Report on the Cleaning, Conservation, and Installation in the School of Art of the Texas Tech Collection of Plaster Casts from the Parthenon, Athens, and Saint-Fortunat, Charlieu, France

Undertaken by Megan Grann, Gilbert Jones under the supervision of Dr. Janis Elliott between July 2006 and January 2007

Final Report written by Megan Grann and Gilbert Jones

9 July 2007
Final Report on Plaster Cast Project

School of Art, 9 July 2007

I. Introduction

The School of Art at Texas Tech University (TTU) has housed several one hundred year old plaster casts for many years. These casts were never displayed even though they are excellent specimens of late-nineteenth or early-twentieth century casting. The School of Art holds six plaster casts from the western Ionic frieze of the Parthenon in Athens and two from the western façade of the church of Saint-Fortunat in Charlieu, in the Loire Valley, France. During the Spring 2006 semester, Dr Janis Elliott, Assistant Professor of Medieval Art History, approached us – Megan Grann, senior Art History and French major, and Gilbert Jones, senior Art History major – to propose an independent study course involving provenance research, conservation, and display of the casts in TTU’s collection.

Historically, plaster casts are a valuable didactic resource. In the nineteenth century, acquiring a good education demanded knowledge of classical art. As both a means for the instruction of technical drawing skills as well as an introduction to ancient art, many museums and universities purchased plaster casts of original stone sculpture. Two main companies, Caproni Brothers (Boston, MA), and August Gerber (Cologne, Germany) produced the casts purchased by Dr. William J. Battle, Professor of Classics, for the University of Texas at Austin (UT) between 1894 and 1923. Those casts now comprise the Battle Collection of Plaster Casts in the Blanton Museum of Art (BMA) at UT. While no documentation has come to light, the TTU

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1 See Appendix E for websites reporting on the history and cultural value of plaster casts and on similar restoration projects of plaster casts at other universities and colleges.
casts, acquired in 1957 and now located in the School of Art, may have come from the Battle Collection.

**Preparation and Condition Report**

For guidance on conservation and display, we met with Dr. Peter Briggs, Helen DeWitt Jones Curator of Art at the Museum of TTU. Safety was the first issue. We had to use latex gloves and air filter masks while handling the casts. We were warned to be careful of sharp edges and to be sure the cast pieces were well supported when we moved them. Dr. Briggs advised us to have the casts tested for hazardous materials. The Texas Tech Environmental Health and Safety Department sent two specialists who took samples from several of the casts. Fortunately, the results showed no traces of hazardous materials.² Had there been any hazardous components, like asbestos, we were prepared to work in a sterile laboratory environment decked out in uniforms designed for space travel. Dr. Briggs provided us with a packet of excerpts compiled from a manual on collections management, including information on handling, measuring, condition reporting, conservation and photographing objects.³

We were required to make a condition report of the plaster casts prior to beginning conservation work.⁴ The casts from the Parthenon in TTU's collection depict horses, their riders, and Athenian youths participating in the *Panathenaic Procession*. Each of these casts has a TTU Museum accession number written on its top edge. Casts 1 and 2 were originally one slab on the frieze of the Parthenon. Casts 3 and 4, likewise, are a pair. Casts 1 - 4 were speckled with gray, black, and white paint. Damage to the original marble is evident on Cast 3, as the surface is not

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² See Appendix A.
⁴ See Appendix B.
as smooth as the surface of the other Parthenon casts. There were black scuff marks on the bodies of the figures on Casts 1 and 4. An accession number that matches the accession number on the top of Cast 4 was also present on one of the hooves of the horse (later painted over during the conservation process). Several details, such as a Medusa's head and pelts, worn by the figure on Cast 5, were scarcely visible before cleaning. The number 18A is carved on the upper left corner of Cast 5. We found no special significance to this number. Cast 6 depicts a horse rearing up on its hind legs. The plaster on this cast is very thin and fragile.

The casts from Saint-Fortunat in Charlieu depict a large *Last Judgment* and a smaller hand of *Christ Blessing*. These are the most fragile casts in TTU's collection. The upper right and lower left corners of *Christ Blessing* are missing. The *Last Judgment* scene, originally a single slab, has been cut in two pieces. There is a border of acanthus leaves along the top and bottom edges of the *Last Judgment*. The original sculpture was carved in very high relief with deep undercutting and there is extensive damage to the original stone that is evident on the cast, including the loss of the heads of the figures.

We set up a tiny conservation workshop (about 8’ x 8’) in the alcove of ART Lecture Hall B-01 which we could only access when classes or public lectures were not being held. Before the conservation project could begin, the Art History corridor had to be prepared for the installation of the display cases for the Parthenon casts. Beginning in early August 2006, with the assistance of the Tech Art History Society,5 we painted the hallway using Prescott Green (Benjamin Moore, super spec interior latex). During the summer of 2006 Woodshop Supervisor Bob Herman, MFA student Rolando Shaw, and the wood shop crew designed and constructed display cases for the Parthenon casts and one of the medieval pieces, *Christ Blessing*. Each case

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5 Many thanks to the Society members who assisted: Sarah Arnold, Caitlin Grann, Zach Hughes, and Jennifer Lawrence. Dr. Constance Cortez, Dr. Janis Elliott, Dr. Carolyn Tate, and Paula Yeager provided opinions for the choice of color in the corridor.
is made of red oak and its interior background is painted in a Jadeite color. Before the start of the Fall 2006 semester we hung the cases in the corridor and covered them with brown paper to avoid damage. In January 2007 we painted the north wall of Room B-01 using Jadeite (Sherwin Williams, accent flat latex). This is the wall on which the Last Judgment from Charlieu was to be displayed.

