

Early Photography

by Sophia



WHAT'S COVERED

This tutorial covers early photography. By the end of this lesson, you'll be able to identify and define today's key terms, describe types of photographic processes, and briefly explain the history of early photography. You will also examine examples of early photography. This will be accomplished through the exploration of:

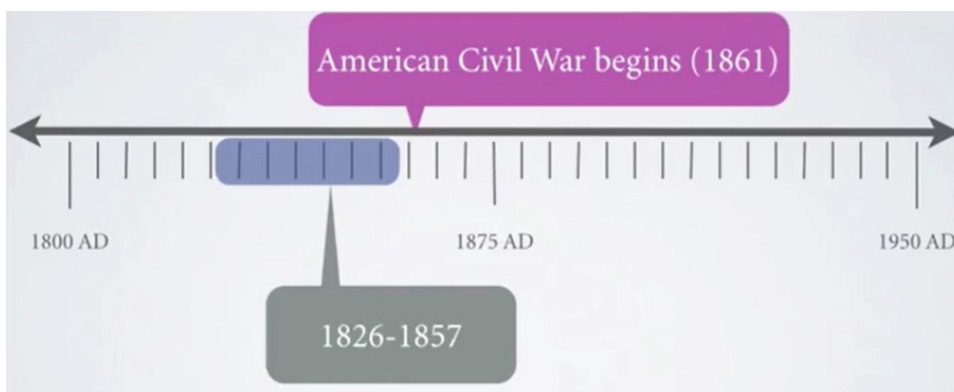


BIG IDEA

Early photography was not considered “true art.” Photographers developed the Pictorialist movement as a way of establishing photography as a valid art form.

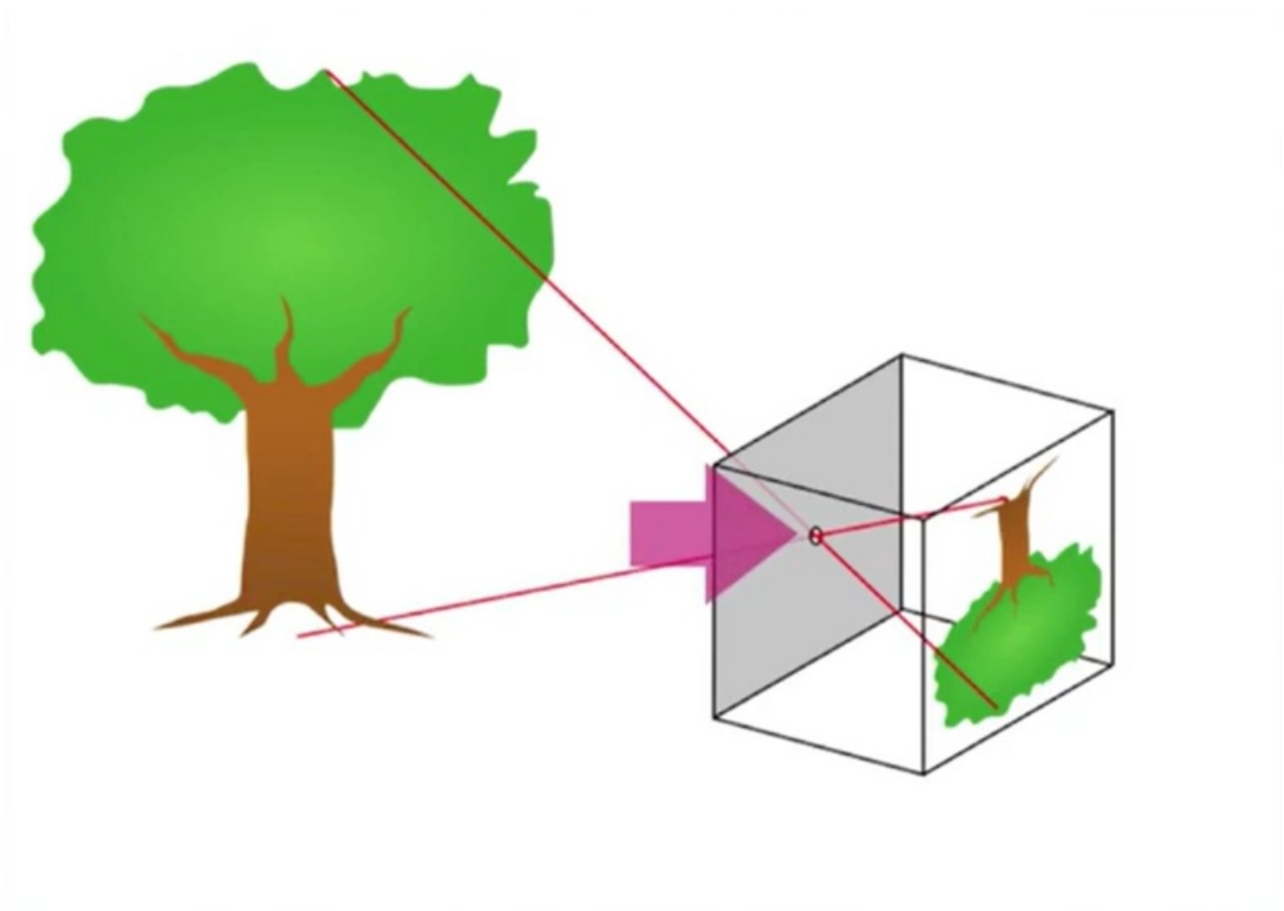
1. Period and Location: Early Photography

