



## CONSERVATION DEPARTMENT

### *Condition & Treatment Report*

**Objects:** [1969.4722.002 through 1969.4722.026] 25 Tiles, Fireplace or wall tile mounted in Bertrand Fireplace

**Category:** Ceramics

**Materials:** Earthenware (delftware, faience), Tin glaze (tin-opacified lead glaze)

**Object Date: Dated: Earliest:** 1760

**Latest:** 1775

**Measurements (fireplace surround):**

**Height:** 101.6 cm (40.00 in)      **Width:** 139.15 cm (55.00 in)



*Figure 1. Bertrand fireplace, red rectangle shows the area where the plaster mounting material has become detached from the steel support beam.*

**Requested by:** Leslie B. Grigsby

**Previous Treatment:** Identified as the second highest High Priority fireplace for treatment by Emily Brown (Objects Laboratory Graduate Intern) and Matthew Mickletz (Manager, Preventive Conservation) in their 2015 survey of Winterthur's 59 fireplaces.

#### **Condition:**

##### *Fireplace*

Overall, the main concern with Bertrand fireplace is structural. The plaster holding the top row of the tile surround to the underlying steel structural support has become detached, especially in the center of the row (Figure 2). When touched, the top row of tiles moves freely from the steel support. This presents a potential hazard. If the plaster behind any more tiles becomes detached from the steel support, they may fall from the fireplace surround.



*Figure 2. Detail of steel bar (red) and thick plaster behind the top row of tiles where it has become detached and cracked.*





##### *Tiles*

The individual tiles in the fireplace appear to be in poor-to-fair condition, aesthetically, though they are structurally stable.

Multiple historic repairs were observed under examination with a long-wave UV light (Streamlight Twin Task 3C® UV LED flashlight, model number 51045 with 6 x 5mm UV LEDs at 390nm) (see Table 1).

**Condition of Tiles in Bertrand Fireplace  
(1969.4720.002 – 1969.4720.026)**

Minor condition issues <sup>1</sup>	
Moderate condition issues <sup>2</sup>	
Major condition issues <sup>3</sup>	





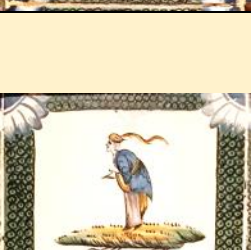

	Accession #	Condition Issues	Measurements
	1969.4720.002	<ul style="list-style-type: none"> <li>• Surface dirt</li> <li>• Small chips around all edges</li> <li>• Crack in bottom PL<sup>4</sup> quadrant has discolored adhesive residue</li> <li>• Plaster grout has become stained</li> </ul>	12.4 x 12.6 cm
	1969.4720.003	<ul style="list-style-type: none"> <li>• Surface dirt</li> <li>• Small chips along all edges and corners, especially lower PR corner</li> </ul>	12.5 x 12.3 cm
	1969.4720.004	<ul style="list-style-type: none"> <li>• Surface dirt</li> <li>• Small chips along all edges and corners, especially upper corners</li> <li>• Larger chip (1.5 x 1.2 cm) along upper edge towards PR side</li> </ul>	12.5 x 12.4 cm
	1969.4720.005	<ul style="list-style-type: none"> <li>• Surface dirt</li> <li>• Small chips along all edges and corners, especially upper PR corner</li> <li>• Larger chip (1.2 x 1.0 cm) along upper edge towards PR side</li> <li>• Small drip of house paint (?) over lower PR Michaelmas daisy corner decoration</li> </ul>	12.6 x 12.5 cm



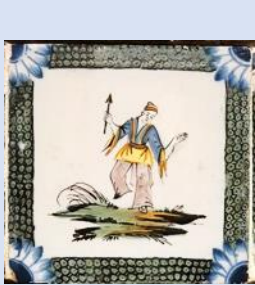
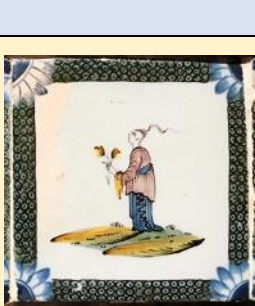

<sup>1</sup> Minor condition issues/treatment goals include: surface cleaning; no loss compensation.





<sup>2</sup> Moderate condition issues/treatment goals include: surface cleaning; clearing of adhesive residues; loss compensation for larger chips only.





<sup>3</sup> Major condition issues/treatment goals include: surface cleaning; clearing of adhesive residues; reversal of old, disfigured restorations; loss compensation for larger chips and losses only.

<sup>4</sup> Here on out, “PL” will stand for Proper Left, and “PR” will stand for Proper Right.