The original Parthenon sculpture is from the High Classical period in Athens, Greece, c. 447-438 BCE, while the original Saint-Fortunat relief is from the Romanesque period in Charlieu, France, from the second quarter of the twelfth century CE. The nature of the plaster casts of the Parthenon differs greatly from those from Saint-Fortunat. First, they were easier to identify and required less historical research. Secondly, the Parthenon casts are less intricate, of lower relief and were easier to clean than the detailed, high-relief casts from Charlieu. The more fragile condition of the casts of the medieval sculpture required greater conservation efforts. For those reasons, we dealt with the Parthenon casts first. The quicker pace of conservation and display involved in the Parthenon casts freed up space in our cramped workshop for the more complex conservation work on the casts from Saint-Fortunat. This division of the work is reflected in the following descriptions and histories of the original monuments and the conservation and display processes undertaken in this project.

II. Parthenon, Athens, Greece, 447-438 BC

Fig. 1: Parthenon, Acropolis, Athens, Greece, Fig. 2: Plan of the Parthenon
History

A frieze representing the Panathenaic Procession extends around the perimeter of the upper walls of the Parthenon (indicated by the solid black line on the plan in Fig. 2). The plaster casts in TTU’s collection were made from the scenes on the western façade as shown in Fig. 3. The procession occurred every four years to honor the goddess Athena. It aimed to socially and politically unify the city-state of Athens. Citizens processed through the city, finally arriving at the altar of Athena on the Acropolis to offer to the goddess a newly woven peplos, or gown.

The original Parthenon sculpture may have been brightly painted and accessorized with metal accoutrements, as exemplified in the accompanying illustration (Fig. 4). The section of the western frieze represented by the TTU casts illustrates Athenian youths mounting their horses to ride in the ceremonial cavalry. Following them along the frieze are charioteers, sacrificial animals, musicians, maidens and elders, all shown in procession towards the altar of Athena. The frieze culminates above the eastern door with a scene depicting Athena receiving the peplos, flanked by both gods and mortals. A significant aspect of the Panathenaic Procession frieze is that it marks a shift in Greek temple sculpture from

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6 For the disposition of the sculpture and of our casts within the frieze, see the J. Carrey drawing (Fig. 5) on page 9.
the display of strictly divine beings to both divine and mortal beings.

The Parthenon remained dedicated to Athena until the sixth century CE when it was converted to into a Christian church dedicated to the Virgin. In the late fifteenth century, the structure was converted into a mosque by the Ottoman Empire. In 1687, the mosque was functioning as a storehouse for ammunition. A Venetian bombardment ignited the contents, severely damaging the structure and sculpture. In 1806, with the permission of the Ottoman Imperial court, Thomas Bruce, British Ambassador to the Ottoman Empire and the 7th Earl of Elgin, removed some surviving sculptures from the pediments of the Parthenon. He sold them to the British Museum in London in 1816 where they became known as the Elgin Marbles and are still on display. With little success, the Greek government continues to fight for the return of the Parthenon sculpture.

**Provenance**

The origin of TTU’s Parthenon plaster cast collection is unclear. Dr. Briggs suggested we look into the Battle Collection of Plaster Casts at UT Austin as a potential source for tracing the provenance of our casts. He also suggested we contact the Classics Department at UT for access to the papers and records of Dr. William Battle, late Classics Professor at UT. Sue Ellen Jeffers, Registrar at the BMA, suggested we consult the Classics Department archives with regards to the early twentieth-century catalogues from the Caproni Brothers and Gerber. Dr. Battle purchased some of the casts owned by UT from these vendors. We traveled to Austin and met with Matthew Ervin, administrative assistant in the Classics Department, who guided us through the archives so we could examine the catalogues. Unfortunately our casts did not appear in any of

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the catalogues, and no other evidence was found establishing the Battle collection as the source of the TTU casts. However, after Dr. Battle’s death in 1955, the University of Texas began dispersing their collection of casts due to lack of space. Through communication with Matt Renick, Unit Supervisor at the Museum of Texas Tech, we discovered an entry from the museum archives dating to 1957 which records accession numbers that match numbers found on the Parthenon casts. No more information was found in the archives but the fact that the Battle Collection still displays one cast of the Parthenon frieze corresponding to one of the TTU pieces, suggests that the TTU Parthenon casts may have been inferior duplicates cast off from the Battle Collection.

**Conservation and Display**

During our visit to UT Austin, we went to the BMA to see how the plaster casts in the Battle collection are displayed. There is one main room that displays most of the Battle Collection. None of the pieces on display in that room match casts from the TTU collection. Isolated on the mezzanine level, a single plaster cast is displayed that corresponds to our Parthenon casts 1 and 2. The BMA’s cast is in one piece while TTU’s has been cut down the middle. The cast at the BMA also has a medallion in the lower right corner indicating its manufacture by the Caproni Brothers’ workshop in Boston. None of the TTU casts bear stamps from any plaster cast manufacturer. The cast from the *Panathenaic Procession* in the BMA is attached directly to the wall with metal brackets. This display technique inspired us to mount our

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8 The entry in the archive included only the TTU accession numbers, as follows: 1957.29 A through 1957.29 F. A later entry from 1957 records the acquisition of plaster casts of the Nike of Samothrace and the Venus de Milo, the whereabouts of which are now unknown. None of these acquisition records provide information on the origins of any of these casts.

9 We have been unable to discover the significance of the number A18 carved into the upper corner of Parthenon cast 5. It could be a clue to the manufacturer but, so far, we have not been able to match it in the available catalogues.
casts with metal brackets. This cast was also painted with a yellow wash to provide a homogenous surface.

