



San Gemini Preservation Studies
International Institute for Restoration and Preservation Studies
203 Seventh Ave Brooklyn, NY 11215, USA

Archaeological Ceramics Restoration Project, San Gemini, Italy 2012
Course: SG203B - Introduction to Conservation of Archaeological Ceramics – Part 2, Workshop

Instructors:
Prof. Elena Raimondi (Project Conservator / Restorer)
Prof. Elena Lorenzetti (Archaeologist)

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| Student's name: | Jessica C. Junker |
| University: | University of Virginia |

FINAL CONSERVATION REPORT

Reference data and description

Inventory Number: 608472 US 337; Object: Lamp; Date of Production: 3rd century AD; Provenance: S. Maria in Pantano; Legal Ownership: State; Storage: Storage Place

Description: Common Pottery; Mould press; lamp with flat bottom; porous; buff color; no coating

Iconography/Decorative Pattern: On the top surface of the lamp, there are little globes (circular, rounded bodies) that decorate the top. The underside of the lamp remains smooth.

There are no production faults, inscriptions, or stamps that indicate any signs of production, such as the potter's name. There are no writings or labels.

Condition report

The lamp was in five fragments and had not been formerly restored. There were many soil encrustations as well as evidence of gypsum.

This initial condition report was based on a visual examination in order to determine the cause and extent of damage and decay. It also determined the basis for the course of the restoration treatment, depending on time.

Restoration

1. Documentation

The first type of documentation I recorded about the object was a written conservation report. This type of documentation is the first step any restorer must do for any object.

The second type of documentation was a visual documentation of the lamp using a camera. I photographed all of the different fragments of the lamp from different sides and angles in order to ensure that the object was fully documented before continuing with any further steps in the restoration process. While photographing the piece, I checked to make sure that the lighting was right and that the camera was in focus so that the picture would accurately reflect the pottery fragments, including its true color and any visible surface decorations. I then uploaded the pictures onto the computer with a file dedicated solely to this specific object. This first day was an important step as it is critical for any object to be restored is documented before, during, and after restoration. Documentation is not only the only evidence of an artifact's life, but also ensures that information about the object is both made available to other conservators and not lost.

I also took pictures of the fragments in order to document the different stages of restoration. For example, I took pictures during the cleaning process, which is particularly important because cleaning is the first stage that changes the object. I also took pictures of the lamp after gluing the fragments together and attaching them with tape and

again after having removed the tape the next day. This was important because it was the final state before adding plaster to help define the shape of the lamp.

Lastly, the lamp was photographed and documented after it was fully restored (after finishing the filling) and compared to the "before" pictures. In this way, every aspect of the restoration process and changes to the lamp (before, during, and after) were visually documented. These pictures also allow the conservator and others to make comparisons between the different phases of restoration.

The third and last type of documentation was a graphic documentation, which is another way to obtain information about the object. I first traced the bases and outside of each pottery fragment and then traced any layers of earth and encrustations using different colored markers. This type of documentation is also important because different computer programs can now be used to create graphic models that can be easily shared with other art historians or archaeologists.

2. Cleaning (which method you used, its characteristics, how and why)

The primary method I used to clean the five different fragments was through mechanical cleaning by using a scalpel, rather than using some type of chemical solution. I used a scalpel to scrape away the different layers of encrustations. Although I tried to remove as little of the clay body as possible, some of the encrustations were too thick and had formed to the clay body. It was impossible to remove these encrustations (most likely gypsum) without removing parts of the clay body as well. I attempted to remove these encrustations as best I could by applying more force and was careful not to damage the clay body further. Although other students were using water or ethanol to remove dirt or other encrustations, I only used a razor to clean the fragments of the lamp as the water or ethanol would have damaged the clay body more as the clay fabric was very porous and soft. It was also important to be careful when cleaning the edges of the fragments in order not to change the way the fragments fit together.

After cleaning off the encrustations on the top surface of one of the fragments, I discovered a crack that wasn't visible before cleaning. I also removed the earth that was stuck in the handle of the lamp by using a probe and gently picking and pushing out the condensed and hardened earth.

