Visual Mass Communication through Technological Development between Single Lens Reflex Cameras and Mirorrless Cameras

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Abstract:

The idea of photography began thousands of years ago, and many theories contributed to the invention of photography. The ancients relied on their creative minds to try to understand the light and its nature. The Greek philosopher **Aristotle** said that light is the activity resulting from what is transparent. And that transparency is a fundamental property of various materials, and when activated by the sun or fire, resulting in light and color. In the fifth century BC, **Impedocles**, a Greek philosopher in the pre-**Socrates** period, assumed that everything consisted of four elements: fire, air, land, and water. He believed that **Aphrodite**, the god of love in Greek mythology, had made the human eye of these four elements, and that it had left the fire in the eye to bring out from the eye the light that made vision possible. If that were true, one would be able to see at night as in the day, so **Imbedocles** assumed that there was an interaction between rays emanating from the eyes and the rays emitted from the source like the sun. In about 400 BC, **Plato** developed the theory of emissions.

The idea of digital imaging technology began since the invention of the television broadcast1951, where the optical image is converted into a package of digital electrical signals. Television broadcasts were started until the digital cameras developed, specifically in the 1960s, where **NASA** developed the technique and used it to shoot through space. Imaging and sending digital signals to the ground. At that time the computers were in progress and the images were processed, displayed and processed on computers.

In the beginning and mid-1970s, specifically in 1975, Kodak produced the first digital camera, where digital sensors were invented by megapixel camera and the images were displayed on the computer or television and a new era of photography began.

In 2008, Panasonic announced (**Lumix G1**) the first professional **mirrorless** camera in the world. Cameras (Mirror less) are known as the compact system camera or (CSC).

This design for **DSLR** has been in place for a long time and even now. With the addition of some modifications to suit the hand and fit the comfort of the user. This is one of the most important features of **DSLR** when compared to **Mirror less**, which is simpler and easier to use.

As technology continues to evolve, photographic machines have the ability to capture motion pictures (video).

There is no need for a mirror. So that the subject will be reflected in the vision finder. The vision is when the animation is shot through the screen in the back of the camera electronically and not visually. As a result of the absence of the mirror, the weight and size of the camera will be reduced.

In 300 BC, Euclid, a Greek mathematician, called the father of geometry, wrote Optica, in which he studied the properties of light. Euclid hypothesized that light went in straight lines

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and described the laws of reflection and studied them mathematically. Claudius Ptolemy, an astronomer, astronomer and geographer in the second century AD, wrote about the refraction of light, a physical phenomenon expressed by physics as the phenomenon of optical ray deflection when crossing the surface between different transparent waters. And the development of the theory (vision) which considers that the objects see by light rays coming out of the eyes.

Al-Hasan Ibn Al-Haytham said that the process of vision is caused by the rays of the eye, or the light entering the eye through physical images, explaining that the beam can not move from the eyes and reaches the distant stars in an instant as soon as we open our eyes. He also opposed the prevailing belief that the eye may be injured by looking at a very bright light, and instead has developed a highly successful theory that explains the process of vision scientifically and logically.

Ibn al-Haitham explained that the vision is done by the emission of radiation from a radioactive source collide with the objects and then reflected on the eye, so the process of vision, and this contrary to the prevailing belief is that the process of vision occurs as a result of the exit of rays of light from the eye to each point in the subject By putting a group of people in a dark room where things can only be seen after a candle is lit, this theory becomes the basis of the process of seeing and then photography, and it has a valuable book written by the name (the scenes).

Ibn al-Haytham presented the first clear description and correct analysis of the dark camera (the dark chamber) or the pinhole chamber. Although Aristotle, Theodore of Alexandria, the Canadian and the Chinese philosopher Mozzi have already described the effects of passing one light through a small hole, none of them mentioned that this light would show the image of everything on the other side of that focus. Ibn al-Haytham was the first to explain this experience with Mesbah. He was the first to succeed in the project of transferring an image from the outside to an internal screen, as in the dark camera that derived the name of the Arabic from the Arabic word "dome" by Latin camera obscura, Dark room).

The first major stage of photography began with the use of the dark room by Italian artists in the sixteenth century and may have been the most famous Renaissance painters used. As a tool of landscape painting.