Sue Ellen Jeffers suggested we contact John Dennis, Conservator of Objects at the Dallas Museum of Art (DMA). He had worked previously with Jessie Otto Hite, current Director of the Blanton Museum, on a conservation project involving the Battle casts, including the piece mentioned above resembling our Parthenon casts 1 and 2. We met with Mr. Dennis in his workshop at the DMA. Included in our concerns about conservation of the casts were: how to clean the casts; the safety of using water or cleaning products on the plaster casts; how to repair multiple hairline fractures and breaks on several of the casts; how to remove scuff marks; the possibility of masking paint splatter marks on two of the Parthenon casts; and structural support for the Charlieu Last Judgment piece. Mr. Dennis suggested several methodological approaches to our questions.10

- Water would not damage the casts
- Gum erasers might remove the scuff marks on the casts
- Use a vacuum cleaner to gather large quantities of loose particles off casts
- Process using burlap and plaster to stabilize/repair fractures
- Solution of B-72 and acetone to glue pieces together
- Wood putty to fill in grooves on the surface of the casts

Upon our return from Dallas and Austin, we approached Dr. Elliott about the prospect of bringing John Dennis in for a workshop. The Art History faculty and the Tech Art History Society offered to subsidize the cost of the workshop. Lauren Boland in the Landmark Arts Gallery created a poster to advertise the event. Mr. Dennis arrived on 28 September 2006 and began working with us in a makeshift workshop created in Room B-09 in the School of Art building. He demonstrated the burlap and plaster technique for repairing cracks, as well as how

10 See Appendix C.
to fill in large corners of the casts with plaster which were later filed down to create 90 degree angles. On Friday, 29 September at 11:00 am in Room B-09, Mr. Dennis gave a public workshop and lecture on plaster cast conservation. By the time Mr. Dennis left, we had repaired breaks and fractures and had begun painting the undercoat to homogenize the surface of the Parthenon casts.

Since we decided that the casts should be painted in such a way as to provide an appearance of original stone, Dr. Carolyn Tate, Professor of Pre-Columbian Art History, suggested we contact Patricia Koemel, an MAE student and professional technical illustrator, for assistance in mixing colors. On Saturday, 30 September 2006, with the help of Drs. Tate and Elliott and under the tutelage of Ms. Koemel, we painted and detailed the surfaces of the Parthenon casts. Using Ms. Koemel’s painting methods, we successfully covered all six of the Parthenon casts and masked the speckled paint on casts 1, 2, 3 and 4. We used darker tones to highlight contours and to reveal some previously unnoticed details, such as the Medusa on the rider’s breastplate on Parthenon cast 5.

After the marathon painting session, the Parthenon casts were ready for display. They were installed along the corridor following the sequence of the seventeenth-century schematic drawing by Jacques Carrey of the western Ionic frieze (Fig. 5). Following the display technique at the BMA, we decided to secure the casts with metal brackets created by Mark Bond, 3-D Technician for the School of Art. The metal brackets are made of type 304 Stainless Steel,

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11 See Appendix D.I for poster advertising the workshop.
12 See Appendix C.III.
purchased from General Steel warehouse. The thickness of the brackets securing the upper edge of the casts are ¾” wide by ⅛” thick. The lower brackets are ¼” wide by 1” thick. The angles were bent using a Hossfeld Model Two Universal Bender and the brackets were abrasive-blasted with glass beads to achieve a matte finish. At the suggestion of Dr. Briggs, a layer of Ethafoam was glued to the brackets where they would come in contact with the casts. Ethafoam is resilient foam packing that is chemically inert and non-reactive so it will not break down the plaster over time. We ordered 1” planks (24” x 36”) of Ethafoam from Masterpak USA. Since all the casts are different sizes, Joe Arredondo, Director of Landmark Arts Gallery, suggested that the bottoms of the casts all be the same distance from the bottom of the case. Mr. Herman and his crew installed the casts in the cases using the metal brackets and then installed glass to protect the casts.

III. Saint-Fortunat, Charlieu, France, early 12th century

Fig. 6: West façade, Saint-Fortunat, Charlieu. Last Judgment scene on the lintel of the left portal; Christ Blessing above the right portal.
History

Unlike the Parthenon casts, the location of the original sculpture from which the casts of the *Last Judgment* and *Christ Blessing* were produced was unknown to us at the outset. Based on iconographical and stylistic analyses Dr. Elliott proposed that the original sculpture was likely from French or northern Spanish origins, dating to the twelfth century. The two larger medieval casts had been a single slab representing the *Last Judgment* scene which at some point was cut in half vertically to the right side of the central figure of Christ-Judge. Although the small medieval cast is damaged and difficult to decipher, we tentatively identified it as a depiction of Christ emerging from clouds with his hand raised in blessing, which we entitled *Christ (?) Blessing*. After consulting Uwe Geese’s article in *Romanesque Architecture, Sculpture, Painting*, we were able to determine that the original source of these casts is the sculpture located on the west façade of the church of Saint-Fortunat in Charlieu in the Loire Valley in the former Kingdom of Burgundy, France, dated to the early twelfth century (Fig. 6). The linear drapery style is characteristic of the Romanesque period with parallel ridges indicating folds in the clothing and revealing the body beneath. The finely carved details of the decorative halos, borders, and hems of the drapery indicate the high level of craftsmanship of the Burgundian sculptors. The drapery and masonry styles at Saint-Fortunat suggest that the same workshop of sculptors later produced the sculpture at Cluny III, the third church on the site of the famous abbey, which was built ca. 1088-1130.

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13 Uwe Geese. ‘Romanesque Sculpture’. In *Romanesque: Architecture, Sculpture, Painting*, ed. R. Toman. Cologne: Könemann, 1977, 256-323, esp. 272-274. We discovered this identification too late to remove the (?) from the title of the scene in the exhibition didactics. However, in this report, the cast is entitled *Christ Blessing*.

