The Aqueous Cleaning of the diorama, “The Surveying of Washington, DC by Benjamin Banneker”

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Introduction

The Surveying of Washington, DC by Benjamin Banneker, is one of twenty dioramas gifted to the Legacy Museum following the 1940 American Negro Exposition. The dioramas were created by a team of artists and artisans, led by Axel Lindgren, Charles C. Dawson, and William E. Scott, to celebrate milestones in African and African American history.

This diorama highlights Benjamin Banneker (central figure in blue), a free African American, who surveyed the lands that became Washington, DC. It also recognizes the masonry and carpentry roles that enslaved men (on right) filled in the construction of most federal buildings prior to Emancipation, including the pre-1812 White House. The scene features a modeling wire, canvas and plaster tree; carved wooden figures of Andrew Elliott, Benjamin Banneker, Issac Briggs, and two enslaved men, the White House featuring forced perspective and scaffolding in front of a curved Masonite board background and on a sloped plaster foreground. The constructed wooden frame house wiring for hidden light fixtures.

Background

This poster describes a single step of a larger treatment of the diorama “The Surveying of Washington, DC by Benjamin Banneker”, for further information on this diorama or its treatment please refer to Sandick: the Conservation Treatment and Analysis of “The Surveying of Washington, DC by Benjamin Banneker” by the first author.

Following years in storage, the dioramas need various levels of conservation to make them safe to exhibit. Dr. Jontyle Robinson, professor and curator of the Legacy Museum, and Dr. Caryl McFarlane, a higher education diversity consultant, founded the Alliance of Historically Black College and Universities (HBCU) Museums and Galleries; the Alliance partnered with several institutions to create museum career and hands-on conservation opportunities for undergraduate HBCU students using the twenty dioramas as practical objects.

This diorama was the first treated at the Buffalo art conservation program and was completed as the first author’s Master’s Project. The first author was able to share her experience and co-teach sessions with the HBCU programs at Yale University and the Winterthur University of Delaware program in art conservation (WUDPAC).

Aqueous Cleaning Steps

1. Consolidate unstable areas
2. Dry surface clean with soft bristled brush
3. Apply odorless mineral spirits (or cyclomethicone D5) with rolled cotton swabs
4. Gently roll deionized water dampened, rolled cotton swab over surface
5. Allow the odorless minerals spirits (or cyclomethicone D5) to fully evaporate
6. Repeat steps 3-5 as needed

Cleaning Considerations

1. Short time period for treatment
2. Large Scale: 37 7/8 x 55 1/4 x 21 3/4 inches
3. Surface severely abraded areas
4. Water-soluble paint layers
5. Water-soluble grime layers

Solvents

- Gamsol Odorless Mineral Spirits
  - (Alternative) Cyclomethicone D5

TIPS

- Work in a 2 x 2 inch square (max) at a time
- Plan for 5 minutes of work time per area
- Change cotton swab often
- Check swab to ensure only grime is lifted
- Use pre-rolled swabs
- Use a heavily saturated water swab
- Use a volatile solvent

How It Works

This technique relies on the hydrophobic nature of odorless mineral spirits or cyclomethicone D5. Both solvents create a protective barrier over the water-soluble watercolor layers and plaster layer, so the deionized water can remove only the dust and grime.

Discussion: Strengths and Limitations of the Technique

This technique offers the ability to use the aqueous cleaning method on a water-sensitive surface, greatly reducing surface cleaning time. No residues remain on the surface because the technique relies on a volatile solvent.

It does require either a stable surface or consolidation to be completed on unstable areas prior to surface cleaning. Solvent tests did not show a significant difference in efficacy between Gamsol odorless mineral spirits and cyclomethicone D5. Solvent choice can be based on budget and/ or availability.

Acknowledgements

Garman Conservation Department at Buffalo State College
- Theresa Smith, Jessica Harms, Flora Redmond
- Dr. Aaron Shugar, Patrick Ravina
- Classes of 2018, 2019, 2020, 2021
- Bruce and Gail Johnstone Art Conservation Fellowship, Buffalo State College
- Buffalo State College Tuition Fund
- Winterthur University of Delaware Program in Conservation
- Dr. Joyce Hill Stoner & Amanda Kasman

FINANCIAL SUPPORT PROVIDED BY:
- National Gallery of Art
- Buffalo State College Tuition Fund
- Rose Kaye Family Art Conservation Fellowship, Buffalo State College
- Bruce and Carl Johnston Art Conservation Fellowship, Buffalo State College
- P. Christopher Tark Art Conservation Fellowship, Buffalo State College
- The Paul R. Jones Initiative of the University of Delaware
- Dr. Joyce Hill Stoner

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