

The Photograph



1

In The Beginning

These photomechanical processes were the major stepping stones to modern chemical (flexible film) and digital capture. It was a pioneering time in the history of photography, an epoch of experimentation.

The Three Dynamics of Photography are:

- (1) Dynamic Range
- (2) Resolution
- (3) Color

These three dynamics are foundational for making photography real enough so people can see and understand the facts being portrayed in a photograph. It is the application of "Suspension of Disbelief."

The Photograph	9
The Heliograph	10-11
The Daguerreotype	12-13
The Collodion Glass Plate	14-15
The Lantern Slide	16-17
The Polaroid	18-19

The Digital Image / The Pixel	20
Dynamic Range	21
Resolution: "Suspension Of Disbelief"	22
Resolution: Digital Capture & Output	23
Resolution: Image Size Dialog Box	24
Resolution: Photoshop's New Document Command	25
Photoshop's Channels Panel / Pixel Depth	26
Bits & Bytes	27



Andrea Jiron, Spring 2018, Project Three, Look

The Heliograph

Joseph Nicéphore Niépce

Joseph Nicéphore Niépce's Court Yard, 1826
Bitumen Of Judea On Pewter, 8x10"

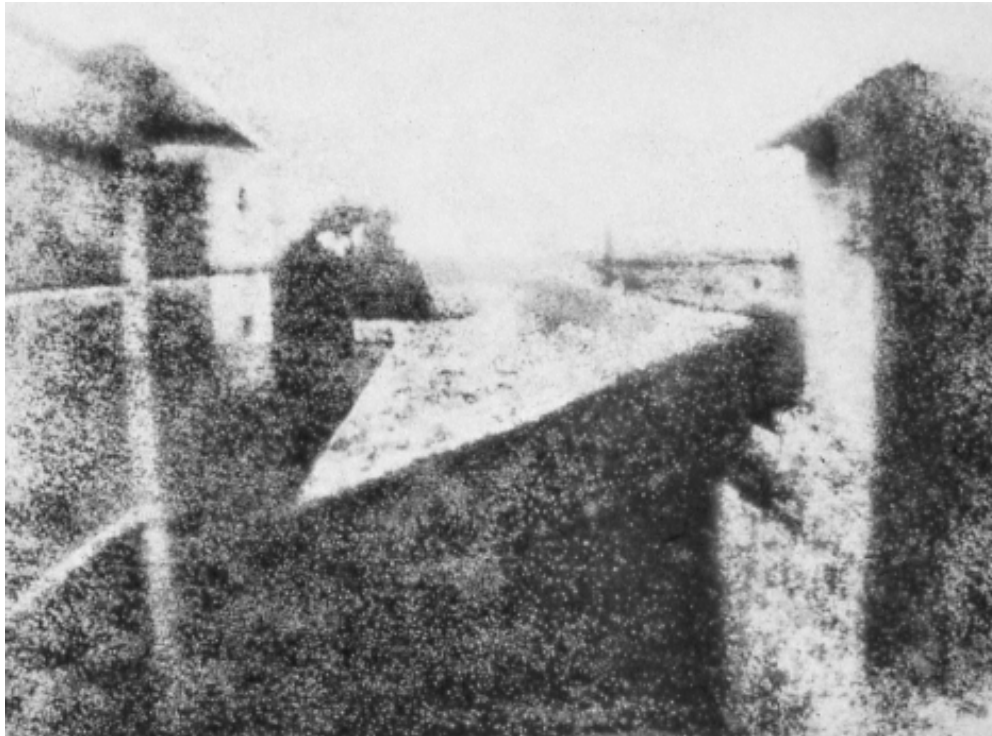
The first permanent photographic subject was Joseph Nicéphore Niépce's court yard in 1826. His Heliograph was made on a sheet of pewter covered with Bitumen of Judea, a light sensitive resin that hardened when exposed to light. Niépce's exposure was so long (eight to ten hours) that the sun moving across the sky created shadows on both sides of the courtyard and the vertical line on the left is actually a tree.

The view was made from an upper, rear window of the Niépce family home in Burgundy, in the village of Saint-Loup-de-Varennnes near Chalon-sur-Saône. Representationally the subject matter includes [from left to right]: the upper loft (or, so-called "pigeon-house") of the family home; a pear tree with a patch of sky showing through an opening in the branches; the slanting roof of the barn, with the long roof and low chimney of the bake house behind it; and, on the right, another wing of the family house. Details in the original image are very faint, due not to fading—the heliographic process is a relatively permanent one—but rather to Niépce's underexposure of the original plate.

