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1916.1002

Renaissance to Runway: The Enduring Italian Houses

The Cleveland Museum of Art, Cleveland, OH (11/9/2025-2/1/2026)

Bust of a Roman General, 1500s or later. Italy, 16th century or later. Marble; overall: 73 x 56 x 25 cm (28 3/4 x 22 1/16 x 9 13/16 in.). The Cleveland Museum of Art, The Holden Collection, 1916.1002

Examined by: Daisy Diamond

Expanded upon an approved proposal by Colleen Snyder from: 8/26/2025



Summary

This object is being treated in preparation for the exhibition *Renaissance to Runway*. An old repair at the neck has a visible gap from losses of degraded and discolored fill material, though the structural join underneath is stable. The old fill material requires removal, and the gap will be filled with reversible, stable conservation materials. Cleaning methods will also be investigated to determine if there is an efficient means of evenly reducing dirt, staining, and grime overall, while maintaining some balance between the differently colored marbles of the head and body.

Description

This marble bust depicts a Roman general with wavy hair wearing a tunic and toga on a base with two volutes. The head and the bust are carved from different marble types and were joined at an unknown date, prior to acquisition in 1916. The differences in color and appearance are most visible in areas of high polish and range from a semi-translucent buff to white with gray and brown veins. The bust is much whiter, and there are differences in finishing between the two joined pieces. The marble head also exhibits a different grain structure than the body, and this may be due to different working and finishing techniques or because it had a different history of exposure and weathering. The position of the head is further evidence that it does not belong to the body. It is turned and gazes slightly left, and the angle of the neck may indicate it once belonged to a figure with another type of pose. The back of the head is less finished, with notable chisel marks behind the proper right (PR) ear and drill marks within curls on the PL back side of the head (figs. 1-2). There are recesses of peach-colored pigment in the recesses of the eyes and ears. The bust has no traces of pigment, and the reverse is completely unfinished and hollowed out, with an old iron alloy mount for placing in a niche or other architectural setting.



Figure 1. Drill marks on the back PL side of head.



Figure 2. Chisel marks behind the PR ear.

Historical Context

This head and bust were joined prior to 1916, and any further context remains unknown. There is one similar Italian marble bust with a body and head from different origins in the Cleveland Museum of Art Collection (figs. 3-4), although this bust does not have a fill aesthetically bridging the two components. Both of these busts were donated to the Cleveland Museum of Art by Mrs. Liberty Emery Holden (1833-1913). She was the wife of a Cleveland-based art collector, attorney, proprietor of the Cleveland Plain Dealer newspaper, real estate developer, Hollenden Hotel owner, mine owner, president of the Union Club of Cleveland, mayor of Bratenahl Village, and trustee of Western Reserve University and Adelbert College (The Frick Collection 2025).



Figure 3. The bust referred to in this proposal. *Bust of a Roman General*, 1500s or later. Italy, 16th century or later. Marble; overall: 73 x 56 x 25 cm (28 3/4 x 22 1/16 x 9 13/16 in.). The Cleveland Museum of Art, The Holden Collection, 1916.1002.



Figure 4. *Bust of a Man*. Face: early 2nd century or later. Body: 1500s or later. Italy, Face: Roman, early 2nd century or later; Body: 16th century or later. Marble; overall: 72.5 x 53 x 22 cm. The Cleveland Museum of Art, The Holden Collection 1916.1003.

Condition

Overall, the marble bust remains structurally sound, though its appearance is visually compromised.

The aesthetic condition of the old fill materials is the primary concern at present (figs. 5-9). Disfiguring, opaque modern fills along the nose and neckline are highly distracting and emphasize the different stone compositions and staining patterns of the bust and head. Although these differences are inherent to the pastiche, the context of when the two pieces were joined together prior to 1916 is entirely unknown. There is dark brown embedded staining along the break edges of the neckline. Under ultraviolet examination, there is a yellow-green fluorescence along the neck break edge that doesn't correspond to fill material, overpaint, or visible light stains. This may indicate a prior adhesive application or other treatment.

Dirt, stains, and non-original marks are present throughout the surface. The red-brown appearance of the face, more prominent on the PR side, may be partially due to iron staining rather than mineral inclusions. To some extent, the staining on the bust has a similar appearance to the head and aesthetically bridges the two stones. Dirt and brown embedded grime, oils, and dirt are particularly prominent on the lower shoulders and front of the head, likely due to handling. Minor peach-colored pigment evidence is present in the ear canals, but is otherwise not present. In visible and ultraviolet light, there are no additional pigments detected, potentially indicating historic overcleaning.