3. Bonding

Before joining and attaching the fragments of the lamp together, I consolidated the fragments. I created a consolidation solution of 2% Paraloid B72, an acrylic reversible resin, and acetone in order to protect the powdery surface of the fragments. I chose to create a solution using acetone, which evaporates very fast, rather than using ethanol, which evaporates more slowly, because the clay body of my ceramic is very thin. I decided to use Paraloid B72, a common resin, because it is suitable for all ceramic classes stored indoors. I also used a low percentage of the resin so that the solution could better enter the pores of the clay body and because a higher percentage of the resin could have more drastically changed the color of the clay body. It is important to think about the characteristics of the ceramic when creating the consolidation solution because consolidation is for the most part an irreversible process. I chose to immerse the fragments in the consolidation solution rather than applying the solution using a brush because the mechanical action of the brush could have removed some of the powdery surface of the clay body. The duration of immersion also depends on the clay body and the level of decay—I immersed my fragments for only about 10 minutes, while other large ceramics can be immersed in the consolidating solution for hours or days, such as bricks or very large objects. Again, because consolidation is an irreversible treatment, immersion should only be used if strictly necessary, which was the case for this particular ceramic.

I consolidated the edges of the fragments again in order to prepare them for gluing together. I first applied 2 coats of 2.5% Mowtal, a Polyvimil butirral resin (Mowital 260 HH), in Ethanol only along the edges that would join together and then a third layer of 5% Mowtal in Ethanol.

I glued all of the fragments together. However, before gluing, I had to put on one last consolidation layer on only the top and inside surfaces—not the edges—because the clay body was still powdery. I then glued the pieces together by quickly applying the 20% Paraloid B72 in acetone solution and then pushing down hard while joining and attaching the fragments with tape.

I removed the tape from my Roman lamp. Some of the tape was removing layers of the clay body so I used water and ethanol to dissolve some of the glue in the tape. I also started to treat the glue stains from the 20% Paraloid solution by using acetone with cotton swabs.

4. Filling

Plaster was made for filling and reconstructing part of the clay body of the lamp. First, I separated five different colored pigments into plastic cups: Raw Sienna, Raw Umber, Burnt Sienna, Burnt Umber, and Yellow Ochre. I then measured out 20 grams of polyfilla, which is a kind of Plaster of Paris-based filler mixed with cellulose resins, into a plastic bag that I would then mix with the pigments. I used polyfilla because it is soft and smooth, has a long setting, and is easy to work with mechanically. I used small quantities of each pigment in order to obtain a color that matched my ceramic. However, it was important to make a lighter color because the color will change and become darker after adding water and then another consolidation solution to protect the plaster. After I reached my desired color, I made a sample size of the plaster by adding about 5 mL of demineralized water using a transfer pipette to a cup that contained a portion of the polyfilla-pigment mixture.

I added different consolidation solutions onto the sample in three quadrants to see which solution best matched the color of the clay body of the lamp. I then started to fill the holes and recreate a portion of the beak of the lamp using a spatula to apply the plaster to the clay body. When using the plaster, it was important to remember to push down so as not to make air bubbles that would later show on the surface of the lamp. After the plaster dried, I used a razor and another curved instrument to clean off the excess plaster along the lines of the fragments. I carved one small globe on the top portion of plaster in order to both continue and resemble the decoration seen on the top surface of the lamp. Unfortunately, however, some of the clay body was removed at this point as it was very difficult to distinguish between the edges of the plaster and the clay body. Lastly, I added a consolidation layer of either 1.5% or 2.5% Polyloid B72 with acetone, depending on which best matched the color of the clay fabric, to the portions of plaster.

5. Other notes

It is also important to note that every ceramic object is unique and must have its own specific conservation procedure. For example, the cleaning, bonding, and filling stages of other students' objects, such as the *clibano*, contrasted greatly to the methods I used when restoring the lamp. The conservator must therefore have a basic knowledge of the methodologies and scientific analysis involved in restoration in order to first recognize the needs of the object and then decide what kind of treatment is best.

I learned that conservation and restoration is an important process that requires a lot of patience, but is a necessary course of action in order to better appreciate the level of detail and production of various ceramic objects. I also learned a great deal about how to handle precious objects and many practical skills, which I can use in future employments.

Photo (before)



Photo (before)



Photo (during)



Photo (during)



Photo (after)



Photo (after)