Niépce's courtyard image is not a photograph. It was not until 1840, after the announcement of the Daguerreotype (the first commercially successful imaging process), that Henry Fox Talbot, an English entrepreneur invented the positive/negative process (photograph) called the Calotype. The Calotype (Talbotype) being a positive/negative process allowed the photographer to express himself by manipulating the image during printing, controlling local areas of the print to be lighter or darker. It also allowed multiple images to be composited on the same photographic paper. This was not possible with the Daguerreotype process because it did not make a negative and was an in-camera image which flipped the image horizontally.

Helmut Gernsheim brought Niépce's image to prominence again in 1952 and the Eastman Kodak Company was able to make a reproduction.

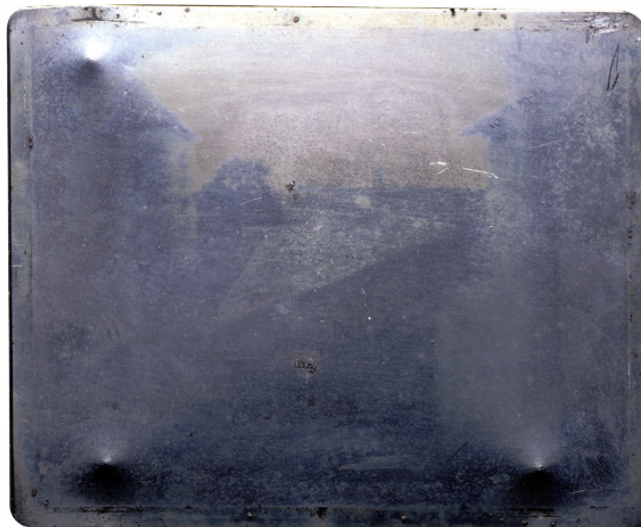
In 1973, the University of Texas acquired the plate from Helmut Gernsheim. The first permanent photochemical image in the history of the world by Nicéphore Niépce, is on display at the Harry Ransom Humanities Research Center at the University of Texas at Austin.



Kodak Technician Copy Image

...a pear tree with a patch of sky showing through an opening in the branches; the slanting roof of the barn, with the long roof and low chimney of the bake house behind it; and, on the right, another wing of the family house...

The original heliograph made on a sheet of pewter covered with Bitumen of Judea by Joseph Nicéphore Niépce, 1826.



The Daguerreotype

Photographer Unknown

[Boy With Hat], 1840 – 1855
Daguerreotype, sixth-plate, 3 1/8 x 2 5/8"
Collection of Craig Carlson

I acquired the Daguerreotype of the anonymous boy with hat in 1981, to have an example of early photographic imagemaking to show students. The Daguerreotype was the first successful commercial photographic process. So successful, that after 1840 every city and hamlet had an operating Daguerreotype studio making a fortune, along with a sea of images of its inhabitants.

This Daguerreotype, as Daguerreotypes go, is not an exceptional specimen. It was purchased by me for five dollars and cost much more when made in the 1850's. As a matter of fact, 99.9% of all Daguerreotypes are portraits, merely an image of a cow, a barn, or due to the sensitivity of the Daguerreotype plate, a moving object.

The Daguerreotype studio portrait was a torturous appointment. Metal prongs, obscured by the sitter, jabbed into the neck and behind the ears to hold the subject still during the five minute exposure. The exposed plate was then held over a pool of heated mercury vapors until a whitish alloy settled over the sensitized polished plate.

The case holding a Daguerreotype was designed to cast a shadow over its surface, revealing incredible detail and sharpness, which still rival photographic images made today, two centuries later by electronic means.

The young boy in the Daguerreotype appears to be the age of about 14 years. If I calculate the useful commercial span of the Daguerreotype, I would place his birth around 1841, and the portrait made in 1854.

By the time of the Civil War he would have been of conscription age and I wonder if he fought at Gettysburg or marched to the sea with Sherman. From the young man's clothing, and the ability to pay for a Daguerreotype, he must have come from a middle class family of means. Most likely from a hamlet or city north of the Mason-Dixon Line: Cincinnati, Toledo, or from a farm in Wisconsin. His coat and vest look chosen by a mother with taste, and his cuffs from his shirt and coat sleeves match perfectly at the wrist, giving evidence of a family tailor.