Structurally, the neck join is stable. The stone itself is stable. There is no cracking, sugaring, or efflorescence formation. There are minor losses to areas of high relief carving, consistent with sculptures of this age and history of display. Chips to the stone are most prominent on the face, particularly the PR side where there is a high contrast between the darker stained and dirty surface and the brighter exposed marble in areas of loss. Additional losses are located on the PR outer shoulder, PR lower front fold of the garment, PL front fold of the garment, and PL outer side of the drapery. With a CEIA PD240 (3V, 60mW) handheld metal detector, at least one pin was detected within the join. The date of pin addition is unknown. Iron and lead pins have been used for attachments since ancient times, and this was very common during the Renaissance. There is a central metal attachment with a hook inserted into the back with soft, black putty surrounding the gap and minor corrosion staining above the pin.



Figure 5. Disfiguring fill at neckline, front.



Figure 6. Disfiguring fill at neckline, back.



Figure 7. Disfiguring fill and staining, PL neckline.

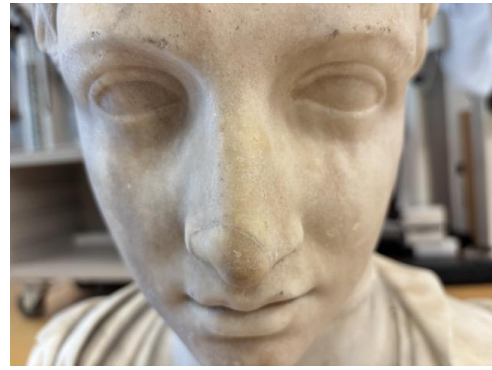


Figure 8. Disfiguring fill and staining, nose.



Figure 9. Flaking fill material, PR bust.

Treatment Purpose

For the *Renaissance to Runway* exhibition, the emphasis of this bust is on the drapery. Based on curatorial input, the disfiguring fill should be replaced, and a new fill should be created to more subtly bridge the gap between the bust and the head, while not entirely obscuring the pastiche nature of the bust. Time constraints limit the extent of overall stain reduction and cleaning that is possible.

Treatment Proposal¹

1. Document the condition and treatment of the object.
2. Conduct testing of the marble surface to evaluate treatment approaches to surface cleaning, stain reduction, and fill materials.
3. Conduct cleaning to reduce disfiguring fill material, embedded stains near the break edge, and drawn pencil marks. Depending on time constraints and testing results, potential cleaning could include use of an Nd-YAG Lynton Compact Phoenix laser directed to ablate dirt and dust.
4. Complete loss compensation for the neck join with a barrier layer and a conservation-grade filler, such as Flügger acrylic spackle or Paraloid B-72 in acetone bulked with microballoons, stone powders, dry pigments, or a combination of these materials to mimic the surrounding stone color, sheen, and translucency. Conservation-grade paints and coatings may be used on top of the fill to adjust the surface and sheen.

¹ Note: The treatment proposal and approval were completed prior to my start date by Colleen Snyder on 8/26/2025. The proposal is included here as an abbreviated form for record completeness. Treatment approvals are in the object record file.

Treatment Report and Rationale

1. Completed BT treatment and photodocumentation.

2. Prepared the break edge for a new fill by reducing the distracting fill material and staining (table 1).

- Old fill materials were reduced mechanically with a skewer, scalpel, and HEPA-filtered low-speed Nilfisk vacuum. Fill residues were locally cleared with deionized (DI) water adjusted to pH 10 with sodium hydroxide saturated with calcium carbonate. PH evaluated with pH indicator strips. Based on research evaluating the pH of cleaning solutions for marble, pH 10 solutions are optimal for minimizing the dissolution of calcite and loss of gloss (Chao 2017, Gervais 2010).
- Upon reduction of the fill material, minor structural instability was observed: the metal pins allowed for slight lateral movement with no vertical displacement.
- Stains were reduced at the break edge, following testing, with a 5% solution of ammonium citrate (w/v) in DI water adjusted to pH 10 with ammonium hydroxide. The solution was applied as a poultice in cellulose pulp for 15 minutes with a cling wrap moisture barrier and cleared with swab-applied dilute calcium carbonate in DI water adjusted to pH 10 with sodium hydroxide.
 - Testing included the following:
 1. 6% Laponite RD adjusted to pH 10 with ammonium hydroxide for 5, 10, and 15 minutes. This resulted in no change in staining.
 2. 2 and 5% ammonium citrate solutions for 4, 8, and 15 minutes. The 2% solution resulted in no change in staining. The 5% solution had no change after 4 minutes, minor reduction after 10 minutes, and notable reduction after 15 minutes.
 3. Although the ammonium citrate solution can chelate the calcium ions in marble, the damaging effect is still dependent on the condition of the stone, concentration, dwell time, and number of applications. Based on tests and conversations with other conservators in the lab, the risk seemed more theoretical in this particular example.

