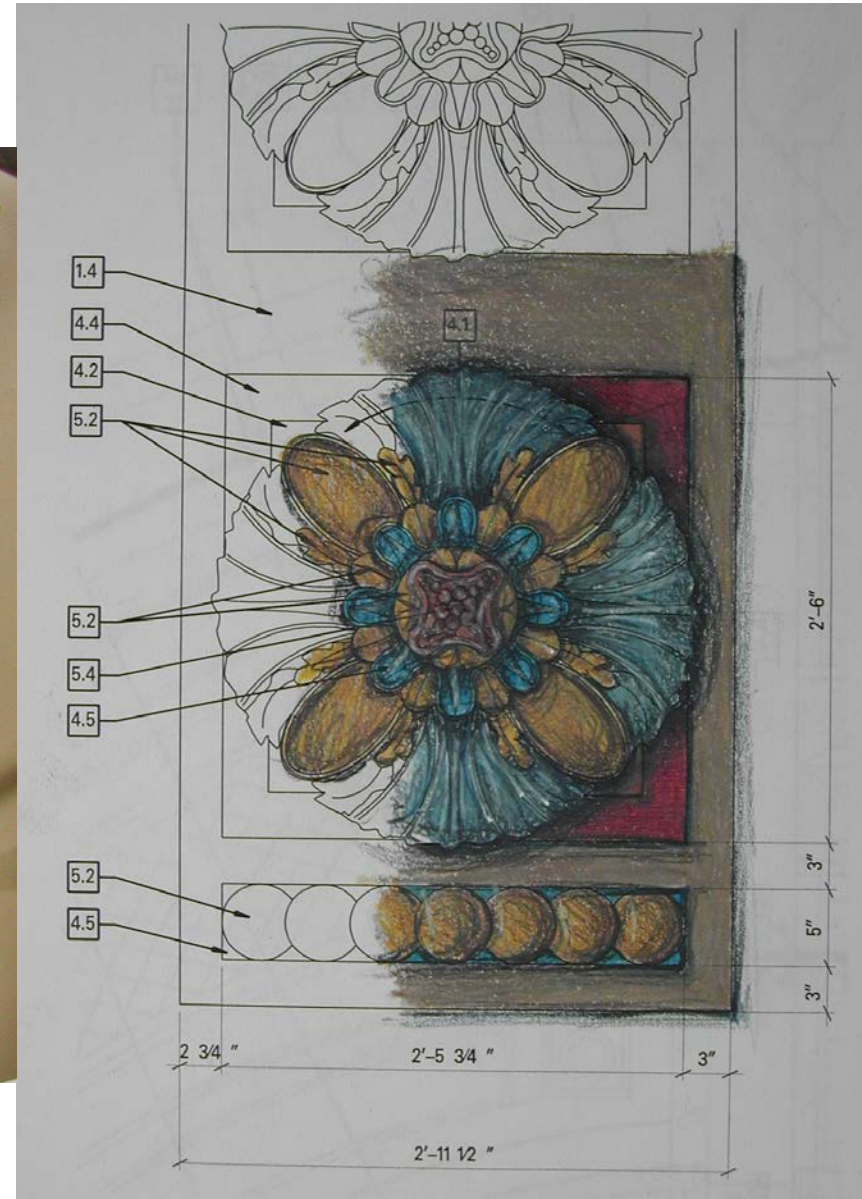


Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**





Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



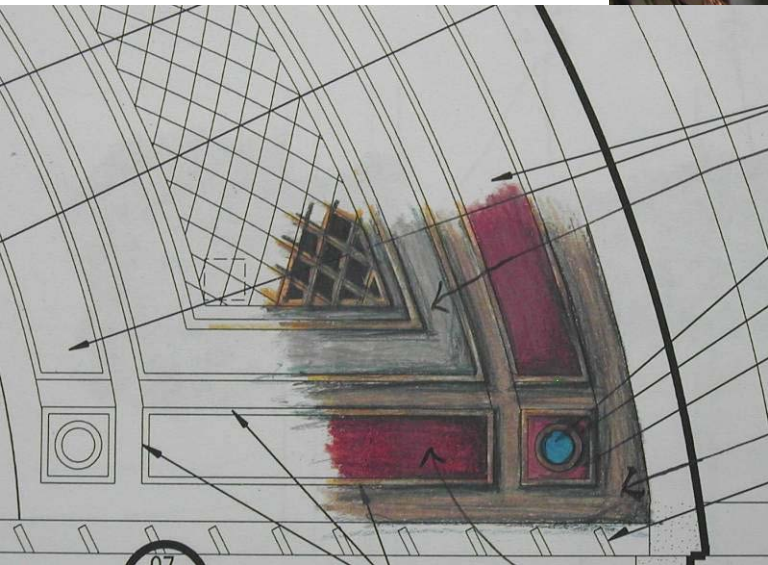
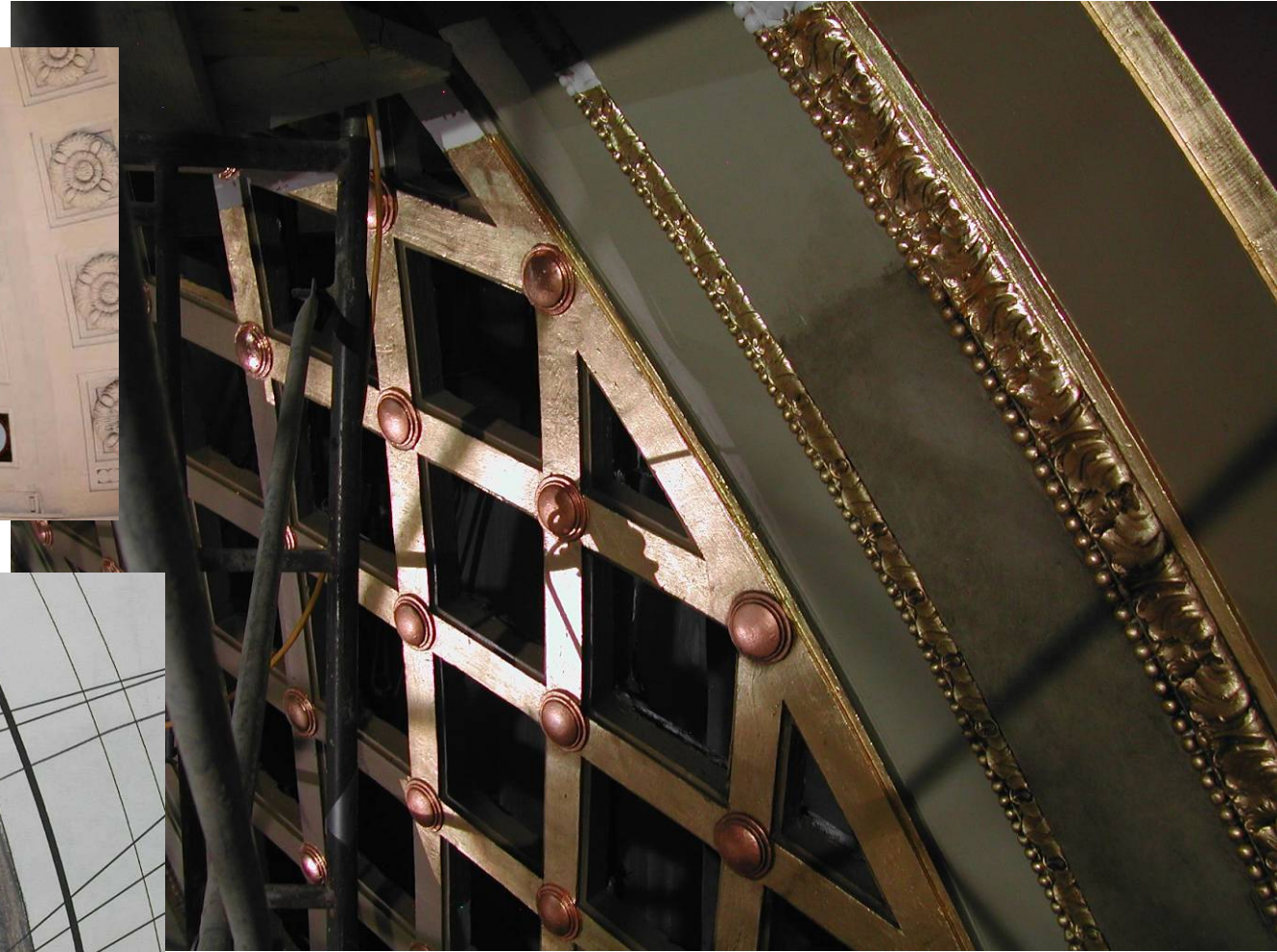


Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**





Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**





Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**





Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**





Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



2003 Color concept illustration



*1950s "modernization"
1980s organ pipes colorized*



1990s "before" condition

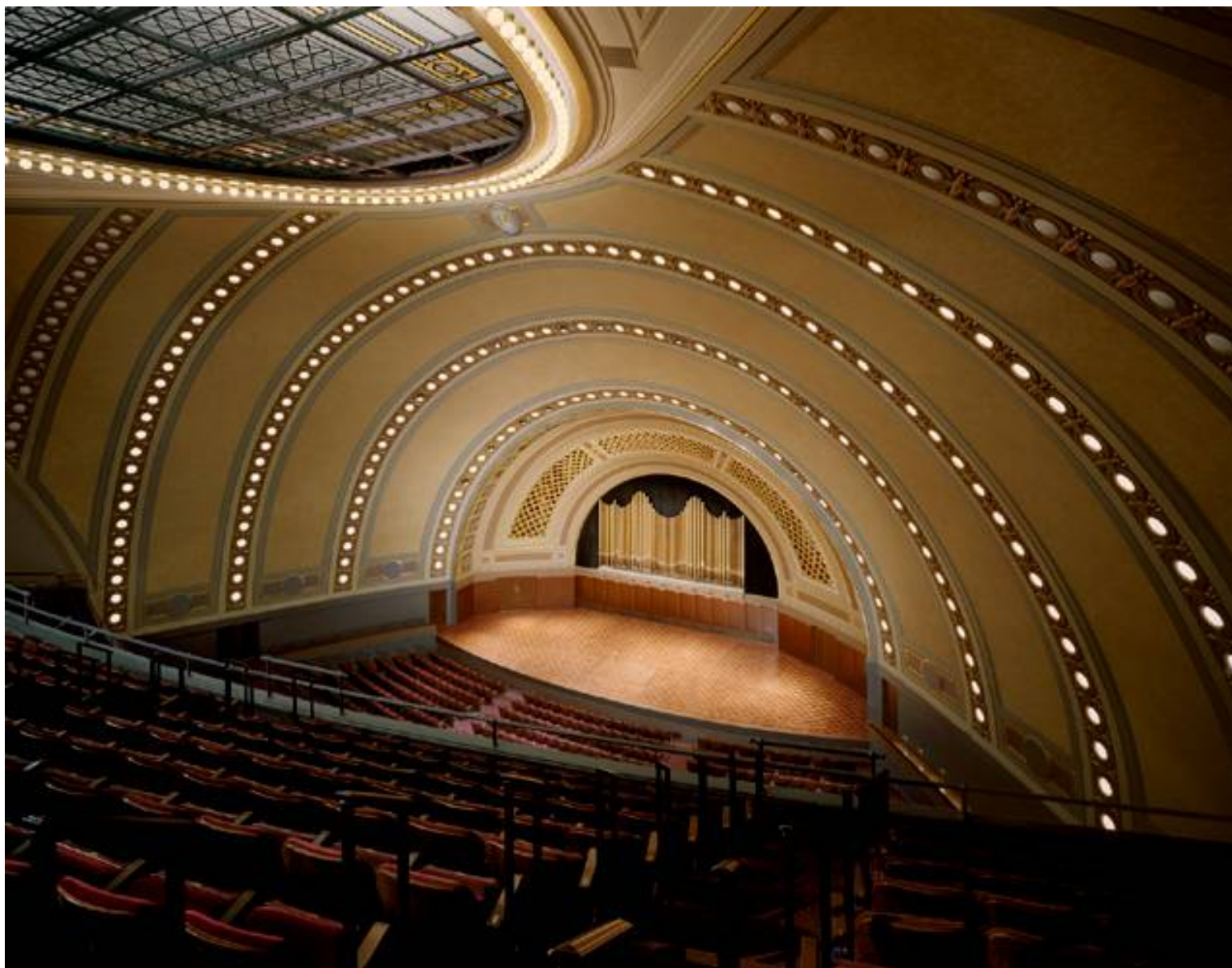
Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



