Photography and the Six Perspectives

1) Historical Perspective

The camera predates the photographic process by at least 1,000 years. Aristotle wrote about the phenomenon of light that produces an upside-down view of the outside world through a pinhole in a wall of a darkened chamber, called a *camera obscura*. From what is now Iraq, Abu Ali Hasan Ibn al-Hayitham, or simply al Hazen for his western friends, was the first to use the principle to watch an eclipse of the sun inside a tent in a year 1000 to solidify his ideas about the speed of light and the fact that light travels in straight lines for his scientific work *Book of Optics* published in 1021.

Artists used the camera obscura as a tool to trace rough sketches of natural scenes on paper or canvas, to be filled in later with paint. In year 2003 motion picture *Girl with a Pearl Earring*, the artist Jan Vermeer shows the maid, Griet, how to see images with the device. The camera obscura device led to the idea of using photosensitive materials in place of a canvas.

Throughout the history of photography, nine main photographic processes have preserved the views captures through the camera obscura: the heliograph, the daguerreotype, calotype, wet-collodion, color emulsions, gelatin-bromide dry plate, holography, instant, and digital.

*Heliograph*

Joseph Nicephore Niepce has been called the founder of photography because he produced the first permanent photograph.

The process was called heliography because, the process never attracted much public attention because the exposure time required was about eight hours; the image was extremely grainy in appearance.

*Daguerreotype*

Louis Jacques Mande Daguerre was born in 1789 in Cormeilles, France.

Daguerre switched from pewter to a copper plate and used mercury vapor to speed the exposure time. These technical changes resulted in a one of a kind, reversed image as if seen in a mirror, of extraordinary sharpness.

*Calotype*

Calotype was invented by William Henry Fox Talbot. The process is the foundation for modern photography.
Because a positive image had to print through the paper fibers of the negative view, Talbot’s pictures never achieved the sharp focus of daguerreotypes.

The process represents the first instance in which the modern terms of negative and positive were used. Once the negative images were created, any number of positive prints could be made.

**Wet- Collodion**

Fredrick Scott Archer’s wet-collodion process produced glass negatives of amazing detail and subtlety of tone that could be used to make hundreds of positive prints. The exposure time was a remarkable 10 seconds.

**Color Emulsions**

James Clerk Maxwell is credited with producing the first color slide. Maxwell made three separate pictures of a ribbon through red, green, and blue colored filters. When he projected the three separate images with the colored light from each filter at the same time and aligned the views, the color slide was the result.

**Gelatin-Bromide Dry Plate**

Dr. Richard Maddox of London created a light-sensitive emulsion with silver bromide that could be manufactured, stored, and exposed much later by a photographer, unlike the wet-collodion process that had to be taken with the emulsion damp and developed immediately.

With his invention, photography was advanced to a point of which it could truly be a successful mass medium.

George Eastman of Rochester, New York, invented cameras that used gelatin dry plate films in long rolls. In 1888, he introduced his $25 Kodak camera (in today’s dollars, it would cost about $500).

**Holography**

The unique aspect of holographic images is that they reproduce a three-dimensional view of an object photographed on one sheet of film.

**Instant**

Edwin Land was a prolific American inventor with more than 500 patents to his name.

In 1948, he introduced his most famous invention- the black and white Polaroid 50 second film camera. Instant photography was born. About 15 years later he announced a color version, calling it Polacolor.

**Digital**
In 1981, Sony introduced its electronic still video camera, the Mavica (Magnetic Video Camera). The camera started the era of digital photography, with all the major camera companies producing true digital models. After an exposure, photographers can use a program such as Photoshop and make exposure, color balance, and cropping adjustments, just as in a traditional darkroom. The computer images can then be sent to anyone in the world via cell phone or a wireless connection.

2) Technical Perspective

The shutter regulates the amount of time a computer chip is exposed to light; the eyelids open and shut so that vision is possible. The aperture is an opening that lets light enter the camera; the pupils with their companion muscles perform the same function for the eye.

In photography, a sheet of thin, light-sensitive emulsion or an electronic process records the picture. Photoreceptors in the back of the eye process the light rays.

Specifically, you should be aware of five main technical considerations when analyzing your own or someone else’s image: lens type, lens opening, shutter speed, lightning, and image quality.