3. Completed structural loss compensation with a bulked Paraloid B-72 fill (Riccardelli 2025) (table 1).

- A barrier layer was applied to the stone with 5% Paraloid B-72.
- To address the minor structural instability following reduction of the prior fill material, a first layer of gap-filling material was applied to deep recesses of the gap to provide structural support. This layer was composed of 60% Paraloid B-72 in 7:1 acetone and ethanol bulked to a thick putty consistency with fumed silica and microballoons.
- To match the translucency and color of the surrounding marble, smearable mixes of bulked 60% Paraloid B-72 in 7:1 acetone and ethanol were applied in thin layers. Acetone was rolled on the surface of prior dried layers to get a strong bond and then allowed to harden before applying additional layers.
 - Bulking agents included:
 1. Fumed silica (Evonik AEROXIDE Alu C) for strength and thickening (4 parts)
 2. Microballoons for strength and thickening (4 parts)
 3. Synthetic onyx for color and translucency (2 parts)
 4. Marble dust for color and texture (1 part)
- Once hardened, the fills were refined with scalpels at low angles and riffler rasps.
- Shaped the fill with rasps and custom-made sanding sticks from a nail skewer with a thinly cut strip of a Septifile system progressing from 100, 180, 240, to 400 grit. This was used as a thin strip applied to

a skewer for a high degree of control. The abrasive strips had one side of adhesive for easy application to the skewer. The filing sticks were also white and left no disfiguring dark residues.



Figure 10. Abrasive files (left) and sanding sticks (right).

- Although the surface was incredibly even, the fills were slightly too translucent once fully built up. They had a slight gray cast in the light. This was not possible to anticipate after the testing performed, and the gray cast was addressed during inpainting.

4. Completed aesthetic loss compensation with Golden PVA paints diluted with isopropanol and built-up layers of washing and stippling (table 1).

- The goal for this inpainting was to slightly bridge the gap between the two components by pulling visual elements from the top and bottom stones together. Very small areas of staining directly adjacent to the break edge were inpainted. Larger areas of staining, such as those on the front PR neck were not obscured. They serve as a visual cue to viewers that the sculpture is a pastiche, while not necessarily making this the first detail that would be noticed.

Table 1. Fill removal, stain reduction, fills, and inpainting. Note: lighting conditions vary between images, and the contrast between stained and unstained stone appears different in different lighting conditions.

	Before fill removal	After fill removal	After stain reduction	After fill	After inpainting
Front					
Back					
Proper Left					
Proper Right					
Nose			N/A		

5. Reduced dark gray drawn marks.

- Drawn marks on the PR shoulder and behind the PR ear were reduced with a Mars STAEDTLER eraser dipped in deionized (DI) water pH adjusted to 10 with sodium hydroxide.



Figure 11. Before (left) and after (right) reducing the drawn marks, PR shoulder.

6. Reduced stains on the bust.

- Using the stain reduction method described in step 2, additional stains on the PL side of the shoulder were reduced slightly. Deeply embedded stains, particularly near the back, did not change significantly. Due to the upcoming exhibition installation deadline, further stain reduction with laser treatment was not investigated at this time.



Figure 12. Before (left) and after (right) stain reduction, PL shoulder.

Total treatment time: 18 hours.

Future Treatment and Analysis

Future treatment could include pursuing additional stain reduction, with solution or laser methods. If at a future date it is determined the fill should not provide so much aesthetic compensation, the current fill can be reversed and structural support re-introduced with a bulked fill that remains in the recessed areas of the loss. Additional analysis could include X-radiography to examine the form of the pin and the mechanism of drilling (machine or by hand) to discern when this join may have occurred.

Handling and Environmental Conditions

Handle the artwork with nitrile gloves and store/display in a clean and stable environment of 70°F, 50% relative humidity, and 15-20 footcandles. Due to the composition of the fill, direct sunlight should be avoided as Paraloid B-72 can creep at low temperatures. Additionally, sharp pressure should be avoided near the fills, as this would leave indents.

Exhibition and Installation Instructions

Exhibit the artwork in a clean environment made from safe and stable materials that have passed the Oddy test. The base does not sit flat on a planar surface. A shim or mount is required to prevent unsteady movement.

References

- Chao, Raina. 2017. "Practical Evaluation and Application of Cleaning Techniques for Marble Sculpture." *Objects Specialty Group Postprints* 24: 207-234.
- Gervais, Claire, Carol A. Grissom, Nicole Little, and Melvin J. Wachowiak. "Cleaning Marble with Ammonium Citrate." *Studies in Conservation* 55, no. 3 (2010): 164–76. <http://www.jstor.org/stable/42751712>.
- Riccardelli, Carolyn. 2025. "Bulked B-72 Fills." Presentation at the AIC 53rd Annual Meeting. Minneapolis, MN, May.
- The Frick Collection. 2025. "Holden, Liberty Emery, 1833-1913." *Archives Directory for the History of Collecting in America*. New York, NY. <https://research.frick.org/directory/detail/1281>.

