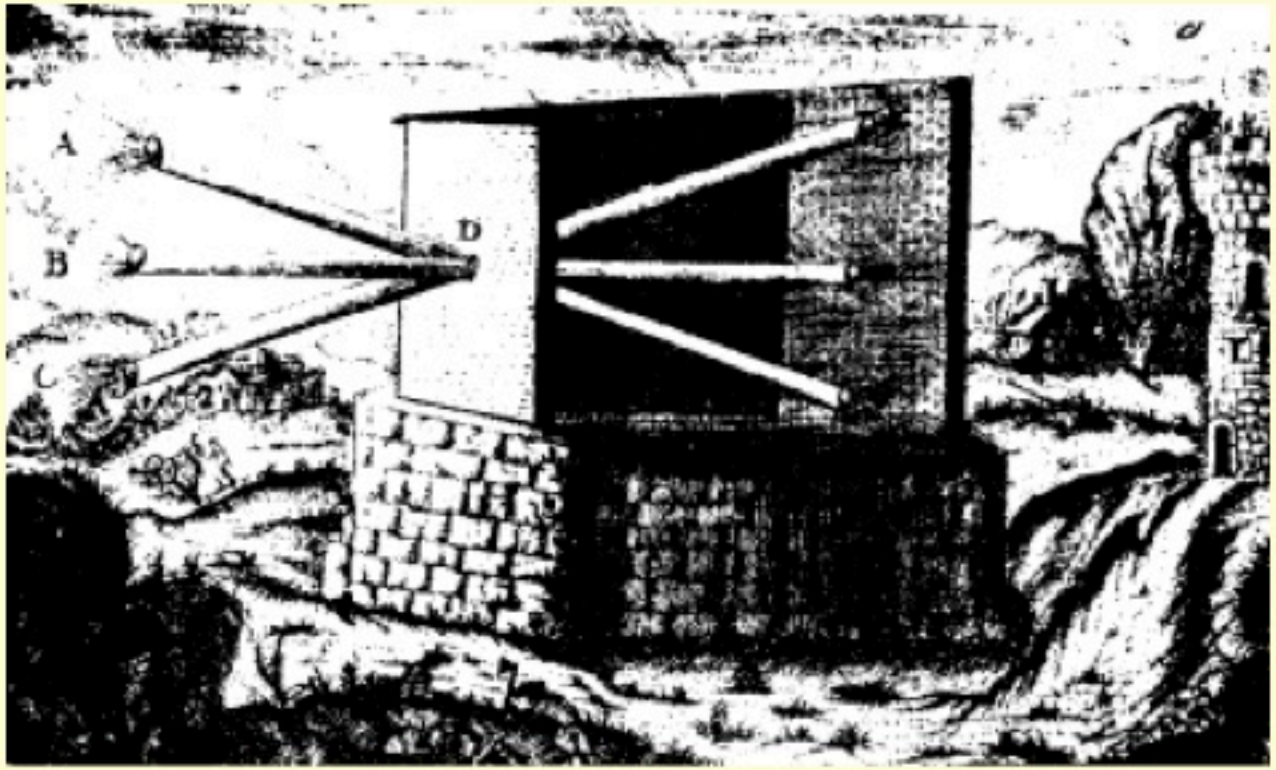
A HISTORY OF PHOTOGRAPHY

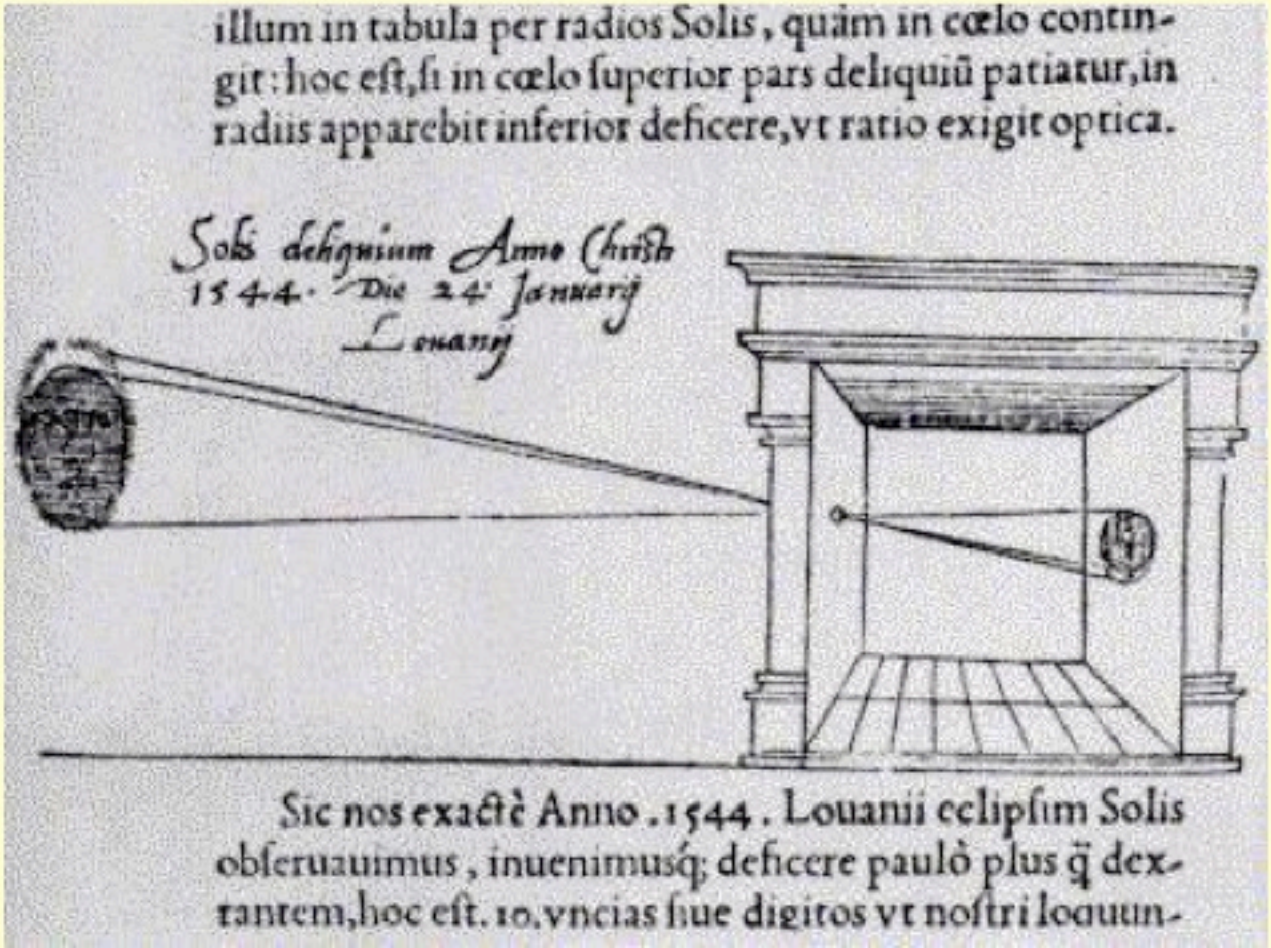
The word photography came from two Greek words that mean "writing with light." The first time the word "photography" was used was in 1839, the year the invention of the photographic process was made public, by Sir John Herschel.

The Chinese were the first people that we know of to write about the basic idea of the pinhole camera or *"camera obscura"* (Latin words meaning "dark room"). About 2,500 years ago (5th Century B.C.) they wrote about how an image was formed upside down on a wall from a pinhole on the opposite wall.

