

Technical Guide

HOW THE HUMAN FIGURES WERE MADE

This section of your reference gives answers to many of the “how did they do that?” questions about the human figures in the ALPM.

THE ART AND TECHNOLOGY OF THE HUMAN FIGURES

Throughout the ALPLM forty-seven highly realistic figures help immerse guests into the life and times of Abraham Lincoln.

Eleven figures represent Abraham Lincoln at various ages between nine and fifty-six years old. Detailed study of photographs and historical research were used to create these. The Lincoln life castings were also used. Forensic illustration techniques were used to create the early visualizations of young Lincoln.

DESIGN

The figures of Lincoln were researched and designed by BRC Imagination Arts. BRC designed the complete visual and sensory environment (the scenes, the figures, the music and the sound effects) all together at the same time, like scenes in a movie, for maximum dramatic and emotional impact.

BRC’s Chuck Roberts was the art director. Under Chuck’s direction, BRC assembled one of the most comprehensive pre-sculpting research and design packages ever done, with multiple sketches of each figure.

BRC’s research (supervised by the ALPLM’s Tom Schwartz and assembled by BRC’s Darroch Greer) was extremely thorough, down to the details of height, weight, clothing sizes, hair and eye color, and complexion notes for every figure. We also tracked odd personal details such as the fact one of Lincoln’s cabinet members (Wells) had a bad hairpiece (so our figure of him will have a bad hairpiece.)

Under Chuck Roberts’ creative direction, the figures were sculpted and manufactured by LifeFormations.

MATERIALS

The skin is a silicone material which is cast in a custom base flesh tone color. The tones, blemishes, and details are hand painted on over several hours in multiple steps with a special mixture of paint and other solvents adhere to silicone and still offer translucency

The hair can be either real or synthetic, depending on the required style and color. Depending on the style, length and viewing distance, it is applied by either completely poking it in by hand one hair at a time or partially glued and then poked around the edges. Most of the hair used for the Lincoln project is real human hair at all the edges where it is most visible. An inch or so from there it blends with synthetic hair.

The bodies are first custom sculpted from foam to the specified body specs and posed and once approved are coated with fiberglass and sanded smooth. Some figures are then fitted with posable limbs depending on the pose and application.

The eyes are basically the same that are used for prosthetics. We apply veins and redden as needed.

If teeth are needed, we use either false teeth or silicone copies from a mold which are glued in and are treated as needed.

We spend a great deal of time adding the details that really make the characters believable. For example, even if a costume is supposed to be pristine, it still needs to look like it has been worn, i.e. wrinkles in shoes, etc. Sometimes extensive washing and aging is done to create worn edges, sweat marks, etc.

We believe this project has achieved an unusually realistic skin tone for African-American figures—far exceeding past industry standards.

None of the figures move! That's an important point in the museum world.

FABRICATION

HEAD ROUGH SCULPT

During the rough sculpt stage the sculptor creates the likeness of the subject, but without all the skin texture and wrinkles. It is the equivalent of taking a photograph of someone, but with a slightly out of focus lens or softening filter. Once the sculptors reach a point when they are ready for some input, photographs are submitted to the client for approval. In most cases, Chuck Roberts visited the LifeFormations studio to personally direct or approve progress. Aspects of the sculpt such as personality and expression are reviewed and discussed. Revisions can be made to the sculpt if areas are found that do not match the reference material or intent of the application. Once the sculpt is approved at this stage, the features are locked.

HEAD FINISH SCULPT

With the rough sculpt approved, the sculptor proceeds to add the skin texture, wrinkles, and other details that make our portrait figures so realistic. Once these details have been added, photographs are again submitted for final approval. On approval, the head will be molded, and cannot be changed without starting from scratch.

BODY SCULPT

After the head has been sculpted, a body is sculpted in the appropriate gesture, matching the expression on the face. When needed, additional body elements may be sculpted or life cast. Photographs are submitted for approval.

SKIN PAINTING

The skins are cast and painted/dyed to achieve the appropriate skin tones. When a specific skin tone is required, we provide several samples to our clients so they may identify the specific tone they would like the figure to have.

