

## ESSAY

### How to see a Photograph

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It might be a prevalent memory for many artists but yes when I held the camera in my hand and saw the world through the viewfinder I entered the magical world of seeing the surroundings through the lens. Since then I had been friends with the camera and we had been communicating with each other in a silent language and trying to understand each other. During the time when I was pursuing an under-graduation, I was living in a hostel in Mumbai, India with three roommates out of which two were humans and one was a machine and we called it "Cameo". I liked the name because it sounded relatable to the word 'camera' but later when I found its meaning it became more relevant to me. According to Webster's dictionary the word 'Cameo' means a celebrity playing a small role in a film. Although this celebrity in my life has been playing an important role. In most of the places I had been traveling, Cameo and I had been capturing the world together. As part of a usual process, my mind and eyes observed everyday life and captured it in my memory and in parallel with the help of Cameo it was stored in the form of images or a "photograph". Later, when we printed the photographs, I would give a pat on the back to the cameo for doing good work. This "good work" meant "a good photograph" which showed the correct colour, textures, light and all that my mind saw when I released the shutter. Every time, when I saw these printed photographs, I was amazed at how Cameo could make images nearly to what my eyes would see in reality. This made me curious about the process which was happening inside the machine as it was exactly how the human eye and brain work together. While changing the lenses, I would notice what was inside the camera body and all I could find was a piece of mirror, the convex lens which reminded me of my boring physics class. Although this time it was self-learning/knowing about your companion. This urge of trying to enter the invisible world of visual imagery fascinated me to understand the language of machines. The world of my camera fascinated me and my mind started observing every step the Cameo took while creating a photograph. According to the Oxford dictionary the word "photograph" means "a picture that is made by using a camera that stores images in digital form or that has a film sensitive to light" and the word "image" means "a picture, photograph or statue that represents somebody/something."

Cameo is a digital camera that produces digital images. These digital images have visual data of stories, experiences, and memories with living and nonliving interactions photographed by a photographer. When one sees through the viewfinder, we see through the lens but correspondingly we equally connect to the visual imagery in the mind. There is a constant check within a photographer's mind and the similarity of the visual imagery, what he or she is seeing in front of the eyes and the one which is visualised by the mind. The choice of the words 'mind' and 'brain' keep on changing while I try to explain to myself how the brain and eye play an important role, while the mind observes and feels the invisible. There is a continuous series of actions that the mind perceives.

"The mind by nature is in constant agitation, it is constantly transforming itself into the shapes objects of which it becomes aware. Its subtle substance assumes the forms and colours of everything offered to it by the senses, imagination, memory and emotions. It is endowed, in other words, with a power of transformation or metamorphosis which is boundless and never put at rest.(Zimmer, 2013). The Human

eye is an optical instrument performing every second. “It is a complex process and this occurs throughout differentiated phases where visual information is perceived, recognized, transformed and processed, over three stages: optic, retinal and neuronal. Our eyes form the image of the outside world, the brain interprets the image from each eye “in real time” and vision is the incredible result of highly coordinated teamwork.” (Viñas-Peña, 2021). However the human brain and eyes communicate through neural impulses and the machine( the camera) “communicate through the binary language “ the language of codes”. These codes construct an image digitally.

While observing a photograph as a specimen”, every visually readable element had a question in my mind with an invisible answer. I could visually divide it into different components. visible and non-visible. This also made me think of how the digital camera had been a collaborative effort of inventing a masterpiece which can decode light and produce a “photograph” (photo-light, graph-drawing). In 1839, Sir John Herschel coined a definition of a photograph which says “ a picture obtained by any process of photography”. There were other suggestions like sunprint, and sun-picture which were more related to the use of the sun-light or how sun-light makes an image possible. When the light falls on a subject the easily noticeable visual elements are colour, shapes, texture and yes the light itself. For me the elements were now divided into two parts:

Visible: Color, Shapes, texture, Pixels, and the material on which it is printed.

Invisible: Colour spectrum, Photons, Binary digits.

For the specimen, I chose a photograph which I made from a film camera. This was an image of a bird handler against a white wall. As per my observation, the image was captured on a black and white roll film therefore, the colours were highlighted in only two colours, the dark areas were black and the light areas were white. This happens as in black-white roll films there is no chemical process of coupling with the colour dyes. The darkness of blacks and the colours varied as per the colours present on the visual colour spectrum and the way the light fell on the subject and how the photo-sensitive material detected the light.

We see the visual colour spectrum in our daily life. It is a subset of the electromagnetic spectrum that the human eye can see. ”It is visual energy. The light receivers in our eyes (rods and cones) can only observe a limited subset of this energy. These same lightwaves are captured by the digital camera’s image sensor. All colours are vibrations or wavelengths of energy; the only energy visible with human eyesight”. (Understanding the Basics of Color, 2022). To understand a photograph digitally, I mixed two paint colours and made a photograph. The two colours I chose were black and white. Black absorbs colours and white emits all colours when I mixed the two colours, there was a layer of colour grey which is known to be a “no-colour” in a colour spectrum. While decoding this photograph and extracting the codes behind the image I used the “hex editor”. A hex editor is software which decodes an image in a binary language. The basic hex code represents how much RGB value exists in a colour. These codes are specifically for designers and developers to communicate about the colour scheme. For example, the hex code of black is #000000 ( pure black) where there is no value of Red, green, or blue (RGB). After decoding an image I could read the codes behind an image and wondered how the light carries all this information which is invisible to our eyes and how the image sensor reads and decodes the light.

There is a question to think about, What if there is no light, will there be an image made? The answer is yes, the image will be a dark image filled with darkness without light. Therefore, what the camera sees without light is darkness. It's the light which highlights the visual information and then when light reflects and gets captured in the camera and the photograph is made with all the visual details. This also makes me think of the part where in a photograph there is less light, shadow or no light. Shadow makes shapes and adds a distinguished shape to the subjects or shows the path of the light.

In a photograph the absence of light, amount of light or less light draws the visual details.

To see the macro cosmos of an image digitally and see the pixels which are the tiniest component of an image we take the help of photo editing software like photoshop which helps us to optimise and check the details in depth.

As I optimized the image of the black and white paints, I could see the white and black shade pixels turning into grey when zoomed to the fullest. These tiny little squares had immense data which all together collated and made a photograph.

These small squares are the carriers of binary code information which helps the screen display the exact colour. Optimizing an image and observing each particle (pixel) took me through the cosmos hidden in a digital photograph. This cosmos is the galaxy of binary digits making a photograph. The immense visual information in a photograph is a door to a digital world where the hidden numbers behind a photograph carry a constant communication happening even when the photograph is printed, or digitally stored in front of the human eyes.

**It is a realm that is equally present to us but appears to be non-existent to the unaided eye.**