The photography examples that you will be looking at today date from between 1826 and 1857. They focus geographically on three locations: Dorchester, which is a city in the county of Dorset, England—the home of William Henry Fox Talbot; Chalon-sur-Saône, in the Burgundy region of France, where Nicéphore Niépce lived and died; and Paris, France, very near to where Louis Daguerre died in 1851.



2. Pinhole Camera and Camera Obscura

The pinhole camera and camera obscura were precursors to the invention of photography. A pinhole camera is essentially a sealed container, such as a box, that blocks light except for one tiny aperture (pinhole) that allows light to enter. **Pinhole cameras** have no lenses to adjust and invert the image, so it appears upside down.



Camera obscura is an optical device that functions using the same principles as a pinhole camera, but it could be more elaborate, using lenses and mirrors to adjust the image, and range in size from tiny portable boxes to huge rooms. In the diagram below, the arrow is pointing to the one opening where the light enters the room.



TERMS TO KNOW

Pinhole Camera

A simple camera with a single aperture and no lens; basically a lightproof box with a small hole in one side containing a piece of photographic paper.

Camera Obscura

Literally a vaulted or darkened chamber/room and optical device that projects an image of the surroundings on a screen or wall.

3. Methods of Photographic Process

The beginnings of photography adopted the principles of the pinhole camera and camera obscura but used photosensitive chemicals on metal plates or paper to capture the image. There were two early methods of photographic process.

3a. Direct Positive Process and Nicéphore Niépce

The direct positive method involves taking a (typically) metal plate coated in photosensitive chemicals and exposing it to light. The process works as follows:

