

## A BRIEF HISTORY OF PHOTOGRAPHY

It is difficult to imagine going through a day without encountering a photograph. Flashing on phones and computer screens, hanging on walls, featured in magazines and advertisements, and decorating many of the items for sale in stores, photographs are everywhere. On social media people use photographs to track what their friends are up to and share what they are doing. Yet photography is a relatively recent invention, even though humans have understood its basic elements for a long time. The word “photograph” comes from two Greek words: *photos* (“light”) and *graph* (“to draw”) (Gernsheim). The story of photography’s invention, therefore, is a story of humans discovering how to use light to draw and preserve images of the world around them.

For thousands of years, humans’ only way of capturing images was to draw or paint them by hand. It is possible, however, that even some of the first drawings were aided by some version of photography. Aristotle, a Greek philosopher who lived more than two thousand years ago was aware that “light passing through a small hole into a darkened room produces an image on the wall opposite” (Gernsheim). This effect would come to be known as a “camera obscura,” which comes from Latin words meaning “darkened chamber” (“Camera Obscura”). A camera obscura is a darkened room or box with a small hole at one end (hence its other name, “pinhole camera”). The image of the object outside the hole is projected on the opposite wall of the room or box.

The camera obscura was “a great aid to artists in making sketches on location” (Gernsheim). Artists would use the device to make their drawings more realistic by tracing the outlines of the images or studying them for perspective. It was not until the nineteenth century, however, that scientists and artists made serious attempts to record the images that light made in these devices. Louis-Jacques-Mandé Daguerre, a French painter who had previously used the camera obscura to aid him in his art, created what are considered the first modern photographs. Daguerre teamed up with Nicéphore Niépce, who had also been trying to create lasting images from the light in camera obscuras and had produced “real results as early as 1826” (Daniel).

Niépce was able to record an image from a camera obscura using a two-step process. First, a plate coated with a chemical that was sensitive to light was exposed to the image inside the camera obscura. Then the plate was developed with another chemical that highlighted the changes the light had made. Niepce’s process required eight hours of sunlight, however, and the results were blurry and impermanent. Niépce and Daguerre experimented with different kinds of chemicals and metals for the plates. Niépce died in 1833, but Daguerre carried on without him. Daguerre finally settled on a silver coated copper plate, treated with iodide, which reacted to the light. He then developed this plate using mercury fumes. This process cut down the time of exposure to several minutes and produced much sharper and realistic images (Gernsheim). By 1838, Daguerre’s experiments “progressed to the point where he felt comfortable showing examples of the new medium to selected artists and scientists” (Daniel).

On August 19, 1839, Daguerre presented his invention to the French academies of science and art, with “an eager crowd of spectators spilling over into the courtyard outside” (Daniel). According to Malcolm Daniel of the Met Museum, “The process revealed on that day seemed magical.” The

“daguerreotype,” as Daguerre had named it, was “a remarkably detailed, one-of-a-kind photographic image on a highly polished, silver-plated sheet of copper” (Daniel). With these “magical” images recorded on metal, Daguerre began the age of modern photography.

Of course, not even Daguerre could predict the effect that his invention would have on the world or how popular and important photography would become, but from the beginning he understood that photography could be used for “artistic expression and as a powerful scientific tool” (Daniel). Daguerre produced images of shells and fossils and used the magnifying power of the microscope to produce other images, allowing scientists to study the anatomy of spiders, for example (Daniel). Many advancements in the materials used to capture images followed, as scientists experimented with different types of metals and glass. George Eastman, an American inventor, sold the first flexible film roll, and “introduced the first Kodak camera with the slogan, ‘You push the button and we do the rest.’” (Gernsheim). Eastman made portable cameras easy and available for anyone to use.

The final step in the evolution of photography was the transition to digital photography. Digital photography records light onto computer storage, rather than chemicals. Instead of light sensitive chemicals, light sensitive lenses and sensors record the image in a digital camera and reproduce it using the pixels, or tiny dots, on a digital screen (“Evolution of Digital Cameras”). NASA was the first use digital photography “as far back as the 1960s” to “map[] the moon’s surface” (“Evolution of Digital Cameras”). Stored on a disk or computer, digital photographs can be easily changed and shared.

Less than two hundred years after Daguerre introduced photography to the world, his invention stands as one of the most important advancements of the modern age. Photography allows people to keep images of their friends and loved ones who are not with them, see events and places they could never go, and understand ideas that they previously were unable to study, such as how landforms change over time or how human memory compares to photographic images of places and events. These advancements are all possible because humans wondered how light, the very property of the world that allows humans to see it, can be used to capture and store images of that world forever.

**Sources:**

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