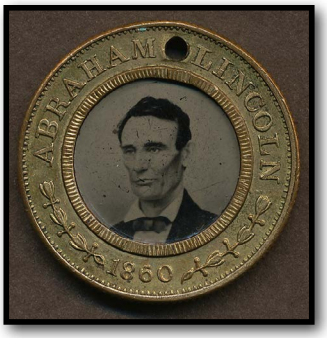
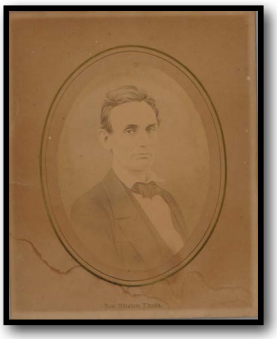
Linking Portraits and Process:
An Exploration of Abraham Lincoln Photographs

The Stephen and Beth Loewentheil Family Photographic Collection is a spectacular photograph resource in the Rare and Manuscripts Division, Cornell University Library. Abraham Lincoln, the most photographed American in the 19th century, is well represented in the collection in a variety of photographic processes. Abraham Lincoln understood the value of photography in his political role and as a face of the nation. He actively sought having his photograph taken and distributed, resulting in photograph types and formats with a remarkable range of appearance, color, texture, and condition. His portraits, recently treated and rehoused in the Conservation Lab, showcase the exceptional value of the Loewentheil collection to explore different 19th and 20th century photographic processes and formats from many vantage points. Let's take a tour of some prominent photographic processes and formats through the iconic image of Abraham Lincoln.



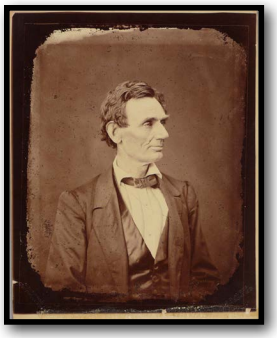
This **tintype** from 1860 is an example of a photograph on metal, not paper. The tintype process (1853-1930) is based on the light sensitivity of silver halides (the light sensitive material) suspended in a collodion emulsion (cellulose nitrate in ether and alcohol) on a dark, lacquered iron (not tin) support. Tintypes are one-of-a-kind images made directly in the camera and were relatively inexpensive. This tintype is the earliest use of a photograph on a campaign badge. This campaign badge is quite small, just slightly larger than a Lincoln penny.

Because tintypes were meant to be directly handled and were often loose or only in simple housing, the metal support of the tintype was easily damaged—dents, scratches and rust (it is iron after all) are common. While it shows some scratches through to the metal support, this portrait beautifully captures a young Abraham Lincoln. The badge is now housed in a custom storage box to protect it during use and handling.



Abraham Lincoln posed for this rare, beardless, paper photograph in 1859 soon after losing the Senate race to Stephan Douglas. This photograph is a **salted paper print**, the earliest process to create a photographic print on paper. Salt prints (1840-1860) are made from paper that was first immersed in salt water and then floated on silver nitrate. The negative (usually glass) was placed in contact with the sensitized paper and exposed to sunlight. The negative acted as a mask over the photosensitive paper and the image was printed out solely by the action of light without the use of a chemical developer. Exposure to light turned the colorless silver chloride to dark metallic silver particles. Having no emulsion layer, salt prints are not glossy and the matte surface qualities of the paper are visible. The salt print was almost completely replaced with the less arduous albumen print by 1860.

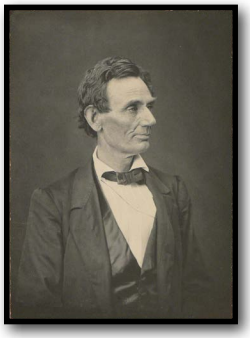
Salt prints are highly susceptible to deterioration due to small size of the silver particles and lack of a protective emulsion. They are damaged by pollutants (airborne and internal), high humidity and light. As seen in this portrait, fading, loss of highlights, and a shift to yellow-brown are common in salt prints. A supportive, archival enclosure and storage in a stable environment will keep this portrait from deteriorating further.



This portrait is an 1881 **albumen** silver print of a negative originally taken in 1860, just a month before Lincoln's nomination for president. The albumen process (1860-1895) differs substantially from the salt print process. Instead of the silver particles residing directly on the paper surface, the silver in albumen photographs resides in a transparent emulsion layer of albumen (egg white) which suspends the silver above the paper surface and surrounds and protects the silver particles. Albumen prints were made by floating good-quality, thin paper on the surface of a mixture of raw egg white and a salt, such as sodium chloride, followed by floating on silver nitrate. The sensitized paper was printed-out in the sun to form the image in the same manner as salt prints. Albumen was the dominant photographic print process of the 19th century.