If I could, I would telegraph the young soldier to let him know that his nineteenth century Daguerreotype found a permanent home in my personal collection and my collective photographic memory.



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The Collodion Glass Plate

Abraham Lincoln

8x7" Glass, Wet Collodion

Photograph By Anthony Berger, February 9, 1864

Anthony Berger, who took the photograph of Lincoln seen here, was one of many camera operators who worked for the prestigious Mathew B. Brady Gallery in Washington D.C.

Mathew B. Brady (May 18, 1822 – January 15, 1896) operated multiple "palaces" of photography before and after the Civil War doing celebrity portraits and sending teams of photographers, including Berger, into the field to document the war. He was known as the father of photojournalism.

Brady was the youngest of three children of Irish immigrant parents. As a young man Brady studied painting, and while in New York he met Samuel F. B. Morse, a co-developer of the single wire telegraph and the Morse code. While in France in 1839, Morse had met Louis Daguerre, the inventor of the Daguerreotype. Upon returning to America, Morse began to teach the Daguerreotype process with Mathew Brady being one of his first students.

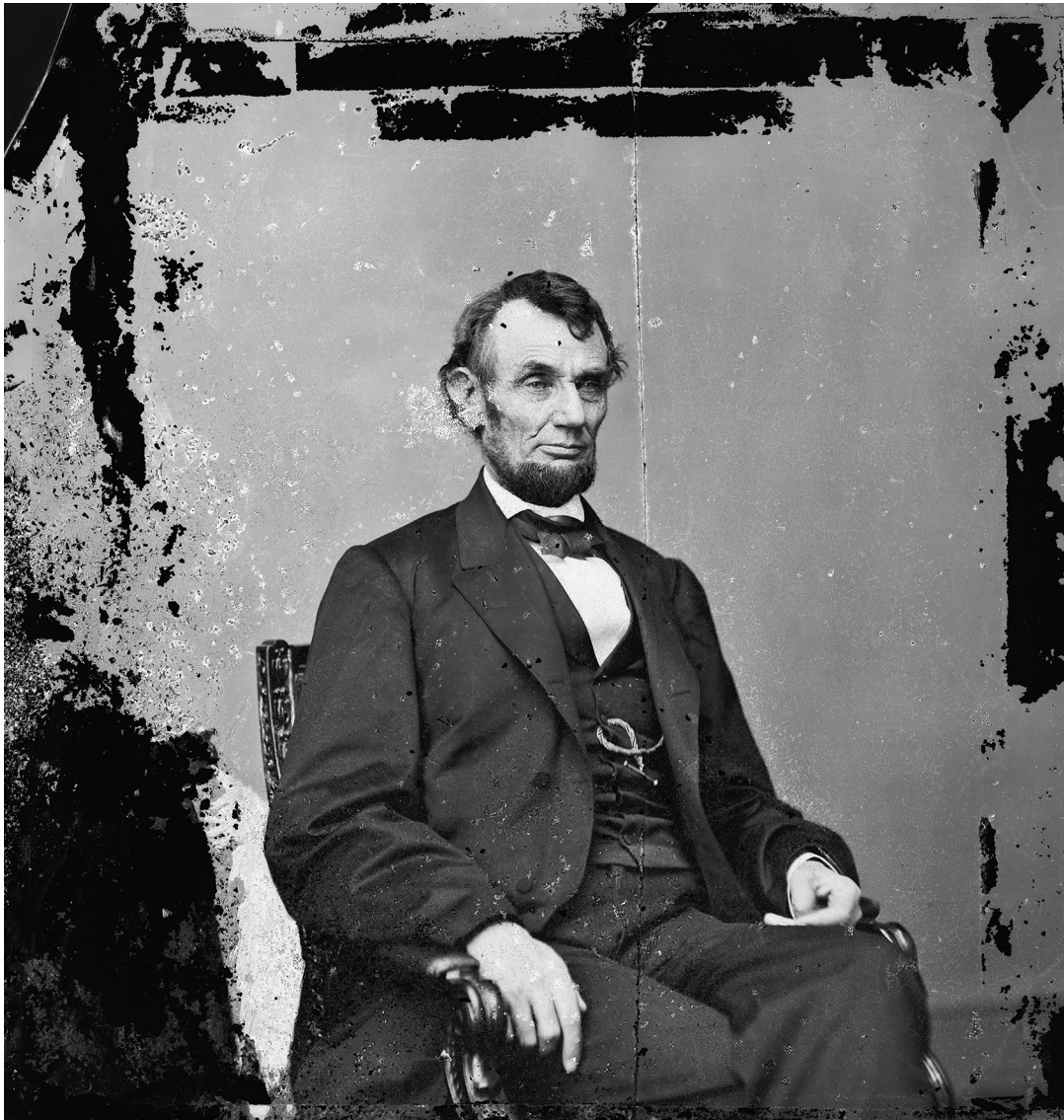
Civil War Documentation

Brady's studios began to thrive at the beginning of the Civil War making thousands of small portraits of soldiers called "cartes de visite". He felt a greater need to document the Civil War, saying "I had to go. A spirit in my feet said 'Go,' and I went." He asked Abraham Lincoln personally and was granted permission in 1861 with the proviso that he finance the project himself. Brady supplied 17 traveling photographic wagons to photographers like Alexander Gardner and Timothy O'Sullivan, who brought back tens of thousands of collodion wet plate images of the great conflict between the North and South.

Collodion Process

Earlier positive/negative processes were done using paper negatives, and the resulting prints were soft looking, lacking detail and tone. The collodion process, though difficult to master, gave great sharpness due to the collodion emulsion being placed on glass, and this produced exquisite tonal gradation when contact printed on albumen paper.

However, there were still some difficulties with the collodion process because it was a delicate emulsion, and any dust, debris or bugs quickly attached themselves when being prepared in the field. In addition, the corners of the collodion negative curled, and the collodion emulsion often flaked off, as seen in the portrait of Abraham Lincoln.