14 Cluny was the headquarters of a wealthy and powerful network of abbeys and priories answerable only to the pope. Cluny drew the brightest minds to its community and played an important role in the development of architecture and architectural sculpture in Romanesque France.
In 872 CE the Benedictine order founded the abbey of Saint-Fortunat. By 930 it became a dependent of the great imperial Benedictine Abbey of Cluny. After a fire destroyed the church of Saint-Fortunat, it was rebuilt in the second half of the eleventh century. The façade, however, is dated in the early twelfth century, and is now the only surviving part of that church. Although most Romanesque church façades have three portals, the west façade of Saint-Fortunat has an unusual arrangement of two portals, one much larger than the other and each with a sculpted tympanum and lintel. Saint-Fortunat is important as an early example of the integration of portal sculpture into the design of the architectural fabric of French churches in the Romanesque period.

On the left and larger portal of the façade of Saint-Fortunat the scene of Christ in Majesty appears on the tympanum. Below it on the lintel is the Last Judgment scene. TTU’s Last Judgment plaster copy was cast from this scene. Its key iconographic features are Christ enthroned in glory, surrounded by angels, and flanked by the twelve apostles (Fig. 7). The iconography of Last Judgment scenes is based on the text of Matthew, chapters 24 and 25 and the Book of Revelation, chapters 14, 20, and 21.

When the Son of man shall come in his glory, and all the holy angels with him, then shall he sit upon the throne of his glory. (Matthew 25:31)

And I saw thrones, and they sat upon them, and judgment was given unto them: and I saw the souls of them that were beheaded for the witness of Jesus, and for the word of God. (Revelation 20:4)

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15 Geese, 272.
16 For more information and photographs of Saint-Fortunat at Charlieu go to: http://romanes.com/Charlieu/Saint-Fortunat/
17 The Holy Bible, King James edition.
On the Last Judgment plaster cast, the heads of all the figures are missing. They probably were destroyed during the iconoclasm of the French Revolution around 1789-1799. However, in the photograph from Charlieu (Fig. 7), a head appears on one of the figures on the lintel. This must have been added as part of a restoration campaign after the plaster casts were produced.

Typically in a Last Judgment scene the first apostles to the right and left of Christ are Peter, holding keys to the Church, and Paul, holding a sword, the instrument of his martyrdom. In the case of TTU’s Last Judgment cast, damage makes it difficult to determine the attributes of the apostles with the exception of those apostles who hold books in their hands and the apostle on the far left who appears to be holding a reliquary.

The original sculpture of Christ Blessing, from which our cast was made, is located above the smaller right portal of the Saint-Fortunat façade where a Wedding at Cana scene appears on the tympanum. In our cast, the bust of a figure, whose face has been lost, extends his right hand in blessing. He appears to emerge from clouds which are indicated by wavy parallel ridges of plaster. The horizontal arm of a cross, part of a cruciform halo behind his head, identifies the figure as Christ. It is typical for a blessing to come from the hand of God the Father, but an earlier example of Christ extending his hand in blessing from within clouds appears in the fifth-
century mosaic of the Sacrifice of Melchizedek in the nave of Santa Maria Maggiore in Rome and confirms the identity of this cast as Christ Blessing.

**Provenance**

Throughout the course of our research, we were unable to find the manufacturing source of the casts of the Saint-Fortunat sculpture. We consulted the TTU archives as well as the catalogues from the UT Classics Department, but we were unsuccessful in both ventures. These medieval casts have no accession numbers written on them and it is not clear if they arrived at TTU at the same time as the Parthenon casts.

**Conservation and Display**

In November 2006, following the installation of the Parthenon casts along the Art History corridor, we began work on the conservation of the Last Judgment and Christ Blessing. These medieval casts proved to be more challenging to clean and conserve than the Parthenon casts because of the higher relief and greater amount of detail and undercutting in the original sculpture. The Last Judgment in particular was covered in decades of grime and required weeks of cleaning. Much of the cleaning occurred over the winter break with the assistance of Dr. Elliott, and students Jordann Davis and Caitlin Grann. For minor dust and debris we used handheld cans of compressed air and paint brushes to blow and brush away the detritus. For deeper folds and crevices we used an electric air compressor to remove debris.18 Stacy Elko, Assistant Professor of Printmaking at TTU, suggested we use acetone to clean problem stains and gave us a brief safety tutorial on the use of acetone. The acetone was not particularly effective for

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18 Our thanks to Gena and Rick Woods for the use of their air compressor.
cleaning plaster. For compacted grime we used a mixture of distilled water and mild soap at the suggestion of Dr. Jane Biers, Adjunct Associate Professor in Art History and Archaeology at the University of Missouri – Columbia. We scrubbed with stiff-bristle toothbrushes and immediately wiped surfaces dry with a clean, soft, cotton cloth.

With the assistance of Patricia Koemel, we added a light coat of paint to selected areas to restore the imagery. The cast of *Christ Blessing* needed highlights and lowlights to emphasize the form and design of Christ’s garment and the cruciform halo. Ms. Koemel mixed the appropriate colors and performed much of the painstaking application of paint on this smaller cast. On the *Last Judgment* cast, there were several problem spots that would not come clean, leaving a border of some very light sections and some very dark sections. To mask this, we painted the borders a solid grey to provide visual continuity.

By the end of November 2006 Bob Herman and the woodshop crew had installed the small medieval cast of *Christ Blessing* in the easternmost display case in the Art History corridor. This was before we had discovered the origin of the sculpture or seen a photograph of Saint-Fortunat and we made an educated guess at how it should be hung. The head of Christ was installed facing toward the right. After determining that the façade at Charlieu was the source of our plaster casts, we re-installed *Christ Blessing* to reflect the original sculpture, with his head and extended hand facing downward, descending from the clouds (Fig. 8).