HEAD HAIRING

For high fidelity portrait figures, the hair is applied through a blend of gluing and poking techniques. The result is a realistic appearing hairline that looks like the hair is growing out of the head. For lower fidelity figures, or figures that will only be viewed from a great distance, a wig may be used.

COSTUMING

Each costume is custom created for the specific application of the figure. Materials, patterns, ornamentation, and related props are all selected and custom assembled based on the appropriate reference.

INSTALLATION

Initially, the figures are just roughed into place. Then, under BRC's direction, their exact positions and postures are adjusted. This can be a broad adjustment such as turning an entire figure left or right, or a subtle position adjustment of an arm or leg or a head angle. At this point, the figures may still not quite connect with the furniture, the setting, or each other in a realistic way. Once we finalize their position, we cut holes in the furniture, bolt them in and tighten them down. This will pull them into the soft surfaces so they realistically sink into a couch or chair. At this point, we make more adjustments to arm, neck, and leg angles. This makes them seem much more real and part of their surroundings.

Now, we adjust the position of the eyeballs so they are looking in exactly the right place. This is a very creepy procedure to watch.

The dirty laundry comes next. A specialist will "tech-down" all of the costumes and add details. The costumes may have looked clean and new when the figures arrived, but now a specialist adds dirt, wear, tear, and wrinkles appropriate to each character and scene. (Ironic, isn't it? How many people in this world get paid to make clean new clothes look old, worn, and dirty?) "Distressing" an item this way is exactly the opposite of what museum workers normally do to their artifacts.

At this point, a hairdresser may also be brought in to give the hair either the well-groomed or “bad hair day” look, whatever is appropriate for each character and scene.

The last step is the addition of theatrical lighting. In some cases, the lighting is realistic. In other cases, it is designed to bring out the emotions of the scene. For example, in the Slave Auction scene, the slave family being torn from one another is in warm white light, causing them to stand out, whereas the auctioneers are sculpted by red under-lighting, giving them a scary, evil look.

Now, with the addition of the sets and the musical score, the figures are ready to play their part in connecting twenty-first century audiences with the life and times of Abraham Lincoln

IDENTIFICATION OF PORTRAITS AND PHOTOGRAPHS IN THE ABRAHAM LINCOLN PRESIDENTIAL MUSEUM

Compiled by Jack Navins

This listing of the identities of the individuals depicted in portrait paintings and photographs in the Abraham Lincoln Presidential Museum was compiled for the use of the Museum volunteers. The entries list the identity of the individuals depicted; available information about the painter or photographer, the date on which the portrait was painted or the photograph was taken, and the current location of the portrait or photograph is also listed.

Two books containing all of the known photographs of Abraham Lincoln, as well as selected photographs of members of his family, acquaintances and legal and political colleagues, have been very useful. They are: Meserve, Frederick Hill, and Sandburg, Carl: *The Photographs of Abraham Lincoln*. New York: Harcourt, Brace and Company, 1944, and Hamilton, Charles, and Ostendorf, Lloyd: *Lincoln in Photographs: An Album of Every Known Pose*. Norman, OK: University of Oklahoma Press, 1963. The ALPL contains copies of both books.

Journey 1

1. The Slave Mural

A. Gordon, slave with severely scarred back from whipping. The photograph was taken in 1863. The original photograph is in the Abraham Lincoln Presidential Library collection.

2. Edwards Home – Courting Scene

A. Ninian Edwards – oil portrait, painted by George Peter Alexander Healy, approximately 1864 (thus, anachronistic here). The original portrait is in the Edwards Place Historic Home, Springfield, as is the portrait of Elizabeth Edwards (see below).

B. Henry Clay – oil portrait, 1824.

C. Elizabeth Edwards - oil portrait, also, painted by George Peter Alexander Healy. As noted above, the original portrait is in the Edwards Place Historic Home.