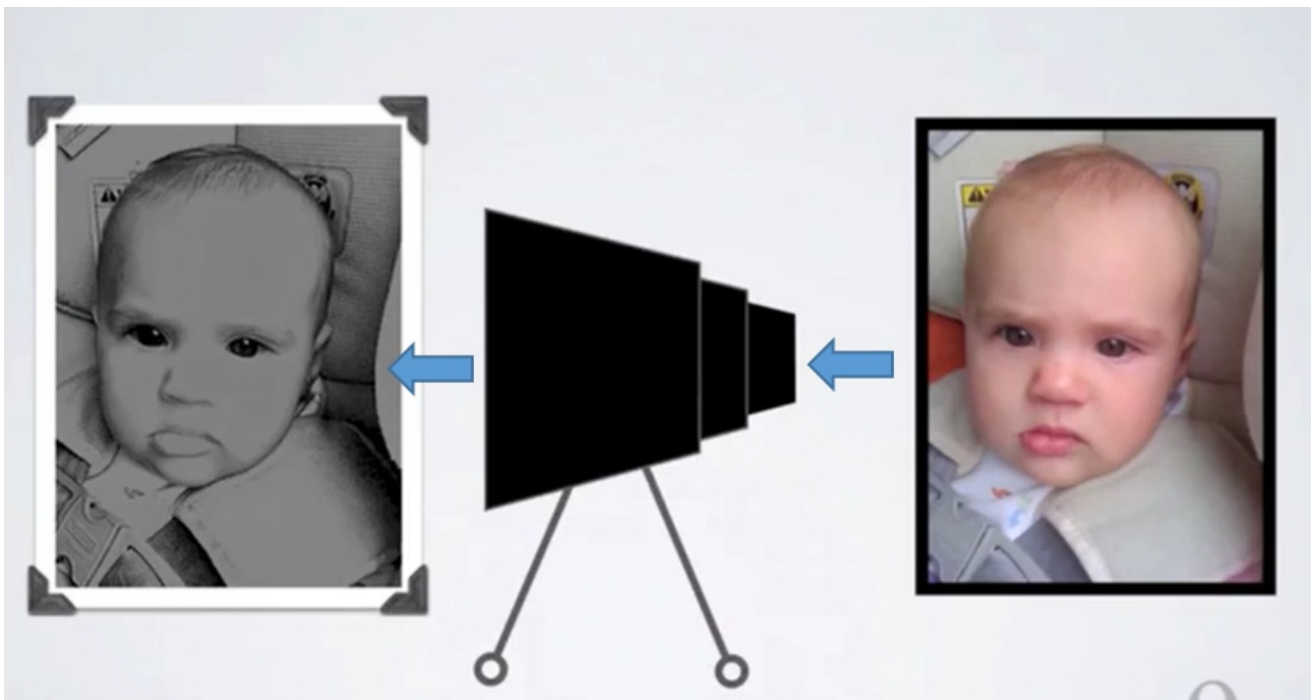


STEP BY STEP

Step 1: The camera housing is set up with the plate inside.