The *Last Judgment* was installed on 18 January 2007, the day before the scheduled opening ceremony. Due to the weight of the two *Last Judgment* casts (approximately 200 lbs each), Dr. Briggs had recommended constructing a
reinforced shelf on the north wall of Room B-01 for their display. Mark Bond constructed a stainless steel shelf and Bob Herman faced it with a red oak wooden strip made from the same material as the Parthenon cases. Again following Dr. Briggs’ advice, we placed a cushion of Ethafoam on the metal shelf. Bob Herman’s workshop crew consisted of several students (David Brokaw, Piotr Chizinski, Nathan Hanson, Wes Harvey, Joel Kiser, Tom Matthews, Charles Neumann, Rob Ward, Dryden Wells, and Matt Wiederanders), often joined by Mark Bond and Robert Terrell, Technician III and Safety Coordinator for the School of Art. This entire crew was needed to raise the Last Judgment casts up onto the shelf and to secure the top edges to the wall. Mark Bond fabricated metal brackets for the purpose, of the same type as those created for the Parthenon casts and Christ Blessing, but slightly heavier. These brackets, too, were lined with Ethafoam to avoid contact between the plaster and the metal. This concluded the installation of the casts, the day before the opening event.

IV. Didactics

Towards the middle of the fall semester, we worked with Joe Arredondo, Director of the Landmark Arts Gallery, in order to prepare our didactic display. He suggested multiple methods and materials for the didactics. However, due to time and budget constraints, we opted for two sheets of ¾” plexi-glass which would sandwich paper containing the didactic information. Mr. Arredondo also provided advice on the preferred type of paper for printing. We contacted multiple vendors about printing our digital files on non-acidic photographic paper. Ultimately, we decided to type the information in Adobe Publisher, add the images, and print the didactics on photo paper in the School of Art computer lab. We experimented with various layouts for our didactics as our information was both written and visual. Mr. Arredondo, Dr. Tate, and Dr.
Elliott edited our material until we had our final draft. We created four separate sheets of didactic information: one to accompany the *Last Judgment* in ART Lecture Hall B-01 and three to be attached to the walls along the Art History corridor to accompany the Parthenon casts and the *Christ Blessing* from Saint-Fortunat. After printing the didactics, we used double-sided tape to secure the paper to the back plexi-glass sheet. We then positioned the top sheet and Bob Herman used anchors to attach the plexi-glass to the buttresses in the Art History corridor and to the wall in Lecture Hall B-01.

V. Conclusion

Our independent study culminated in a presentation and formal opening of the plaster cast permanent exhibition on 18 January 2007. We made a poster and invitations to publicize the event. We also wrote a press release with the help of Joe Arredondo. The press release was sent to TechAnnounce, the Friends of the School of Art, and the Lubbock Avalanche-Journal. In addition, we sent formal invitations to many people involved or interested in the project. We had a good turnout of faculty, staff and students. Included among the guests of honor was Dr. James Brink, Senior Vice Provost for Academic Affairs. A power point presentation of images taken throughout the independent study course supplemented our discussion of the project and a small reception followed.

We truly enjoyed this experience. What started out as a seemingly simple task of cleaning and displaying the plaster casts turned into an inter-disciplinary plethora of tasks and learning.

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19 For the press release, see Appendix D.II. For the invitation, see Appendix D.III
20 We were interviewed by the Lubbock Avalanche Journal prior to the opening of the exhibition. See Appendix D.IV
experiences. We discovered the difficulties involved in research, especially when trying to access information held in institutions. We learned more about conservation than we ever bargained for. We can hold our own in conversation with curators regarding the process of writing, designing, and displaying didactics. Presenting the results of our project to the School of Art provided us with experience in public presentations of research. Perhaps the biggest lesson learned throughout the whole thing was how to collaborate with another person or group of people, how to compromise, and how to ensure the successful completion of a large project. We are grateful to the highest extent for being given this opportunity and hope that it provides a lasting legacy for both the university and the students passing through the Art Department.

The project could not have been completed without the assistance of the following people: Joe Arredondo (Director, TTU Landmark Arts Gallery); Dr. Jane Biers (U of Missouri – Columbia); Mark Bond; Dr. Peter Briggs (TTU Museum); Jordann Davis; John Dennis (Dallas Museum of Art); Dr. Janis Elliott; Caitlin Grann; Bob Herman and the Wood Shop staff; Patricia Koemel; Dr. Nancy Reed (Classics Dept., TTU); Matt Renick (TTU Museum); Rolando Shaw; Dr. Carolyn Tate; Robert Terrell; Gena and Rick Woods; Paula Yeager (Curator, Visual Resource Center, School of Art); School of Art staff; Tech Art History Society members; and countless others who provided assistance and support during this project, to whom we extend our gratitude. We are especially grateful to the Art History Faculty for providing the funds to undertake this project and to Tina Fuentes (Interim Director, School of Art) for her moral and administrative support.
List of Illustrations: Sources

Fig.1: *Janson’s History of Art*, 7th edn. Prentice Hall, 2007, Fig. 5.47.

Fig.2: Adams, Laurie Schneider, *Art Across Time*, 2nd edn., vol. 1. McGraw-Hill, 2002, Fig. 5.48.

Fig.3: Adams, Laurie Schneider, *Art Across Time*, 2nd edn., vol. 1. McGraw-Hill, 2002, Fig. 5.54.

Fig.4: Adams, Laurie Schneider, *Art Across Time*, 2nd edn., vol. 1. McGraw-Hill, 2002, Fig. 5.55.

Fig.5: Delivorrias, Angelos, “The Sculptures of the Parthenon: Form and Content”. In *The Parthenon and its Impact in Modern Times*, ed. Panayotis Tournikiotis. Harry N. Abrams, 1994, Fig. 58.

Fig.6: Geese, Uwe, “Romanesque Sculpture”. In *Romanesque: Architecture, Sculpture, Painting*, ed. Rolf Toman, Könemann, 1997, p. 273.