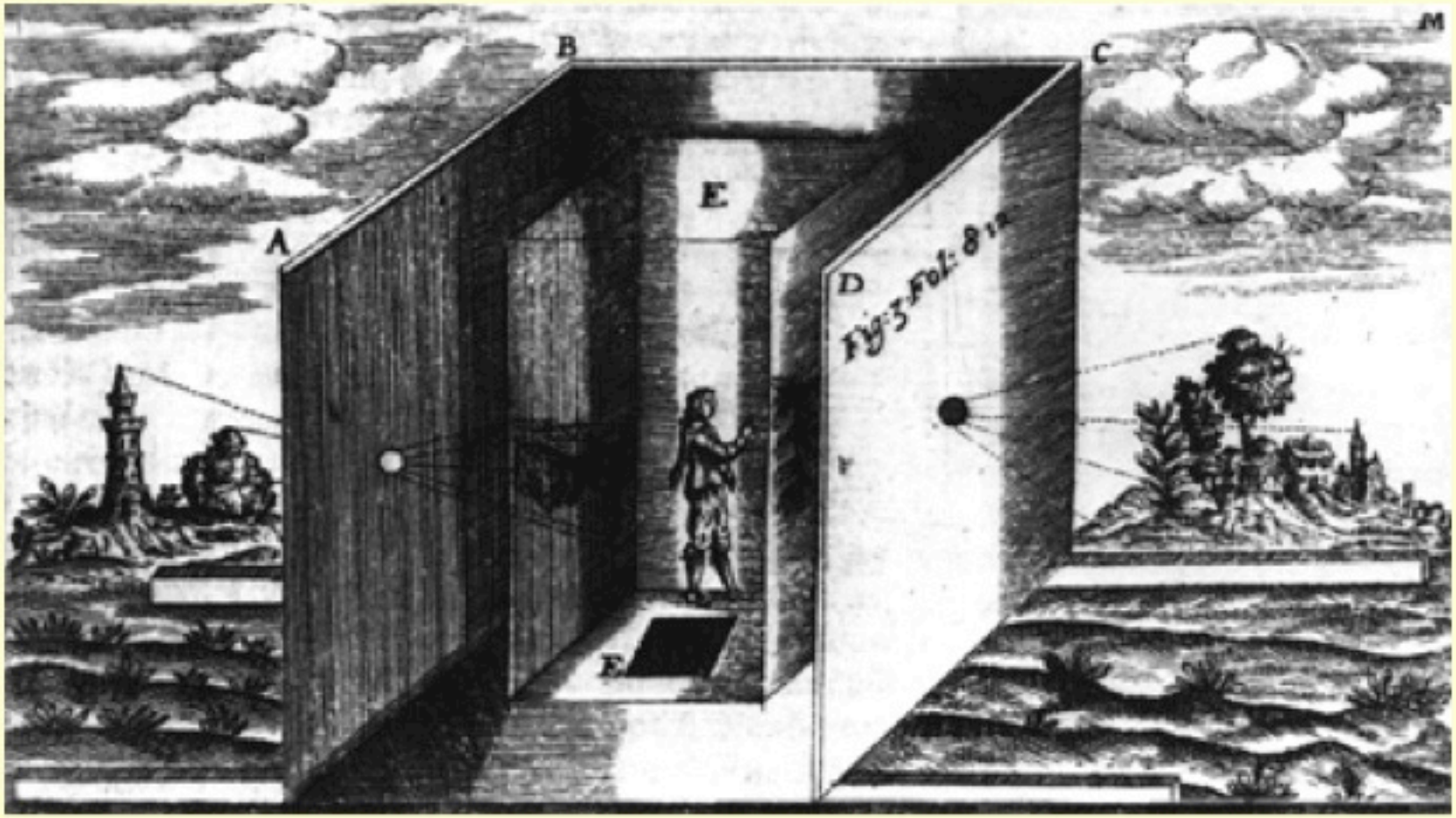


About 2,400 years ago (4th Century B.C.) the famous philosopher Aristotle talked about a pinhole image formation in his work. He wondered why "when light shines through a rectangular peep-hole, it appears circular in the form of a cone?" He didn't find an answer to his question and the problem wasn't answered until about 2,000 years later in the 1500s.

In the 1500s many artists, including Michelangelo and Leonardo da Vinci, used the "camera obscura" to help them draw pictures. A person or object would be outside the dark room and their image was reflected on a piece of paper and the artist would trace it.



This is a drawing of a camera obscura done in 1646. This drawing shows an outer shell with lenses in the center of each wall and an inner shell with transparent paper for drawing. The artist needed to enter by a trap door in the bottom.



The camera obscura was used in the painting of this picture. It was painted about 1660 by Jan van der Meer van Delft (aka Jan Vermeer). His paintings are known for their "camera-like" detail and quality - but were painted 150 years before the invention of the camera