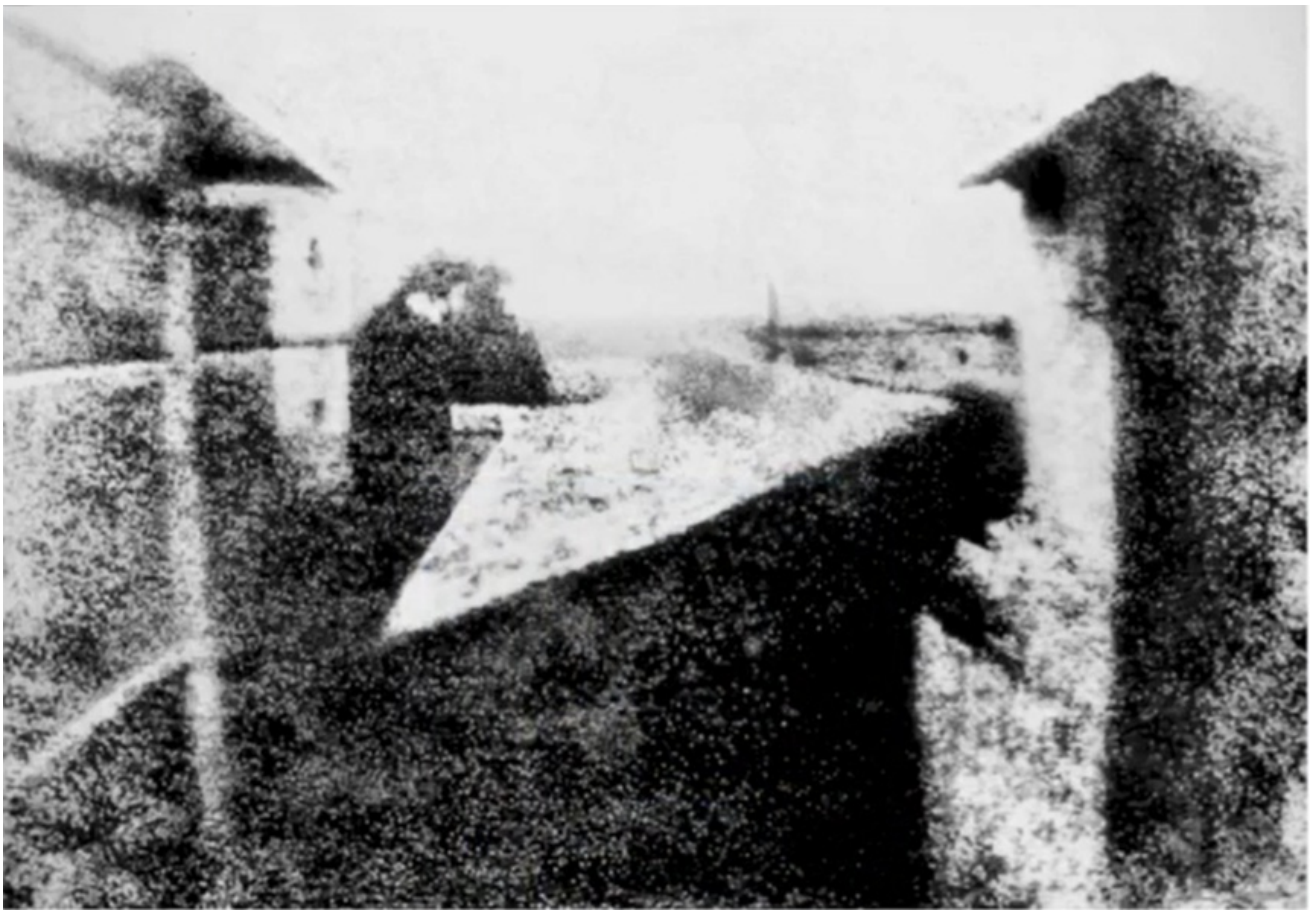
Step 2: The aperture or opening is opened, and light from the image enters the aperture.