Fig.7: Saint-Fortunat website – [http://romanes.com/Charlieu/Saint-Fortunat/](http://romanes.com/Charlieu/Saint-Fortunat/)

Fig.8: courtesy of Gilbert Jones

Ten Years Later: 2017 Update on Megan and Gilbert

Megan Grann graduated from TTU with a dual B.A. degree in Art History and French in May 2007. She worked in Benin with the U.S. Peace Corps from 2007 until 2009. She moved to New York City in 2010 and, since 2011, she has been working at the Museum of Modern Art (MOMA) in New York.

Gilbert Jones presented a paper entitled “The Restoration and Display of 100-year Old Plaster Casts” at the conference of the Classical Association of the Southwestern United States in Ruidoso, NM, in Fall 2009. He graduated from TTU in 2010 with a B.A. in Art History and a Graduate Certificate in Medieval Studies. He spent a year in Italy with the Florence Program at Syracuse University from which he received his M.A. in Art History in 2013. He was the Docent Coordinator (2012-13) and then Assistant Curator of Education (2013-14) at the Museum of Texas Tech, after which he moved to New York City. Since 2014 he has remained active as Membership and Events Coordinator for the Italian Art Society and has continued to present his research at conferences. Gilbert will begin a PhD in Medieval Art History at Case Western Reserve University in Cleveland in Fall 2017.
Appendix A – Hazardous Materials Report

memorandum

DATE: September 18, 2006
TO: Dr. Janis Eliot
FROM: Paul Cotter, Cris Been
SUBJECT: Art Building – Bulk sample results from plaster art work in Room B05

On 9/6/06, Asbestos Management Section personnel conducted a survey in response to a concern raised by Art Department students. The concern involved the potential for older art panels to have been molded from plaster that could potentially contain asbestos. In particular, three pieces of art work, “Motive”, “Last Judgment Panel”, and the “Small Medieval Panel” were scheduled for restoration by Art Department students. The survey consisted of an on-site visit to discuss the issue, verify the scope of work, and to assess the potential for the items to be asbestos containing. If the material was assessed to be potentially asbestos containing, samples would be collected with the permission of the Art Department personnel. The suspect materials were sampled by Asbestos Management Section personnel and the samples were forwarded to J3 Resources, in Houston, TX, for analysis using polarized light microscopy techniques. Detailed sample results are presented in the laboratory report (Table 1).

Homogeneous Materials Negative for Asbestos

White Historic Plaster Art Panels – White plaster was used to mold some of the important pieces of art work found in collection of the Art Department. Three (3) samples were collected from plaster fragments from the referenced art works. The white plaster material was found to be non-asbestos (T114-343, T114-345, and T114-346). The white plaster is non-friable and in generally good condition.

Recommendations

The white plaster material collected from the statuary was found to be non-asbestos. The disturbance of this material type would not pose a risk of an asbestos exposure. In the event materials other than those described in this report are located, additional surveys will be required. It is recommended that personnel involved in the renovation work be provided with
the two-hour asbestos awareness training so they will have an understanding of the hazards associated with asbestos exposure. A copy of this report must be provided to any outside Conservator or University personnel involved in the restoration work. If you have any questions, please give us a call.

Thanks

cc: Ruben Guerrero

ASBESTOS/BULK/ART_DR. JANIS ELLIOT_091806
# POLARIZED LIGHT MICROSCOPY REPORT

**J3 Resources, Inc.**  
5400 Mitchelldale Road A9, Houston, TX 77092  
Phone: (713) 290-0221 - Fax: (713) 290-0248  
[j3resources.com](http://j3resources.com)

**Polarized Light Microscopy Report**  
EPA Method 600/M4-82-020; 600/R-93/116  
NVLAP Lab Code: 208525-0, Texas Dept. of Health License: 38-0273

Paul Cotter  
TTU Environmental Health & Safety  
Box 41090  
Lubbock TX 79409-1090  

<table>
<thead>
<tr>
<th>Sample ID #</th>
<th>Location</th>
<th>Sample Description</th>
<th>Asbestos Detected? (Yes/No)</th>
<th>Asbestos Constituents (%)</th>
<th>Non-Asbestos Constituents (%)</th>
</tr>
</thead>
</table>
| TT 14-343   | Plaster, Tan/White, Homogeneous | No | Cellulose Fiber: 4%  
Other Non-Fibrous Material: 96% |
| TT 14-344   | Plaster, Gray/White, Homogeneous | No | Cellulose Fiber: 10%  
Other Non-Fibrous Material: 90% |
| TT 14-345   | Plaster, Gray/White, Homogeneous | No | Cellulose Fiber: 2%  
Other Non-Fibrous Material: 98% |

**J3 ORDER #:** JH0613199  
**JOB #:**   
**DATE RECEIVED:** 09/07/2006  
**DATE ANALYZED:** 09/07/2006

---

**Analyst:**  
Duane Salinas  

**Approved Signatory:**  
[Signature]

This report relates only to the materials tested and may not be duplicated in part without written permission by J3 Resources, Inc. Samples are analyzed according to the EPA Test Method and are subject to the inherent limitations of Polarized Light Microscopy and interferences of matrix components. This report must not be used to claim product endorsement by NVLAP or any agency of the US government.
## Appendix B – Pre-conservation Condition Table