	1969.4720.006	<ul style="list-style-type: none"> <li>• Surface dirt</li> <li>• Small chips along all edges and corners, especially upper PR corner</li> <li>• PR edge appears to have been abraded</li> </ul>	12.7 x 12.4 cm
	1969.4720.007	<ul style="list-style-type: none"> <li>• Surface dirt</li> <li>• Small chips along all edges and corners, especially along lower PR edge</li> </ul>	12.4 x 12.2 cm
	1969.4720.008	<ul style="list-style-type: none"> <li>• Surface dirt</li> <li>• Small chips along all edges and corners</li> <li>• Historic restoration in center of tile and along cracks is bumpy and has become discolored, could be improved greatly</li> </ul>	12.8 x 12.5 cm
	1969.4720.009	<ul style="list-style-type: none"> <li>• Surface dirt</li> <li>• Small chips along all edges and corners</li> <li>• Large structural crack bisects the tile from upper PL corner to the lower PR corner</li> </ul>	12.5 x 12.7 cm
	1969.4720.010	<ul style="list-style-type: none"> <li>• Surface dirt</li> <li>• All corners are covered in discolored overpaint</li> <li>• Structural cracks have been overpainted, surface of tile has been overpainted to blend</li> <li>• Pressure-sensitive tape is present from the top PL corner of this tile to the one next to it (1969.4720.011)</li> </ul>	12.5 x 12.5 cm
	1969.4720.011	<ul style="list-style-type: none"> <li>• Surface dirt</li> <li>• Small chips along top edge of tile</li> <li>• Pressure-sensitive tape is present from the top PR corner of this tile to the one next to it (1969.4720.010)</li> </ul>	12.5 x 12.6 cm

	1969.4720.012	<ul style="list-style-type: none"> <li>• Surface dirt</li> <li>• Small chips along all edges of tile, corners</li> <li>• Top PR corner appears to have been filled and/or overpainted</li> </ul>	12.4 x 12.4 cm
	1969.4720.013	<ul style="list-style-type: none"> <li>• Surface dirt</li> <li>• Small chips along top edge of tile</li> </ul>	12.3 x 12.4 cm
	1969.4720.014	<ul style="list-style-type: none"> <li>• Surface dirt</li> <li>• Small chips along all edges</li> <li>• Strange area of texture on the upper edge of the tile towards the PL side, concentrated in the fish roe border; this does not appear to be a fill, does not fluoresce?</li> </ul>	12.7 x 12.7 cm
	1969.4720.015	<ul style="list-style-type: none"> <li>• Surface dirt</li> <li>• Small chips along all edges</li> <li>• Top PR corner is restored, discolored overpaint</li> <li>• Overpaint covers much of the surface of the tile's PR side, ostensibly to blend</li> </ul>	12.4 x 12.5 cm
	1969.4720.016	<ul style="list-style-type: none"> <li>• Surface dirt</li> <li>• Small chips along all edges</li> <li>• Join clearly visible with white plaster (?) material as a fill</li> <li>• Small areas of fill along the lower edge</li> </ul>	12.6 x 12.5 cm

	1969.4720.017	<ul style="list-style-type: none"> <li>• Surface dirt</li> <li>• Small chips along all edges</li> <li>• All corners appear to be overpainted and/or filled</li> <li>• Much of the tile's surface has been overfilled and overpainted, some of which is failing, especially in the bottom PR corner</li> </ul>	12.6 x 12.5 cm
	1969.4720.018	<ul style="list-style-type: none"> <li>• Surface dirt</li> <li>• Small chips along all edges</li> </ul>	12.5 x 12.6 cm
	1969.4720.019	<ul style="list-style-type: none"> <li>• Surface dirt</li> <li>• Small chips along all edges</li> <li>• Staining along the lower edge, black paint (?)</li> </ul>	12.3 x 12.4 cm
	1969.4720.020	<ul style="list-style-type: none"> <li>• Surface dirt</li> <li>• Small chips along all edges</li> <li>• All corners appear to be overpainted and/or filled</li> <li>• Much of the tile's surface has been overfilled and overpainted</li> </ul>	12.4 x 12.5 cm
	1969.4720.021	<ul style="list-style-type: none"> <li>• Surface dirt</li> <li>• Small chips along all edges</li> </ul>	12.4 x 12.3 cm
	1969.4720.022	<ul style="list-style-type: none"> <li>• Surface dirt</li> <li>• Small chips along all edges</li> </ul>	12.6 x 12.5 cm