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The Lantern Slide

Unknown Photographer

Keystone View Company
Copy Transparency In Glass Mount, 3 1/4 x 4"

The introduction of lantern slides in 1849, ten years after the invention of photography, allowed photographs to be viewed in an entirely new format. As a transparent slide projected onto a surface, the photograph could be seen, not only by individuals and small groups, but also by a substantial audience. This new larger scale expanded the utility of photography, changing it from an intimate medium to one that was appropriate to entertainment and educational purposes.

The lantern slide lasted only a hundred years in popularity until the 1950s when the 2x2 inch 35mm transparency using Kodachrome film became the standard for amateur and professional photographers.

A few fine artists like Alfred Stieglitz (January 1, 1864 – July 13, 1946) used lantern slides to show their work publicly, but the major application for the lantern slide was in education. The lantern slide had to be made bright or light in density due to the lack of a bright projection lamp. The first lantern projectors used oil lamps for light. By 1870, limelight, produced by burning oxygen and hydrogen on a pellet of lime, offered a better, although more dangerous, form of illumination. In the 1890s, the invention of the carbon arc lamp, followed by electric light, provided a safe method for displaying the lantern slide image.

Copyright Status Of "Fair Use"

The lantern slide allowed users to project copyrighted material and help create the copyright status of "fair use," which allowed images to be used for educational purposes without the owner receiving compensation. With the advent of digital imaging the practice of "fair use" is being challenged.*

* Written content sourced from Library of Congress, American Memories and Richard Benson's, The Printed Picture, ISBN #978-0-87070-6



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The Polaroid

Craig Carlson

Client: Wells Fargo Bank
Polaroid Type 54, 4x5"

From the late 1970s to the mid-1990s I worked as a commercial photographer for magazines and corporate clients. The Polaroid, though expensive and time consuming to use, was an excellent instant proof of a set-up by a photographer. Polaroids were used by photographers to check how existing lighting (room light) and artificial lighting (strobe light) mixed before shooting expensive large format (4x5") color transparency film.