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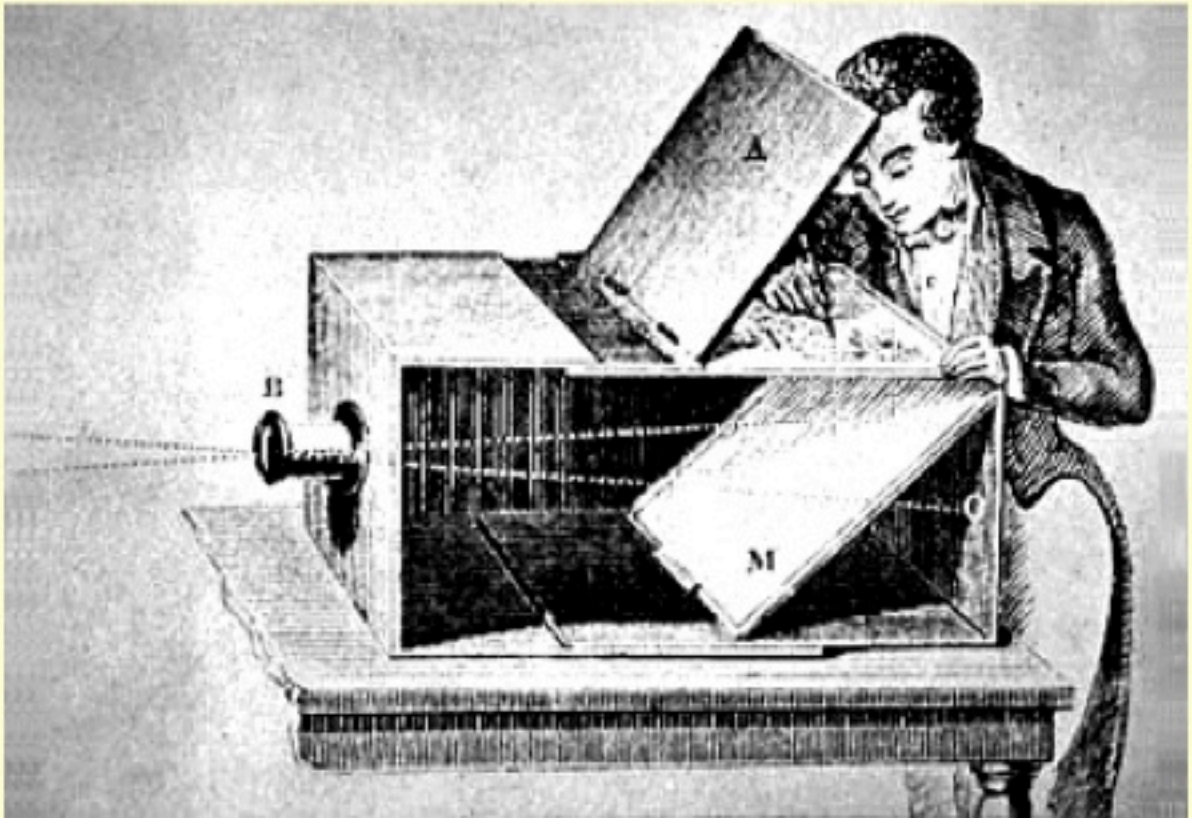
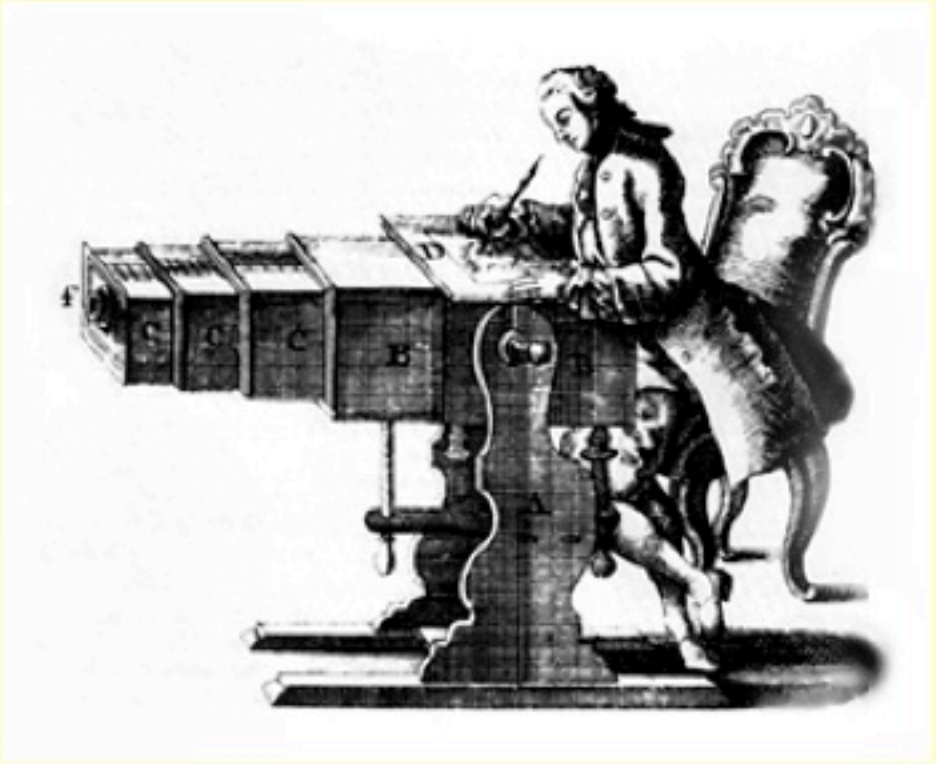
"View of Delft"

The camera obscura is believed to have been used in this painting by Jan Vermeer. He painted this in 1665. He was a great master who made paintings that to this day still amaze people with how much they look like a photograph.