Step 3: The light reacts with the chemicals on the plate, producing a direct copy, black and white, of the original.



The earliest photos by pioneering photographer Nicéphore Niépce used this **direct positive process**, as did those by Daguerre, who invented the daguerreotype, a technique based on this process.

Nicéphore Niépce is one of the original inventors of photography and a technological pioneer. He captured the following image—the first known photograph of nature—using a modified camera obscura instrument with a photosensitive, chemical-covered metal plate. The exposure time was many hours, which is why you see shadows that appear from two sides, not just one, due to the movement of the sun.



View from the Window at Le Gras by Nicéphore Niépce

826-1827

Photography (direct positive method)

Niépce used a chemical called bitumen of Judea, a naturally-occurring, asphalt-like material that hardens with exposure to sunlight. The process works like this:

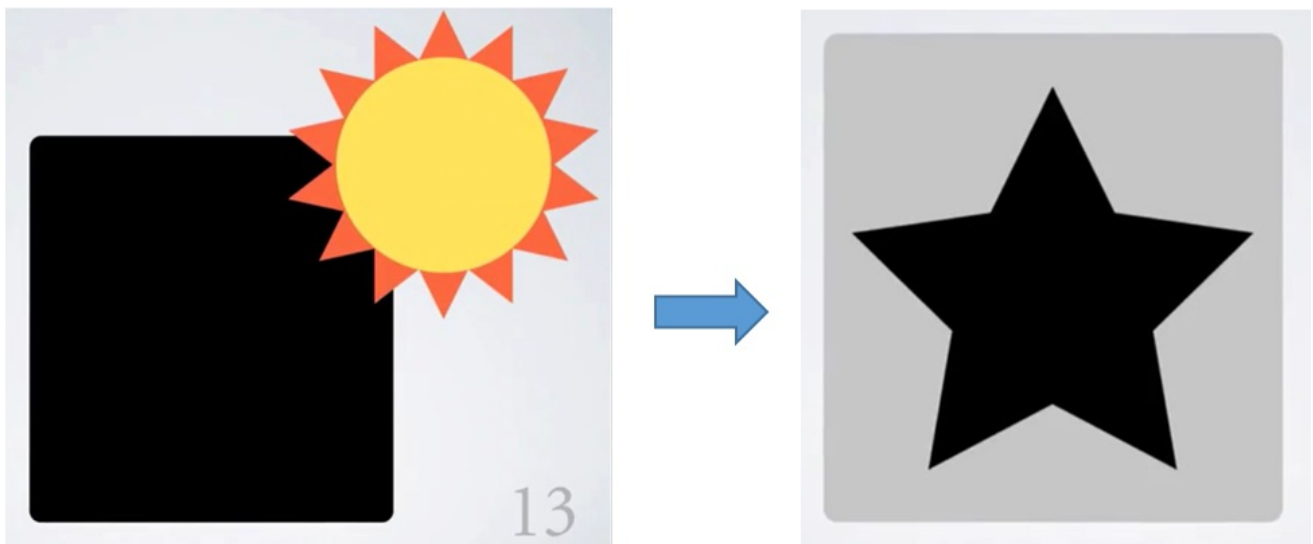


STEP BY STEP

Step 1: The bitumen-covered plate is heated to dry the bitumen.

Step 2: The plate is exposed to light from an image it's trying to capture.

Step 3: After a certain amount of time, the exposed area hardens, and the material that didn't set as strongly is rinsed away, revealing the image.



TERM TO KNOW

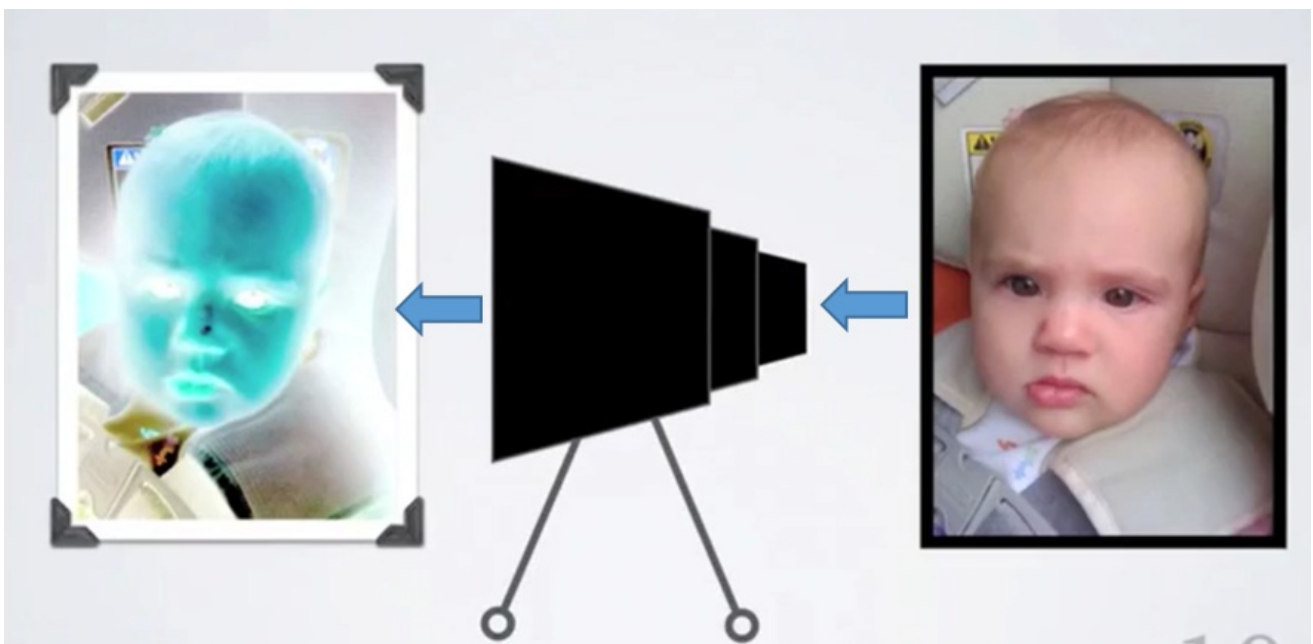
Direct Positive Process

Making a one-of-a-kind photograph without the use of a negative.

