

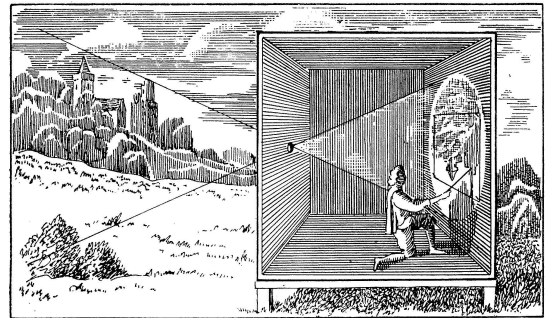


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A Brief History of Photography

Camera Obscura

Light from an external scene passes through the hole and strikes a surface inside, where it is reproduced, rotated 180 degrees (thus upside-down), but with color and perspective preserved.



The First Medium of Photography

Renaissance painters used the camera obscura which, in fact, gives the optical rendering in color that dominates Western Art. The camera obscura literally means "dark chamber" in Latin. It is a box with a hole in it which allows light to go through and create an image onto the piece of paper.

The First Photograph

Niépce captured the scene with a camera obscura focused onto a 16.2 cm × 20.2 cm (6.4 in × 8.0 in) pewter plate coated with Bitumen of Judea, a naturally occurring asphalt. The bitumen hardened in the brightly lit areas, but in the dimly lit areas it remained soluble and could be washed away with a mixture of oil of lavender and white petroleum.



The Silver-Halide Process

Niépce died in 1833 and Daguerre then redirected the experiments toward the light-sensitive silver halides, which Niépce had abandoned many years earlier because of his inability to make the images he captured with them light-fast and permanent. Daguerre's efforts



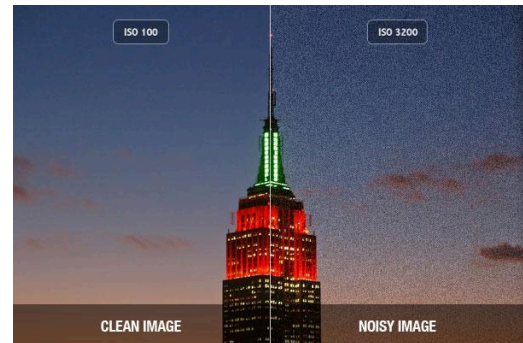
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culminated in what would later be named the daguerreotype process, the essential elements of which were in place in 1837.

Capturing Light

The Sensor - ISO

In very basic terms, ISO is the level of sensitivity of your camera to available light. The lower the ISO number, the less sensitive it is to the light, while a higher ISO number increases the sensitivity of your camera. With increased sensitivity, your camera sensor can capture images in low-light environments without having to use a flash. But higher sensitivity comes at an expense – it adds grain or “noise” to the pictures.

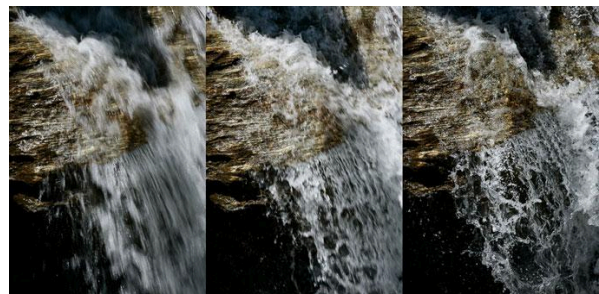


The Aperture - F/stop

The iris of the lens that controls the size (diameter) of the aperture is called “diaphragm” in optics. The sole purpose of the diaphragm is to block or stop all light, with the exception of the light that goes through the aperture. In photography, aperture is expressed in f-numbers (for example f/5.6). These f-numbers that are known as “f-stops” are a way of describing the size of the aperture, or how open or closed the aperture is. A smaller f-stop means a larger aperture, while a larger f-stop means a smaller aperture. For example, f/1.4 is larger than f/2.0 and much larger than f/8.0. One important thing to remember here, the size of the aperture has a direct impact on the depth of field, which is the area of the image that appears sharp. A large f-number such as f/32, (which means a smaller aperture) will bring all foreground and background objects in focus, while a small f-number such as f/1.4 will isolate the foreground from the background by making the foreground objects sharp and the background blurry.

Shutter-Speed

Shutter speed, also known as “exposure time”, stands for the length of time a camera shutter is open to expose light into the camera sensor. If the shutter speed is fast, it can help to freeze action completely, as seen in the above photo of the dolphin. If the shutter speed is slow, it can create an effect called





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“motion blur”, where moving objects appear blurred along the direction of the motion.