January 2004 dedication concert to a packed house



Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



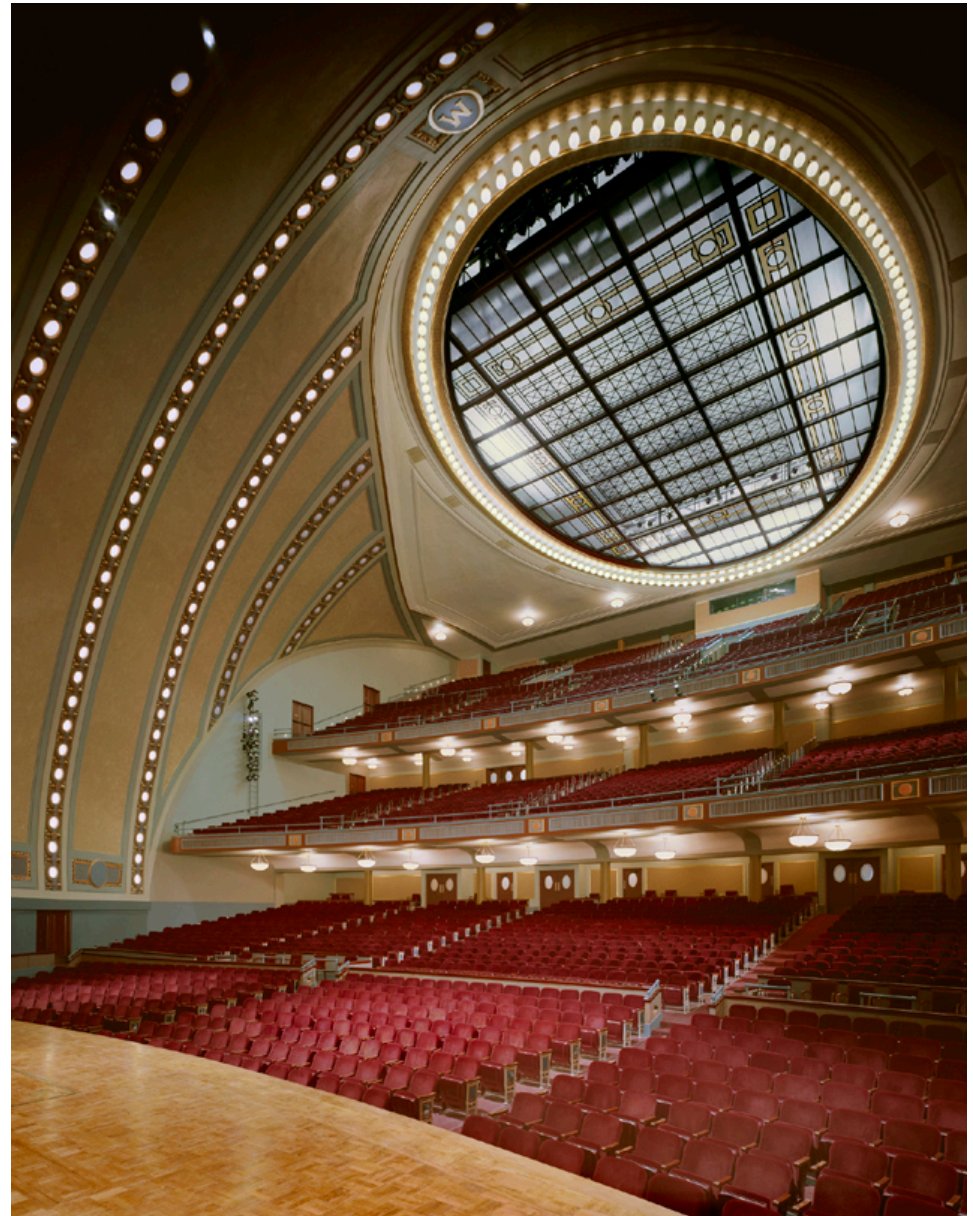
February 2004 finished auditorium from upper balcony



Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



all new custom seats



finished auditorium and restored lay light



Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



captured space for lower level lobby

captured space for light and sound lock

Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



side entrances modified for barrier free access

Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



exterior views of Hill Auditorium and Burton Tower



Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



Michigan Central Station, Detroit, Michigan

Take a piece of the building,
where possible, to capture
complete data.

Compare this information with
scraping and samples.



Metal Windows
Sample #1

Michigan Central Station, Detroit, Michigan



Metal Windows
Sample #2



Michigan Central Station, Detroit, Michigan



Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



Sample #3

Michigan Central Station, Detroit, Michigan

Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



Sample #4

Michigan Central Station, Detroit, Michigan

Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
Lecture # **11: Investigation and Analysis of Paint Color & Coatings**



Sample #5

Michigan Central Station, Detroit, Michigan




Sample #5

Michigan Central Station, Detroit, Michigan



Winter Semester 2013 - GHPR 651 Principles of Preservation Technology
 Lecture # **11: Investigation and Analysis of Paint Color & Coatings**

Sample #: 3				
Location: Storage floor, north lightwell, mullion (wood)				
Layer/ Coat	Color Name	Color Reference	Type/Gloss (Pb = lead)	Age
1. Prime	Yellowish White		Oil (Pb)	Original
2. Intermediate	Light Greenish Gray		Oil (Pb)	Original
3. Finish	Light Greenish Gray	5 GY 7.5/1	Oil; Semi	Original
4. Finish	Light Greenish Gray			Early 20 th c.
5-7. Finishes	Greenish Grays			Early/Mid 20 th c.
8. Finish	Gray			Mid 20 th c.
9-10. Finishes	Light Greens			Mid/Late 20 th c.

Feature: Window Trim And Sashes	Color: Light Greenish Gray Finish Type: Oil Reflectance: Semi	Color sample:  The Munsell Color notation is: <u>5 GY 7.5/1</u>
------------------------------------	---	--