Leonardo da Vinci observed the possibilities of the dark room in 1490 when he recommended observing the dark scenes that are framed inside a dark room of external objects, which are formed by the rays of sunlight passing through a hole in the wall of the room. Over the next 50 years (Jerome Cardin) introduced in 1550 on this basic principle the optical lens, which was used to correct errors of view, and these lenses convex lens. The second improvement in principle was the introduction of the lens (aperture) that is believed to have been invented by Daniel Barbaro in 1930. These two devices (the lens and the forehead) were added to the dark room to increase the clarity of the images, after which the artists tried to get a dark, portable room by minimizing size. The development of the convex chamber is the basic stage that has been brought to the photographic device that includes the basic elements, the lens and the frame, and the surface on which the image is formed. The name "photography" is credited to Sir John Herschel in 1839, a chemist, mathematician,

and English astronomer. Photography is a Latin word that is made up of two sections (Photo + graph), which means "drawing in light" or "drawing in light." In the middle The 1820s The French inventor and physicist Nesfères Nebes succeeded in getting the first photograph, although the results did not mature at first. The picture lasted for more than 8 hours. The NPS assistant (Louis Daguerre) continued his attempts and developed the process called Basima (Dajiriya), which was considered the first filming that was announced. This process required exposure to the camera for minutes to produce a clear picture in minute detail. In 1839, this date is considered the practical birth of photography.

The Dijerian process relied on metals, and after its success encountered a number of competing processes, such as the English invention William Fox Talbot in 1840 calotype

Key words:
Mirorrless, Electronic Shutter, Digital Camera, DSLR.

The emergence of film cameras:

The photographic film cameras have opened up to the world wider doors to the technology of photography, and has been considered one of the greatest inventions and the most beautiful, it allowed the imaging with great accuracy at the click of a button.
In 1888 George Eastman Kodak released the famous Kodak machine (press the button and we do the rest). This camera is the first box camera with a film wrapped.

In 1896, the first two small pocket cameras were brought to the US market, and the first telescope camera appeared in 1916.

In the early 1930s, SLRs were popular with professional photographers, and in 1934 they were Russian-made. The 110-inch cameras did not appear in 1971, thanks to the spread of photography among a large family sector. It is clear at this time that the amateur switched from the black and white film to the black color, which has been in the market since 1942. Where the first instant camera appeared with colored papers in 1963.

Digital Technology and Photography Cameras:

The idea of digital imaging technology began since the invention of television broadcasting in 1951, where the optical image is converted into a package of digital electrical signals. Television broadcasting began until the digital cameras developed, specifically in the 1960s, where NASA developed the technique and used it in photography through space, The process of imaging and sending digital signals to the ground. At that time computers were in progress and the images were processed and displayed and processed on computers.
In the beginning of the seventies and mid - in 1975, Kodak produced the first digital camera, where digital sensors were invented by megapixel camera and the images were displayed on the computer or television and thus began a new era of photography. Digital cameras developed after that and developed during the 1990s despite the presence of cameras, digital camera (DSLR), and digital cameras rely on sensor sensitivity and the amount of sensitivity of light dramatically and convert the image into digital data, it is like a small computer you can Digital image processing by the computer through several programs such as Alfotoshob, Digital technology is one of the most important techniques of photography because of its high quality and accuracy and great colors and distinctive and identical to the original.

In 2008, Panasonic announced the **Lumix** G1, the first professional **mirrorless** camera in the world The **Mirrorless** cameras are known as the Compact System Camera (CSC) and are similar to DSLR cameras in that they can both But the first is different in terms of the absence of a mirror system that distinguishes the second. Where it is in front of the sensitive surface - the sensor. A mirror reflects the light to the specific vision until the photographer captures the image, removes the focus from the path and reaches the sensor light (the sensitive surface) directly when the shutter is opened and then stabilizes again in front of the sensor (sensor)

The purpose of this simple design is that it allows the photographer to see the same reflected image that will reach the sensor surface, in contrast to the two-lens reflective cameras. Mirror less in English means without a mirror and the mirror is an essential part of the concept of DSLR design. Which means that Mirror less cameras may be smaller, lighter, and can also resemble the large compact cameras that belong to the DSLR cameras and at the same time also differ in some things. Without the mirrors system, Viewfinder, where some cameras rely on the small screen behind the camera or on an electronic Viewfinder.

This design for DSLR cameras has been in place for a long time and even now. With the addition of some modifications to suit the hand and fit the comfort of the user. This is considered one of the most important features of DSLR cameras when compared to Mirror less, which is simpler and easier to use. As technology continues to evolve, camera cameras have the ability to capture motion pictures (video).

There is therefore no need for a mirror. So that the subject will be reflected in the vision finder. The vision is when the animation is shot through the screen in the back of the camera electronically and not visually. As a result of the absence of the mirror, the weight and size of the camera will be reduced. Sensor-sensitive surface directly.

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