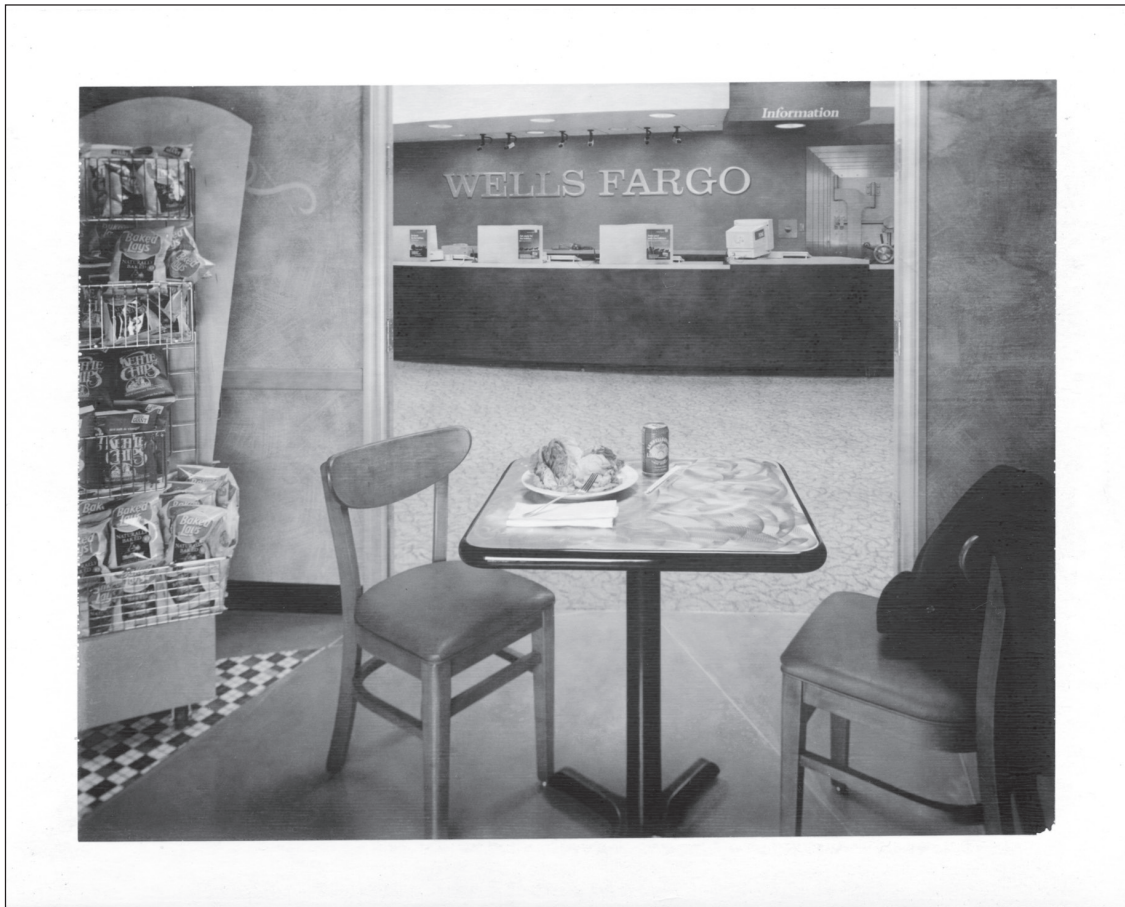
Polaroid film also allowed art directors and stylists working with the photographer to check what the camera saw and to compare it to a composite (a simplified drawing of how the photograph would be used in a layout around text and logos).

The Polaroid material was of the highest quality and was so consistent that photographers would use it to check exposure and camera focus for a given shot. A Polaroid film holder (shown) would be loaded with a sheet of Polaroid holding both negative and positive material. After the exposure was made in a large format camera (shown), a pocket of developing gel was smeared across both negative and positive as the Polaroid film was removed from film holder.

Edward Land (Inventor of Polaroid Film)

Edward Land (May 7, 1909 – March 1, 1991) was a scientist and inventor. He was a driven man who was said to have worked in the same clothing for 17 straight days and to have changed assistants as he wore them out from his exhausting schedule. He never received a formal college degree but was given an honorary doctorate by Harvard University in 1957. His inventions and research included polarizing materials such as sunglasses, polarizing filters for photographic use and optical systems for the military.

For photographers, his most important invention was Polaroid film which allowed people to make pictures without using a darkroom. Photographer Ansel Adams became one of Land's spokesmen for the company. Like a Daguerreotype, each Polaroid is unique, and having been made from a negative allows the scene to be rendered without reversed type as in a Daguerreotype. Artists enjoyed using Polaroids in their work, and some of Walker Evans's last color photographs were made with the Polaroid SX-70 camera.



Polaroid 4x5" Type 54 Print

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4x5" Large Format View Camera



Polaroid 545 4x5" Film Holder