3. Springfield Mural: Home Life

A. Abraham Lincoln – photograph, taken about 1858. There is controversy about where this photograph was taken (six cities have claimed to be the correct site); the strongest claim is that it was taken in Peoria, IL, by Roderick M. Cole. It was widely reproduced on campaign ribbons for the 1860 Presidential election. It is Image O-14 in the Ostendorf collection (see Hamilton and Ostendorf, *Lincoln in Photographs*, pp. 28-9). A cropped variant is Image M-14 in the Meserve collection (see Meserve and Sandburg, *The Photographs of Abraham Lincoln*).

B. Mary, Willie and Tad Lincoln – photograph, taken by Preston Butler in Springfield, late in 1860. It was reproduced as an engraving on the cover of *Frank Leslie's Illustrated News*, December 15, 1860. It is also the source for the clothing worn by the mannequins of Mary, Willie and Tad located in the Plaza. The original photograph is in the ALPL collection.

C. Thomas (Tad) Lincoln – photograph, taken by a photographer in Springfield, in 1860. The original is in the Ostendorf collection (see Hamilton and Ostendorf, *Lincoln in Photographs*, p. 58).

D. William Wallace (Willie) Lincoln - photograph, taken by a photographer in Springfield, in 1860. The original is also in the Ostendorf collection (see Hamilton and Ostendorf, *Lincoln in Photographs*, p. 58).

E. Robert Todd Lincoln – photograph, from a carte-de-visite by an unknown photographer, 1861. The original photograph is in the ALPL collection.

4. Springfield Mural – Work Life

A. Abraham Lincoln – photograph, taken by Alexander Hesler in Springfield, June 3, 1860. The original is in the Chicago Historical Society collection (Hesler was a Chicago resident). This is Image O-26 in the Ostendorf collection.

B. William Henry Herndon – photograph, taken about 1870. The original is in the Ostendorf collection (see Hamilton and Ostendorf, *Lincoln in Photographs*, p. 341).

C. John Todd Stuart – print of uncertain date. The original is in the ALPL collection.

D. Stephen Trigg Logan – photograph of uncertain date. The original is in the ALPL collection.

E. Collage of 8 photographs

Center:

1. Abraham Lincoln – same as 4 A.

Clockwise from upper left (N.B.: my numbers do not correspond with the numbers on the photographs):

2. William Henry Herndon.
3. Stephen A. Douglas.
4. John Todd Stuart.
5. Stephen Trigg Logan.
6. William J. Ferguson.

7. Samuel H. Treat – photograph, shown in Hamilton and Ostendorf, *Lincoln in Photographs*, p. 343.

8. James H. Matheny.

5. Lincoln-Herndon Law Office

A. Left Wall: Daniel Webster, print.

B. Back wall: Daniel Webster, photograph.

C. Henry Clay, photograph.

6. Lincoln's Political Timeline

A. Zachary Taylor, 11th President of the United States

B. Abraham Lincoln, photograph of ambrotype original, made by Abraham B. Byers in Beardstown, IL, May 7, 1858. M-7, O-5. Hamilton and Ostendorf, p. 14, states that this photograph was taken on the day Lincoln successfully defended Duff Armstrong on a murder charge (the "Almanac" case).

C. General Winfield Scott

D. Abraham Lincoln, photograph of ambrotype original, made by Preston Butler in Springfield on August 13, 1860. M-29, O-36.

E. Stephen Douglas, photograph

7. The Campaign of 1860, clockwise from upper left

A. Abraham Lincoln, the Cooper Union photograph (taken by Mathew Brady in his New York studio on February 27, 1860, shortly before Lincoln gave his Cooper Union address). Thousands of copies of this photograph were made, and used for the 1860 campaign. President Lincoln is reported to have said that that speech and this photograph put him in the White House. M-20, O-17.

B. Stephen Douglas, photograph. See Hamilton and Ostendorf, p. 347.

C. John Bell, photograph. See Hamilton and Ostendorf, p. 347.

D. John C. Breckinridge, photograph

8. Wall Outside Union Theater – Images Of Abraham Lincoln

A. First known photograph of Lincoln, a daguerreotype, made by N. H. Shepherd in Springfield, 1846, when Lincoln was Congressman-elect. M-1, O-1.