<table>
<thead>
<tr>
<th>Cast</th>
<th>Cast measurement</th>
<th>Case measurement</th>
<th>Physical description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parthenon Cast 1</td>
<td>40” x 37”</td>
<td>47.25” x 46.5” x 8”</td>
<td>High relief rider and horse, horse missing left front leg, rider missing left forearm, small holes on horse’s mane. Very light speckling. Scuff marks on hoof continued from Cast 2. TTU acc. no. 1957.29 A</td>
</tr>
<tr>
<td>Parthenon Cast 2</td>
<td>39” x 28”</td>
<td>47.25” x 36.25” x 8”</td>
<td>Casts 1 and 2 together comprise whole original slab. Haunches and cape from Cast 1 continue onto Cast 2. Horse and rider in high relief. Horse missing back legs. Several small holes across Cast 2. Light Speckling. TTU acc. no. 1957.29 B</td>
</tr>
<tr>
<td>Parthenon Cast 3</td>
<td>40” x 25”</td>
<td>47.25” x 36.25” x 8”</td>
<td>Body on left missing lower right leg. Heavy speckling with black, white, and gray paint. Surface damage in front of horse’s leg reflects the condition of the original marble. Remainder of horse body and human arm from Cast 4. TTU acc. no. 1957.29 C</td>
</tr>
<tr>
<td>Parthenon Cast 4</td>
<td>38” x 26”</td>
<td>47.25” x 36.25” x 8”</td>
<td>Body of man on horse on left continues to right half of Cast 3. Cast 3 and 4 comprise complete slab. Complete body on right. High relief. Heavy speckling with gray, white, and black paint. Several scuff marks. Accession number on hoof (painted over later in conservation) also appears on top of cast. TTU acc. no. 1957.29 D</td>
</tr>
<tr>
<td>Parthenon Cast 5</td>
<td>40” x 28”</td>
<td>47.25” x 36.25” x 8”</td>
<td>Broken into three pieces. The number 18A is carved into upper left corner. Haunch of horse missing due to slab being cut off. Rider wearing headdress and pelt, a Medusa head on breastplate. High relief. TTU acc. no. 1957.29 E</td>
</tr>
<tr>
<td>Parthenon Cast 6</td>
<td>42” x 34.5”</td>
<td>47.25” x 46.5” x 8”</td>
<td>Horse rearing up, but appears to be restrained by unseen man in background, one leg and arm visible. High relief. Hairline fractures under left front hoof and haunches. Plaster much thinner than others. TTU acc. no. 1957.29 F</td>
</tr>
<tr>
<td>Christ Blessing</td>
<td>19” x 22”</td>
<td>32” x 30” x 10”</td>
<td>Missing upper right and lower left corner. Mottled appearance, some abrasion. Christ’s face is missing, cruciform halo in relief behind head. Very high relief in most areas. Badly cracked, very fragile condition.</td>
</tr>
<tr>
<td>Last Judgment</td>
<td>123.5” x 35”</td>
<td>129” x 6” x 9” (shelf)</td>
<td>Cut into two pieces on Christ’s left side. Damage to original stone sculpture evident throughout. Missing heads but halos in tact. Acanthus leaf motif creates a border between the Last Judgment scene and the tympanum and doorway. Very high relief. Extremely fragile condition supported by wooden supports attached with plaster.</td>
</tr>
</tbody>
</table>
Appendix C – Plaster Conservation Techniques

I. Repairing Hairline Fractures

John Dennis showed us a method for stabilizing the backs of the casts in order to prevent hairline fractures from developing further. This method requires burlap and prepared plaster. First, soak overnight in water a piece of natural, untreated burlap large enough to cover the area being repaired. Then dampen the hairline fracture on the back of the cast (tap water works fine). This area needs to be quite wet to ensure that the new plaster adheres to the cast. Mix a batch of plaster by filling a container with distilled water and adding plaster until a consistency of thick porridge is achieved. Place the burlap on the back of the cast over the damaged area and begin covering the burlap generously with the wet plaster. It works best when smoothed over the burlap and allowed to dry for at least 24 hours.

II. Repairing Breaks

Mr. Dennis showed us how to affix two broken pieces of cast plaster together by coating the insides of the breaks with Acryloid B-72. Acryloid B-72 is a museum-quality adhesive that is composed of B-72 crystals and an acetone solution. For our purposes, we used a 40% acetone solution, mixed by a museum sciences grad student. After coating the breaks, we placed the pieces together and secured them with a taut string to prevent movement until the solution dried. After that, we continued with the method detailed above.

III. Painting the Casts

John Dennis recommended painting the surface of the casts with a neutral yellow-tinted layer for the base coat. Then, with the assistance of Patricia Koemel, we used earthy tones to accent the figures in high and low relief on the surface of the casts. The colors used included Titanium White mixed with Burnt and Raw Sienna or Burnt and Raw Umber. We chose to use Golden Acrylic Paint for the project. We blotted the area to be accented with a thin brush and then blotted excess paint with thin cotton cloth and natural sponges. On larger areas without relief we sponged paint on, followed by the blotting method.
I. Poster Advertising John Dennis's Lecture

**Demonstration on Conservation Techniques**

Friday, 29th of September at 11 AM
In Room 9-09 of the Art Building

**John R. Dennis, Conservator at the Dallas Museum of Art,**
will give a public demonstration of his techniques.
II. PRESS RELEASE

For Immediate Release: January 9, 2007  
Contact: Dr. Janis Elliott (janis.elliott@ttu.edu)  
Kill Date: January 19, 2007

TTU SCHOOL OF ART UNVEILS RESTORED PARTHENON CASTS

LUBBOCK- The Texas Tech University School of Art in The College of Visual and Performing Arts presents a formal unveiling of the recently completed Parthenon plaster cast conservation project directed by Dr. Janis Elliott, assistant professor in art history. The event will begin at 5:00 PM on, Thursday, January 18th, 2007 in Art B-01 with an introduction to the project followed by a reception and viewing of the recently installed casts. This event is free and open to the public.