	1969.4720.023	<ul style="list-style-type: none"> <li>• Surface dirt</li> <li>• Small chips along all edges</li> </ul>	12.4 x 12.4 cm
	1969.4720.024	<ul style="list-style-type: none"> <li>• Surface dirt</li> <li>• Small chips along all edges</li> </ul>	12.5 x 12.4 cm
	1969.4720.025	<ul style="list-style-type: none"> <li>• Surface dirt</li> <li>• Small chips along all edges</li> <li>• Historic restoration top PR corner has discolored</li> <li>• Restoration has failed exposing glaze loss in a large area (4.0 x 1.8 cm) along the upper PR edge</li> </ul>	12.6 x 12.3 cm
	1969.4720.026	<ul style="list-style-type: none"> <li>• Surface dirt</li> <li>• Small chips along all edges</li> <li>• Large area of glaze loss (2.2 x 1.3 cm) along central PR side</li> </ul>	12.6 x 12.8 cm

### Totals:

Minor: 12 (1969.4720.003, 1969.4720.006, 1969.4720.007, 1969.4720.009, 1969.4720.013, 1969.4720.014, 1969.4720.018, 1969.4720.019, 1969.4720.021, 1969.4720.022, 1969.4720.023, 1969.4720.024)

Moderate: 4 (1969.4720.002, 1969.4720.004, 1969.4720.005, 1969.4720.011)

Major: 9 (1969.4720.008, 1969.4720.010, 1969.4720.012, 1969.4720.015, 1969.4720.016, 1969.4720.017, 1969.4720.020, 1969.4720.025, 1969.4720.026)

1 hr/minor treatments

5 hours/moderate treatments = 125 hours, estimate

10 hours/major treatments

**Proposed Treatment:** Treatment will be completed in two phases:

**Phase 1 (Completed February 6-7, 2018)**

1 - Plaster mounting material of top row of tiles was reattached to the steel support beam using a 3:1 mixture of 40% Paraloid B-72<sup>5</sup> : 40% Paraloid B-48N<sup>6</sup> w/v in acetone bulked with 3M Glass Bubbles.<sup>7</sup> The addition of Paraloid B-48N to Paraloid B-72 raises the glass transition temperature (T<sub>g</sub>) of the mixture and imparts greater strength to the adhesive.<sup>8</sup> The glass microballoons eased the gap-filling nature of the adhesive and the workability of the mixture, as it was injected upside down to the small space between the plaster and steel.



*Figure 3. Top panel of tiles is clamped in place after injection of adhesive.*

2 – The panel was clamped into place with Irwin Quick-Grip clamps padded with Volara<sup>9</sup> over silicone release Mylar to prevent abrasion to the tiles’ surfaces for 48 hours until all solvent has evaporated.

Total: 10 hours

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<sup>5</sup> Clear colorless thermoplastic acrylic resin composed of an ethyl methacrylate (70%) and methyl acrylate (30%) copolymer. Manufactured by Rohm & Haas and available from conservation suppliers.

<sup>6</sup> Clear colorless thermoplastic acrylic resin composed of a methyl methacrylate/ butyl acrylate copolymer. Contains an [adhesion promoter](#) that assists bonding to bare and primed metals. Manufactured by Rohm & Haas and available from conservation suppliers.

<sup>7</sup> Brand name for microscopic hollow glass spheres made from a soda-lime borosilicate glass (softens above 715C) and are a common bulking agent.

<sup>8</sup> “Tullio Blend” see Carolyn Riccardelli, Michael Morris, George Wheeler, Jack Soutanian, Lawrence Becker, and Ronald Street. “The Treatment of Tullio Lombardo’s *Adam*: A New Approach to the Conservation of Monumental Marble Sculpture.” *Metropolitan Museum Journal* 49 (2014): 49-116.

<sup>9</sup> Closed cell plastic foam made from polyethylene. It has a smooth surface that is resistant to water absorption and chemical reactions. Made in various thicknesses and colors. Manufactured by Voltek. Available from conservation and plastics suppliers.

## Phase 2 (Spring – Summer 2018)

*Minor Treatments (1969.4720.003, 1969.4720.006, 1969.4720.007, 1969.4720.009, 1969.4720.013, 1969.4720.014, 1969.4720.018, 1969.4720.019, 1969.4720.021, 1969.4720.022, 1969.4720.023, 1969.4720.024)*

1 - Surface clean with dry (i.e. cosmetic sponges) or wet (i.e. 50:50 deionized water:denatured alcohol or 0.5-2% sodium citrate on cotton pads) methods dependent on the results of cleaning tests.

Estimated: 12 hours

*Moderate Treatments (1969.4720.002, 1969.4720.004, 1969.4720.005, 1969.4720.011)*

1 - Surface clean with dry (i.e. cosmetic sponges) or wet (i.e. 50:50 deionized water:denatured alcohol or 0.5-2% sodium citrate on cotton pads) methods dependent on the results of cleaning tests.

2 - In-fill large chips with Flügger<sup>10</sup> over a barrier of 2-10% Paraloid B-72 w/v in acetone. Leave smaller chips.