B. Cropped from the Cooper Union photograph (see 7A); M-20, O-17.

C. Photograph taken by Alexander Hesler in Springfield, on June 3, 1860. M-26, O-26. This is the same as 4 A and 4 E 1.

D. Photograph also taken by Alexander Hesler on June 3, 1860. Lincoln commented about this photo, “That looks better and expresses me better than any I have ever seen; if it pleases the people I am satisfied.” M-25, O-27.

E. Large graphic image, derived from 8H (see below).

F. This photograph was taken between March 1 and June 30, 1861, possibly by Mathew Brady (see the discussion in Hamilton and Ostendorf, p. 89). Pres. Lincoln wrote a 2½ line inscription on a print of this photo, and gave it to the mother of Joshua Speed, on October 5, 1861. M-42, O-55.

G. This photograph is one of several taken by Alexander Gardner in his new gallery in Washington, D.C., on August 9, 1863. M-53, O-70.

H. This photograph was taken by Alexander Gardner, on either November 8, 1863 (according to Hamilton and Ostendorf) or November 15, 1863 (according to Meserve and Sandburg). It is probably the best-known full-face portrait of Pres. Lincoln, and figures prominently in *Lincoln's Eyes*. M-59, O-77.

I. This photograph was taken by Anthony Berger in Mathew Brady's Gallery in Washington, D.C. on February 9, 1864. Thirty years after his father's death, Robert Todd Lincoln wrote of this photo, "I have always thought the Brady photograph of my father, of which I attach a copy, to be the most satisfactory likeness of him." For many years, this was stated to be the most familiar image of Lincoln, since it was the basis for the image of Lincoln on the \$5 bill, until May 2000. M-85, O-92.

J. The "cracked-glass negative plate" photograph, taken by Alexander Gardner in Washington, D.C. The glass plate cracked as the image was taken, and a single print was made, after which the negative broke completely and was discarded. For many decades, this was thought to be the last photograph ever taken of Pres. Lincoln during his life, on April 10, 1865; however, it is now known that it was actually taken on February 5, 1865. M-100, O-118.

Journey 2.

9. The Blue Room

A. Mary Todd Lincoln, photograph of Mrs. Lincoln, wearing her inaugural gown, taken by Mathew Brady at his Washington studio in 1861. See Hamilton and Ostendorf, p. 299.

B. Adele Douglas (Mrs. Stephen A. Douglas) lithograph

C. Mary Ellen McClellan (Mrs. George B. McClellan) lithograph

D. Harriet Lane, niece and official hostess of Pres. James Buchanan, photograph

E. Kate Chase, daughter of Salmon Chase, lithograph

F. Elizabeth Keckley, photograph. See Hamilton and Ostendorf, p. 345.

10. The Hall of Sorrows

A. William Wallace (Willie) Lincoln, photograph, age 11. The original is in the Chicago Historical Society collection. See Hamilton and Ostendorf, p. 304.

11. Lincoln's White House Office

A. Left Wall, Zachary Taylor, portrait

B. Left Wall, photograph of Mary Todd, Willie and Tad Lincoln (same as 3 B).

C. Upper right corner, standing desk: Photograph of Abraham and Tad Lincoln, taken by Anthony Berger in the Washington Gallery of Mathew Brady, on February 9, 1864. Several artists used this photograph as the basis for lithographs incorporating other members of the Lincoln family; see Hamilton and Ostendorf, pp. 268-9, 274. M-39, O-93.

D. Back wall, above mantle, Andrew Jackson, portrait

E. Right side of mantle, John Bright (Member of Parliament, United Kingdom), photograph.

Images on the plaques identifying the mannequin figures:

F. Abraham Lincoln, “the crew-cut photograph” multiple-lens photograph, originally ascribed to Mathew Brady, but now ascribed to the E. & H. T. Anthony Company, Washington, D.C., about February 1865. The original is in the Library of Congress. M-92, O-103.

G. Edwin Stanton, photograph

H. Edward Bates, photograph; see Hamilton and Ostendorf, p. 352.

I. Gideon Welles, photograph

J. Salmon P. Chase, photograph

K. Caleb Smith, photograph; see Hamilton and Ostendorf, p. 353.

L. Montgomery Blair, photograph; Meserve and Sandburg contains an unnumbered, cropped copy of this photograph.

M. William Seward, photograph

12. The Illusion Corridor

A. Horace Greeley, editor of the *New York Tribune*, photograph; Meserve and Sandburg contains an unnumbered copy of this photograph.