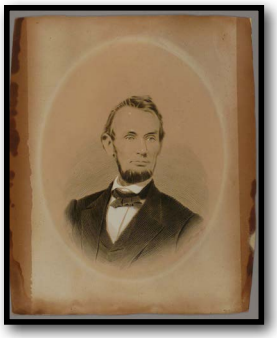
Because albumen photographs have an emulsion layer, they appear semi-glossy. The small size of the silver particles and the toning of the albumen photographs with gold created the characteristic purple-brown image color. Albumen photographs in good condition retain the purple-brown image color and are quite beautiful images. Seeing this albumen portrait in person reveals intimate details of Lincoln—the texture of his hair, the sheen of his vest, and the distinct qualities of his face.

This small albumen mourning pin from 1865, in contrast to the better-preserved albumen portrait, shows the characteristic appearance of albumen prints which have been damaged from atmospheric pollutants, light exposure, heat, and humidity. Fading, loss of highlights, yellowing and cracking of the emulsion are commonly seen in deteriorated albumen prints. This mourning pin is now housed in a custom storage box to protect it during use and handling.



This portrait was produced from the same negative as the above albumen portrait, but using a different photographic process—**platinum**. Good quality paper was brushed with an iron compound, oxalic acid, and potassium tetrachloroplatinate (III) (the source of platinum). The paper is contact printed with a negative under a strong light, preferably sunlight, and the image forms within the upper fibers of the paper. Because it has no emulsion layer, platinum prints are matte and retain the surface qualities of the paper they are printed on, just like salt prints. However, unlike salt prints, platinum prints have superb image stability.

Platinum prints (1880-1930) have richness, exquisite detail, and a velvety black color, with no fading or discoloration. Platinum is one of the noble metals (remember your Periodic Table?) which are very stable in their metallic form and this characteristic carried over into the use of platinum in photography. Because of that stability, this photograph appears today very much as it did when it was made, over 130 years ago. The long tonal range of platinum, with many values of black to white, adds a depth not duplicated in other photographic processes. The depth of the dark background in this portrait moves Lincoln forward and imbues an intimacy and importance to the portrait. The striking luminosity of this image gives the perception that you can reach out and touch Lincoln.



This **crayon enlargement** is an enlargement made from a weak photographic image on a paper support that provided a base for extensive hand-working with artist media, like charcoal, pastels, watercolors, and Conte crayon, to create a painterly effect. Crayon enlargements approach life-size and were meant to appear like a drawing or painting. Crayon enlargements became enormously popular and are frequently found in family collections, often on a convex mount with a decorative frame and convex glass.

This portrait has been extensively hand worked with charcoal and graphite. The white shirt and highlights on the face are thickly applied gouache (opaque watercolor). The artist media aged well over time in contrast to the paper support. The paper support, which had enough tooth to accept subsequent applications of media, was mounted to a secondary paperboard support for rigidity. Paperboard mounts often were composed of unrefined wood pulp making these portraits extremely brittle and highly susceptive to damage. The poor-quality paperboard mount of our Lincoln portrait contributed to the darkening of the paper support which was accelerated by light exposure. This portrait was stabilized with conservation treatment and refitted into its historic frame with a treated, historic decorative mat.

The Loewentheil collection, which brings together a number of Lincoln portraits, has given us the opportunity to develop effective preservation strategies by assessing how each photograph was made, its inherent vulnerabilities, and how it has been affected by time and use. It's a distinct pleasure to work with this collection in the Conservation Lab and contribute to making it available for research, use and instruction.

The Lincoln portrait group is just one example of the opportunities this significant collection presents to study 19th and 20th photographic processes and formats. The Loewentheil photograph collection is particularly rich in the Civil War, African American life, and the rise of the hand-colored photograph. To learn more about the Loewentheil Collection see: *Dawn's Early Light: The First 50 Years of American Photography* (http://rmc.library.cornell.edu/DawnsEarlyLight/index.html). For more information about identifying and comparing photographic processes, see: http://www.graphicsatlas.org/

Michele Hamill
Paper and Photograph Conservator
Cornell University

Design by J.M. Iacchei