Materials

- ACETONE, CH₃OH, reagent grade colorless liquid, hazard rating H:1 F:3 R:0 PE:N/A. Manufacturer and Supplier: Fisher Scientific.
- AMMONIUM CITRATE, white water-soluble granules smelling slightly of ammonia used as a mild cleaning agent for metals and removal of sulfate crust from stone.
- AMMONIUM HYDROXIDE, aqueous solution, typically containing 28.5% ammonia by weight used as a cleanser and detergent to remove vegetable stains, grease, dirt, proteins, and other accretions from glass and ceramics.
- ARBOCEL® BC 1000, cellulose fibers, approx. 0.7 mm, prod number 59750. Supplier: Kremer Pigmente, 247 W. 29th Street, New York, NY 10001; phone: 212-219-2394 DEIONIZED WATER, H₂O, water without charged particles produced by ion exchange process.
- ETHANOL, C₂H₅OH polar solvent contains 5% water, hazard rating H:1 F:3 R:0 PE:N/A. Manufacturer and Supplier: Fisher Scientific.

FUMED SILICA, colloidal silica light and fluffy white powder made by hydrogen-oxygen furnace combustion of silicon tetrachloride. Skin and inhalation irritant. Evonik AEROXIDE Alu C.

GLASS MICROBALLOONS, SCOTCHLITE, K-15 hollow glass microspheres used for bulking. Manufacturer: 3M.
Distributor: Conservation Support Services, 924 West Pedregosa Street, Santa Barbara, CA 93101 805-682-9843; fax: 805-682-2064.

GOLDEN PVA CONSERVATION PAINTS, solvent-based retouching paint made from pigments in a 1:1 blend of polyvinyl acetate AYAA and AYAC, soluble in ethanol, methanol, acetone, various ketones, acetates and lower alcohols. Manufacturer: Golden Artist colors, Inc., 188 Bell Road, New Berlin, NY 13411-9527 800-959-6543; fax: 607-847-6767; www.goldenpaints.com LAPONITE, sodium magnesium lithium silicate.

LAPONITE, sodium magnesium lithium silicate. Supplier: Laporte Absorbants Ltd, PO Box 2, Moorfield Road, Widnes, Cheshire WA8 OJU, UK. Supplier: Talas, 330 Morgan Ave, Brooklyn, NY 11211 212-219-0770; fax: 212-219-0735; www.talas-nyc.com

PARALOID B-72, ethyl acrylate (70%) methyl methacrylate (30%) co-polymer. Manufacturer: Unknown, possibly Rohm & Haas. Supplier: TALAS.

PH INDICATOR STRIPS, colorpHast Indicator Strips, available in multiple pH ranges and sensitivities.

SEPTIFILE SANITIZABLE FILE SYSTEM, self-adhesive backed abrasive. 600 fine, white buffer smooth, and grey buffer shine. Manufacturer: Backscratchers Salon Systems, Inc. 916-686-2400, Elk Grove California, www.backscratchers.com.

PRECIPITATED CALCIUM CARBONATE, artificial chalk that is whiter and more homogenous than natural chalk.

SARAN WRAP, a trademark thermoplastic film copolymer of vinylidene chloride and small amounts of vinyl chloride or acrylonitrile.

STONE POWDERS, ground stone powders of various particle size. Supplier: Kremer Pigments for coarse marble dust 150-200 microns (Kremer 58580) and marble dust extra fine <32 microns (Kremer 58520).

SYNTHETIC ONYX FILLER, aluminum hydroxide-based white filler. Supplier: Tiranti, United Kingdom

VACUUM, Nilfisk GM-80 industrial HEPA filtered with attached variable speed control, filters 99.97% of particles greater than 0.3 microns in size.

Before Treatment Photodocumentation

Prior photodocumentation from 2009 by Gary Kirchenbauer was determined to represent the condition appropriately and was selected for use as BT photodocumentation.



Figure 13. BT, overall front.



Figure 14. BT, overall back.



Figure 15. BT, overall PL.



Figure 16. BT, overall PR.



Figure 17. BT, face close-up.

After Treatment Photodocumentation

Images captured by Gary Kirchenbauer, 11/2025. Associated metadata is accessible through Piction.



Figure 18. AT, overall front.



Figure 19. AT, overall back.



Figure 20. AT, overall PL.



Figure 21. AT, overall PR.



Figure 22. AT, face close-up.