3b. Negative Photographic Process and William Henry Fox Talbot

The negative photographic process involves capturing an image with the color values inverted. Darker colors appear lighter, and lighter colors appear darker—the result of using different chemicals that were much more sensitive to light.

The **calotype** process, invented by William Henry Fox Talbot, is a form of the negative photographic process, which served as the precursor to modern photography. The overall process isn't drastically different from the direct positive process. A metal or paper substrate covered in photosensitive chemicals is inserted into the camera housing. Next, the aperture is opened for a certain length of time, minutes to hours. Lastly, the chemicals react with the light, creating a negative image.



DID YOU KNOW

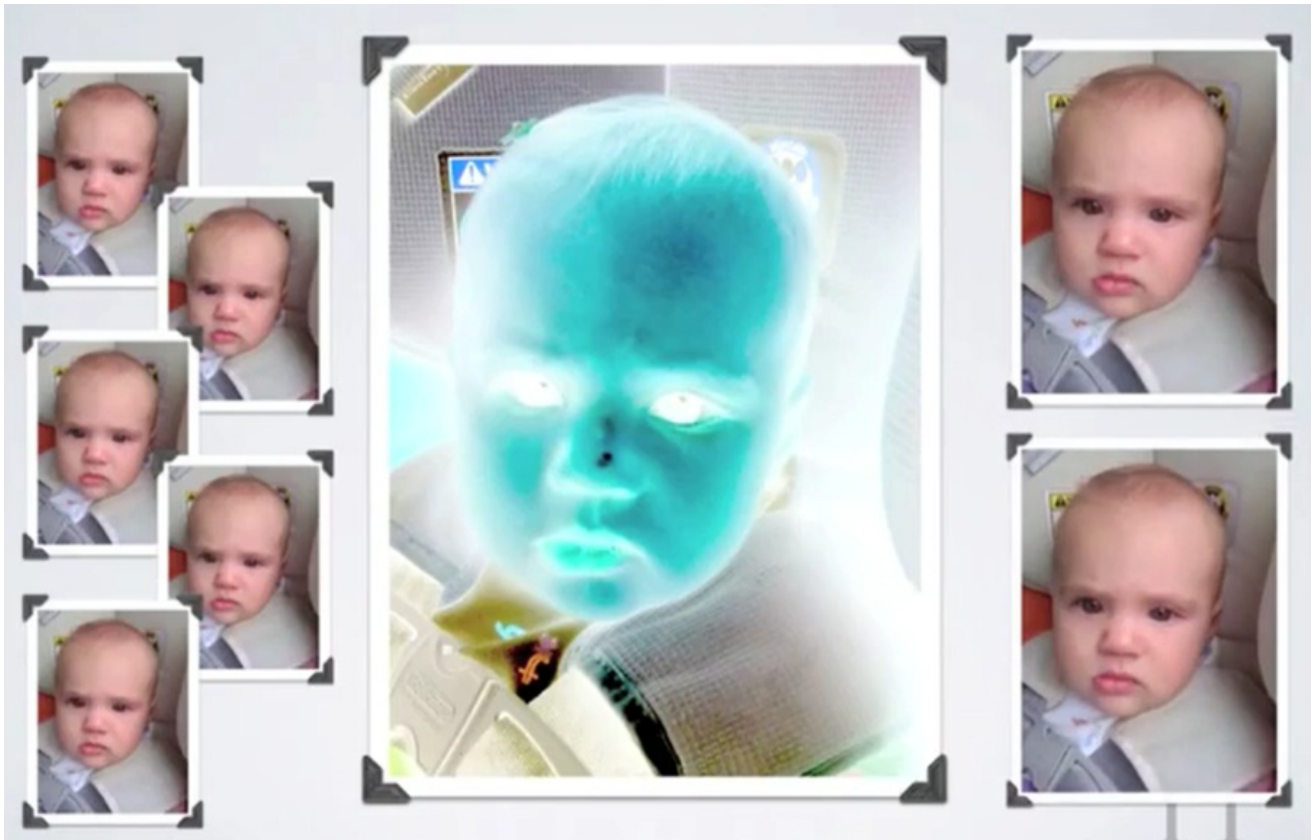
The reason that the colors are inverted (early photos would have only been black and white) is because of the high sensitivity of the chemicals used. Lighter colors mean more light, which would react more

strongly and quickly with the photosensitive chemicals, darkening them.