The camera obscura was made portable by the 1700s by putting it in a box with a pinhole on one side and a glass screen on the other. Light coming through this pinhole projected an image onto the glass screen, where the artist could easily trace it by hand. Artists soon discovered that they could obtain an even sharper image by using a small lens in place of the pinhole.



Two types of portable cameras obscura.



Drawing of "portable" camera obscura from 1769 (right).

Extremely important to the invention of photography was knowledge of how sensitive to light certain materials were. More than 2,000 years before the invention of the camera obscura, the ancient Phoenicians (the first civilized nation in the world) knew that a certain snail left a yellow slime that turned purple in sunlight.

The Phoenicians came from the eastern shore of the Mediterranean Sea in land we now call Lebanon.

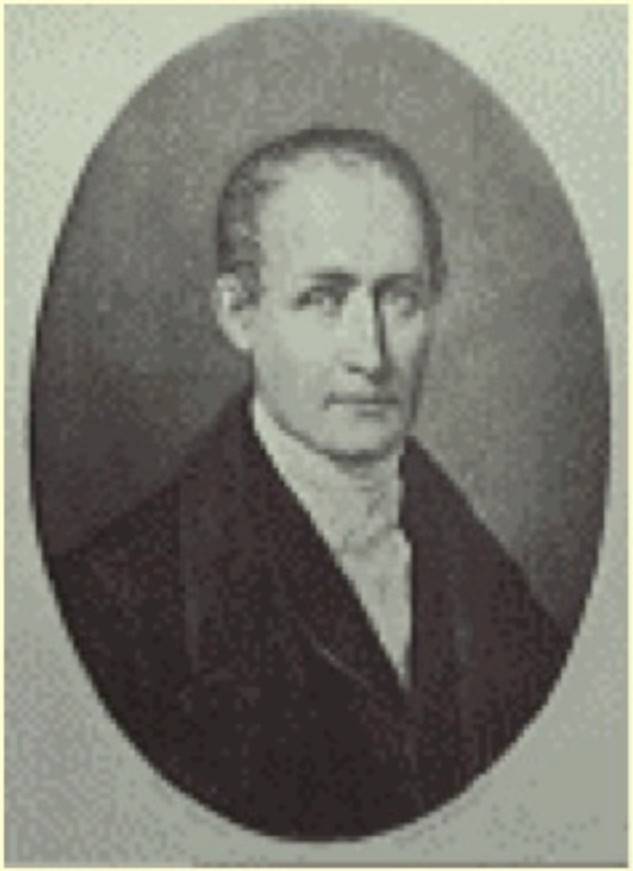
In 1727 a German professor, Johann Heinrich Schulze, observed that silver salts darkened when exposed to light. But the idea of making pictures using this information did not occur to him. That invention required the talents of a later generation of scientists.

In 1800 a young English chemist, Thomas Wedgewood, was making "sun pictures" by placing leaves on leather that he had treated with silver salts, but he couldn't find a way to stop the darkening action of light and his leaf images faded into blackness.

For the birth of photography to happen two key discoveries were still needed: a way to combine light-sensitive material with the camera obscura device and a way to make an image permanent.

"View from the Window at Le Gras, France"

The birth of photography happened in 1826 when a French scientist, Joseph Nicephore Niepce, put a plate coated with bitumen (an asphalt used in ancient times as a cement or mortar) in a camera obscura. He put the camera obscura facing his house for eight hours and made a photograph. It is the earliest camera photograph that we still have today. Here is that first photograph.



Niepce (left) began sharing his findings with Louis Jacques Mande Daguerre (right), an artist who owned a theatre in Paris. They became partners three years later. Daguerre's most important discovery came in 1835, two years after Niepce died.

Daguerre found that the chemical compound silver iodide was much more sensitive to light than Niepce's bitumen. He put a copper plate coated with silver iodide in a camera obscura, exposed this plate to light for a short time, then to fumes of mercury and an image appeared! One problem remained, the image darkened over time. Two years later he solved this problem by washing away remaining silver iodide with a solution of warm water and table salt.

Daguerre

Still life

1837