3 - In-paint fills with Golden Acrylics<sup>11</sup> and Primal WS-24<sup>12</sup> to restore aesthetic integrity.

Estimated: 20 hours

*Major Treatments (1969.4720.008, 1969.4720.010, 1969.4720.012, 1969.4720.015, 1969.4720.016, 1969.4720.017, 1969.4720.020, 1969.4720.025, 1969.4720.026)*

1 - Surface clean with dry (i.e. cosmetic sponges) or wet (i.e. 50:50 deionized water:denatured alcohol or 0.5-2% sodium citrate on cotton pads) methods dependent on the results of cleaning tests.

2 – Remove disfiguring historic restorations with mechanical action of a Number 15 scalpel and/or cotton swabs of acetone or denatured alcohol.

3 - In-fill large chips with Flügger over a barrier of 2-10% Paraloid B-72 w/v in acetone. Leave smaller chips.

4 - In-paint fills with Golden Acrylics and Primal WS-24 to restore aesthetic integrity.

Estimated: 90 hours

Total for Phase 2: 125 hours, estimated

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<sup>10</sup> Acrylic spackle composed of calcium carbonate in a butyl methacrylate binder. Manufactured by Flügger A/S, Denmark. Available from conservation suppliers.

<sup>11</sup> Lightfast, low-viscosity acrylic paints with a high pigment load. Manufactured by Golden Artist Colors; available at art stores and from Golden Artist Colors.

<sup>12</sup> Also known as Primal WS-24 or Rhoplex WS-24, a polyacrylic acid emulsion mixed with acrylic co-polymers; pH 7; dries to a relatively hard, clear, shiny film and is often used to increase gloss in inpainting. Manufactured by Rohm and Haas; available from art conservation suppliers.



## **Treatment:**

### **Phase 1 (Winter 2018, while Winterthur is Closed)**

1 - Plaster mounting material of top row of tiles was reattached to the steel support beam using a 3:1 mixture of 40% Paraloid B-72 w/v in 9:1 acetone:denatured alcohol : 40% Paraloid B-48N w/v in 9:1 acetone:denatured alcohol slightly bulked with 3M Glass Bubbles. The adhesive was injected behind the plaster using a syringe.

2 – The tiles were clamped in place with Mylar between the clamps and the tile to prevent abrasion to the tiles' surfaces for 24 hours until all solvent had evaporated.

Treated By: Madeline Hagerman

Date Completed: 2/6/2018

Treatment Hours: 8 hours

### **Phase 2 (Spring – Summer 2018)**

*Minor Treatments (1969.4720.003, 1969.4720.006, 1969.4720.007, 1969.4720.009, 1969.4720.013, 1969.4720.014, 1969.4720.018, 1969.4720.019, 1969.4720.021, 1969.4720.022, 1969.4720.023, 1969.4720.024)*

1 - Surface cleaned with 50:50 deionized water:denatured alcohol on cotton swabs based on the results of cleaning tests.

Estimated: 12 hours

*Moderate Treatments (1969.4720.002, 1969.4720.004, 1969.4720.005, 1969.4720.011)*

1 - Surface cleaned with 50:50 deionized water:denatured alcohol on cotton swabs based on the results of cleaning tests.

2 - Large chips were filled with Flügger built up in layers over a barrier 10% Paraloid B-72 w/v in acetone. Smaller chips were not filled.

3 – Fills were in-painted with Golden Acrylics and Primal WS-24 to restore aesthetic integrity.

Estimated: 20 hours

*Major Treatments (1969.4720.008, 1969.4720.010, 1969.4720.012, 1969.4720.015, 1969.4720.016, 1969.4720.017, 1969.4720.020, 1969.4720.025, 1969.4720.026)*

1 - Surface cleaned with 50:50 deionized water:denatured alcohol on cotton swabs based on the results of cleaning tests.

2 – Historic overpaint was reduced with cotton swabs of acetone.

3 – Historic plaster overfill was mechanically reduced with a Number 15 scalpel and abrasive papers.

4 - Large chips were filled with Flügger built up in layers over a barrier 10% Paraloid B-72 w/v in acetone. Historic plaster fills were resurfaced and refined with Flügger. Fills were finished with MicroMesh<sup>13</sup>. Smaller chips were not filled.

5 – Fills were in-painted with Golden Acrylics and Primal WS-24 to restore aesthetic integrity.

Estimated: 90 hours

Treatment By: Madeline Hagerman

Treatment Completed: August 2, 2018

Total for Phase 2: 125 hours

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<sup>13</sup> Cushioned abrasive sheeting with abrasive material bonded to a cloth-backed latex ground (1500-6000-grit silicone carbide crystals; 8000-12000-grit aluminum oxide crystals).