THINK ABOUT IT

What do you think the benefit is of creating a **negative print**? Well, in the process of inverting the color values of the negative during the processing, you can create multiple reproductions from an original negative. In direct positive photography, by contrast, the original photo is one of a kind.



TERMS TO KNOW

Calotype

Invented by William Henry Fox Talbot, 1839, it is the first photographic process using negatives and paper.

Negative Prints

A photographic film that generates a negative of an image on a strip or sheet of film, which can be used to process a reversed order image called a print.

4. Louis Daguerre and The Daguerreotype

Louis Daguerre (full name Louis-Jacques-Mandé Daguerre), a friend and co-experimenter of Niépce, also experimented with early forms of photography. Upon Niépce's death, Daguerre built upon the process that his friend had pioneered, resulting in the daguerreotype, a form of direct positive photography that created significantly more detailed results.



Photography of Louis Daguerre by Jean-Baptiste Sabatien-Blot

1844

Daguerreotype

Now, with the incredible results and eventual decrease in cost as the execution of the method improved, the daguerreotype reigned for many years as the most important form of photography, with people from all walks of life able to afford photographic images.

Daguerreotypes use a silver-coated surface as the substrate—the base metal—which tarnished and scratched easily. This meant that they needed to be sealed under glass and kept in a protective case. The direct positive process also meant that photos were one of a kind.



DID YOU KNOW

The fact that these photos were one of a kind created a somewhat mystical association with the photographs. It was believed by many that the image contained the spirit of the person depicted. Because of the exposure time needed, early photographs were often of still lifes or scenes in nature. The photo shown below is actually of a rather busy street, but because of the exposure time—which is 10 minutes or so—it appears to be otherwise.



Boulevard du Temple by Louis J. M. Daguerre

1839

Daguerreotype

The only sign of life that does appear in the photo is this image of a person who you can assume is purposefully posing in this scene.



TERM TO KNOW

Daguerreotype

Invented by Louis J.M. Daguerre in France 1839, the first commercial photographic process producing a permanent direct positive image on a copper plate without the use of a negative.

5. The Calotype: Examples

As mentioned before, William Henry Fox Talbot developed the first form of photography that used paper and a negative, in which the color and light values were inverted. Remember, the use of a negative meant that multiple positive images, or prints, could be made from just one negative. Here is an example of one of Talbot's calotypes:



Miss Horatio Feilding Playing the Harp by William Henry Fox Talbot

1842

Calotype



This also served as the precursor to the 20th-century film camera that dominated until the proliferation of digital cameras near the end of the 20th century.

Early in its existence, photography encountered resistance from the art community in declaring it not “true art.” Photographers developed the Pictorialist movement as a way of establishing photography as a valid art form. The piece below by Oscar Rejlander is an example of Pictorialist photography.



The Two Ways of Life by Oscar Rejlander

1857

Calotype

Pictorialism involved photomanipulation in order to make the photo look more like a print or painting. Rejlander's photo above is actually a composite of multiple individual images spliced together. It depicts the two ways of life, virtue (below, left) and vice, or sin (below, right).



SUMMARY

Today you learned about **early photography**. In addition to learning how to identify and define today's

key terms, you also learned about the history of early photography, including the precursors to the invention of photography—the **pinhole camera** and **camera obscura**. You learned how to describe the two **methods of photographic processes**: **direct positive process**, used by pioneering photographer **Nicéphore Niépce**; and **negative photographic process**, a form of which is the calotype process, invented by **William Henry Fox Talbot**. Lastly, you examined **examples of early forms of photography**: **the daguerreotype**—a form of direct positive photography—and **the calotype**.

Source: This work is adapted from Sophia author Ian McConnell.



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