Several years ago, Texas Tech University acquired eight plaster casts, six of which depict scenes from the western Ionic frieze of the Parthenon (dating to the fifth century BC and located in Athens, Greece). These 100-year-old original casts most likely came from the University of Texas at Austin where, during the early twentieth century, Dr. William J. Battle of UT had purchased numerous original plaster casts to be used as teaching tools. Of the eight casts located at Texas Tech, two are of medieval building ornamentation of unknown origin.

During the fall 2006 semester, Megan Grann, an Art History and French major from Arlington, TX and Gilbert Jones, an Art History major from Lubbock, participated in an independent study involving the curatorial conservation and display of these plaster casts.

The Art Building is located at the intersection of 18th Street and Flint Avenue (2802 18th Street), just east of the Architecture Building on the Texas Tech campus. On weekdays pay-for-parking is available on the 4th floor of the Flint Avenue Parking Facility ($1.20 per hour) across the street from the School of Art.

Image of one of the casts is attached. For additional information call 806.742.3825, ext 235.

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Landmark Arts  
The Galleries of Texas Tech School of Art  
Box 42081 (Art Bldg., Flint Ave. @ 18th St.)  
Lubbock, TX 79409  
806.742.1947

www.landmarkarts.org

N.B. After the press release was published, the identification of the medieval building ornamentation was discovered to be Saint-Fortunat in Charlieu, France.
III. Invitation to the Opening of the Exhibition

COME TO THE UNVEILING
OF 100-YEAR OLD PARTHENON PLASTER CASTS
SCHOOL OF ART, ROOM 8-01
THURSDAY, JANUARY 18, 2007
PRESENTATION AND RECEPTION AT 5:00 PM
IV. Daily Toreador Article

Tech students restore Parthenon casts
By: Anne M. Shepherd Posted: 1/17/07

Gilbert Jones, a senior art history major from Lubbock, and Megan Grann, a senior art history and French major from Arlington, have had their hands full this year. Not only are they both honors students preparing to graduate in May, but they also have been working on a project to restore eight casts for display in the Art Building on the Texas Tech campus. Grann and Jones were both well-suited for the project; their concentrations lay in the fields of Pre-Columbian art history and Mediaeval art history, respectively.

Janis Elliott, an art history professor, directed the project, which began in September.

Elliott said at first nobody really knew anything about the casts, including where they came from and how old they were. Thus, when Jones and Grann began the process of restoring the casts, they had their work cut out for them.

Jones and Grann had to figure out where the casts had come from historically, so they went to the University of Texas to gather information.

Elliott said they now believe the casts came from the UT Battle Collection and arrived at Tech in 1957. Elliott said six of the casts were made from the western Ionic "frieze" of the Parthenon, which was constructed in the 5th century, B.C. The frieze, which is the band on the Parthenon between the roof and the pillars, depicts different scenes. The particular portion of the Parthenon the six casts were taken from depicts the "Panathenaic Procession," a procession the Greek warriors historically made to honor the goddess of Athens.

The two remaining casts are from the west facade of the Church of Saint-Fortunat in Charlieu in the Loire valley, France, constructed in the early 12th century.

After researching the casts at UT, Grann and Jones returned to Lubbock and began cleaning them.

"They were in really bad condition," Jones said.

Both Jones and Grann said they agreed the process of cleaning was long and difficult.

"We had one marathon painting session," Jones said. "It took like nine hours."

"It was interesting to say the least," Grann said.

Jones said John Dennis of the Dallas Museum of Art came to Tech to offer pointers concerning how to preserve the casts.

"(Restoring the casts) has been a really good exercise in what it takes to be a scholar," Jones said.

The project's difficulties involved more than simply the cleaning process; Grann and Jones said they found it difficult to write for the displays since students without art history or architectural backgrounds might not be familiar with many of the terms used to describe the casts.

"These two have done everything," Elliott said of Jones and Grann.

"We couldn't have finished it without all the help we've received thus far," Jones said.

Elliott explained the casts are important because they are examples from critical periods of art history.

"It's wonderful to have this because it's a great teaching aid," Elliott said of the casts. "We teach art history here - we have to teach about the Parthenon. And here we've got examples, these plaster casts, but they're casts from the original sculptures. They're the next best thing to being able to go to Athens."

A formal unveiling of the casts will be held at 5 p.m. Thursday in room B-01 of the Tech Art Building with a reception and viewing of the casts to follow. The event is free and open to the public.

N.B. This is the text of an article that appeared in the TTU Daily Toreador on 17 January 2007.
Appendix E – List of Websites Related to Plaster Casts

As museums disperse unwanted plaster casts from their collections, colleges and universities are acquiring them for hands-on conservation projects for students.

http://www.plastercasts.org/index.htm
A symposium in the UK focusing on plaster casts and their function as a pedagogical tool.

http://www.library.csi.cuny.edu/artgallery/mmacasts.html
For more information on plaster casts and a list of websites for other schools with collections of plaster casts.

http://www.utexas.edu/cofa/bma/wm_batle.html
The UT Battle Collection of Plaster Casts from where the TTU casts might have originated.

http://chnm.gmu.edu/courses/mattusch/plaster/index.htm
George Washington University’s website for their collection of plaster casts which their students are restoring and displaying. The casts were purchased from the Metropolitan Museum of Art, New York, in a Sotheby’s auction (February 2006).

http://www.sothebys.com/app/paddleReg/paddlerereg.do?dispatch=eventDetails&event_id=27711
The catalogue and auction price of plaster casts from the Metropolitan Museum. The subject matter and price of the casts varied. Casts similar to those in the TTU collection sold for as much as 30,000 USD.

http://www.elginism.com/date/2007/01/page/2/
The TTU plaster cast project is mentioned on this website.

http://www.fairfield.edu/x17557.html
George Washington University’s website for their collection of the Metropolitan Museum plaster casts which students are restoring and displaying.

http://aha.missouri.edu/research_resources/castgallery.html