Lens Type

Lenses come in three variations: wide angle, normal, and telephoto. As their names imply, a wide-angle lens gives a viewer an expansive, scene-setting view.

A normal lens mimics the angle of view as seen by the human eyes and is seldom used by professionals. A telephoto lens produces a close-up, narrow perspective of a scene with the foreground and background compressed. It also has a shallow depth of field with little in focus. If a photographer wants a viewer to see many details at once, a wide-angle lens is preferred over a telephoto lens.

Lens Opening

A small opening or aperture will produce an image with much greater depth of field, whereas a large lens opening will have a shallow depth of field.

Shutter Speed

A speed of 1/30th of a second or longer will usually cause blurring of anything that moves. A faster shutter speed will stop motion and is required to overcome shaking of the camera during the exposure (referred to as camera blur). An important feature of many modern cameras is motion stabilizer technology that produces a sharp image during longer shutter speeds and/or jarring conditions such as on a motorboat.
Lighting

There are two kinds of lighting: Lighting that comes from available sources and lighting that the photographer beings to a location.

The most commonly used artificial light for location work is the electronic flash.

Image Quality

As a general rule, a picture is considered properly exposed if it shows detail in the shadow areas and in the light areas. Contrast is defined as the difference between the black and white tones of the image. A low contrast image has little differences in light and dark areas; a high contrast picture has extreme differences.

For web presentations a pixel-per-inch, or dots-per-inch (DPI), resolution of 72 with GIF, JPG or PNG picture formats is fine. For printed work, however, a DPI of 300 or greater saved as a TIF file is preferred.

3) Cultural Perspective

Photographer as Portraitist

One of the earlier uses of the photographic medium was to capture the faces of people, both famous and ordinary.

David Octavius Hill and Robert Adamson made sensitive studies of ordinary people. Julia Margaret Cameron, one of the few women in visual communication history, made dynamic images of her famous friends.

Gaspard Felix Tournachon, or Nadar, as he was known, matched his bold shooting style with the strong personalities of the day.

Brandy is credited for the daguerreotype image of President Lincoln that appears on the redesigned five-dollar bill that was first issued in 2008.

The portrait tradition continued with August Sander’s portraits of everyday German citizens before WWII, Diane Arbus’s direct and sensitive portraits of extraordinary subjects, Irving Penn’s series of everyday workers, Richard Avedon’s large-format images of known and unknown Americans, and Philip-Lorca Di Corcias “Heads”, portraits of random pedestrians at Times Square, New York.

Annie Leibovitz, made the sensitive portrait of John Lennon and Yoko Ono taken for Rolling Stone early on the day for the Beatle’s death.
A newcomer Suzanne Opton, whose close-up portraits of American soldiers who have served in Iraq or Afghanistan have been shown in print, on websites, and on public billboards.

*Photographer as Painter*

A photographic school known as “straight photography”, headed by Edward Weston and Ansel Adams, shunned manipulated work. Contemporary photographer Vicky Alexander, Richard Prince, and Mike and Doug Starn use “cut and paste” techniques to produce elaborate artistic renderings.

*Photographer as Landscape Documentarian*

Answl Adams, Bullock, and Harry Callahan all have made photographs that record exquisite nature’s beauty and sharpen our senses.

Paul Raphaelson captures hauntingly beautiful post-apocalyptic urban landscapes.

*Photographer as Artist*

One of the most important figures in elevating the medium to a fine art was the American Alfred Stieglitz. He was a strong proponent of modern art photography and inspired many photographers to build that tradition. Recent photographers who view photography as a way of expressing a deeply personal statement include Lucien Clerque, Yasumasa Morimura, and Sandy Skoglund.

*Photographer as Social Documentarian*

Because images have the capacity to spark interest and convey emotional messages, many photographers have used the medium to shed light on social problems.

Henri Cartier-Bresson in the 1930’s with a small, handheld camera, showed views of ordinary people. He captures the “decisive moment”- a term used to describe the instant when content and composition are at their most revealing.

The FSA photographers documented living conditions of homeless people for the U.S. government during the Great Depression.

W. Eugene Smith, produced photographic stories that illustrated the lives of diverse individuals.