B. Abraham Lincoln, photograph taken by Mathew Brady in Washington, D.C., probably early in 1862. M-66, O-57. This image, altered by the addition of horns, appears in *Lincoln's Eyes*.

13. The War Gallery – Eight Soldiers’ Stories

A. Henry Livermore Abbott

B. Abel Peck. This photograph is available (with the image reversed) from the Archives of Michigan; see http://images.google.com/imgres?imgurl=http://www.michigan.gov/images/mhal_mhc_sa_Abel_Pecklo_wres_79977_7.jpg&imgrefurl=http://www.michigan.gov/hal/0,1607,7-160-17445_19273_19313-82248--,00.html&h=365&w=288&sz=15&tbnid=QuYVb3-8d_RcwM:&tbnh=118&tbnw=93&hl=en&start=1&prev=/images%3Fq%3DAbel%2BPeck%26svnum%3D10%26hl%3Den%26lr%3D%26ie%3DUTF-8%26sa%3DG

C. Orion Howe. This photograph is in the ALPL collection, as is the photograph of Orion’s younger brother, Lyston, shown in the lower left corner of the Civil War Scrapbook.

D. William H. Carney, photograph. Many web sites show this photograph, without attribution.

E. Henry Robinson Berkeley, photograph

F. William Day, photograph

G. Henry King Burgwyn, Jr., photograph wearing the cadet uniform of the Virginia Military Institute (Class of 1861). A copy of this photograph, with the image reversed, is available at the Virginia Military Institute Archives web site, <http://www.vmi.edu/archives/archivephotos/Details.asp?ACCNUM=309&rform=search>

H. John Pelham, photograph.

14. Photographs of Abraham Lincoln in the Casualties – Telegraph Office Corridor

A. Photograph taken in Springfield by Alexander Hesler on June 3, 1860; same as 4 A; M-25, O-27.

B. Photograph taken by C. S. German in Springfield, on either January 13, 1861 (Hamilton and Ostendorf) or January 26, 1861 (Meserve and Sandburg); Meserve collection. The first photograph of Pres.-elect Lincoln with a full beard. M-34, O-41.

C. Photograph taken by Alexander Gardner in November 1863; same as 8 H. M-59, O-77.

D. Photograph taken by Mathew Brady, with a multiple-lens camera, on January 8, 1864. The glass negative of one of the four images (taken simultaneously) is in the Meserve collection; the collodion plate for the other three is in the National Archives. M. 73, O-83.

E. The “cracked glass negative plate” photograph (here with the image processed to “remove” the crack); same as 8 J.

15. The Tide Turns display cases

A. Lt. Gen Ulysses S. Grant, USA, photograph

B. Gen. Robert E. Lee, CSA, photograph

C. Abraham Lincoln, photograph taken by Henry F. Warren, on the south balcony of the White House, on March 6, 1865. M-93, O-112.

D. John Wilkes Booth, photograph.

16. Ford's Theater

A. George Washington, lithograph

17. Funeral Train

A. President Lincoln's body, lying in state, in New York City Hall's Governor's Room, taken by Jeremiah Gurney, JR., on April 24 1865. The accompanying graphic describes the saga of the presumed destruction of the negative and print of this photograph, and its subsequent discovery by Ronald Rietveld 87 years (note: four score and seven years!) later.

18. Lincoln's Tomb

A. *The Apotheosis of Abraham Lincoln*, also entitled *In Memory of Abraham Lincoln. The Reward of the Just*, a lithograph made by D. T Wiest and published by William Smith, Philadelphia, in 1865. Wiest made the lithograph by copying the lithograph *Apotheosis of George Washington*, created by John J. Barralet in 1802; Wiest simply substituted the head of Lincoln for Washington's. The original of *Apotheosis of George Washington* is on display at the Wadsworth-Longfellow House in Portland, Maine.