

Capturing the moment- 1807 onwards

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Our modern world runs on the phenomenon of self-expression - the portrayal of one's beliefs vocally, or better yet, through art. We begin to merge our personas on social media with our reality, invariably obsessing over apps such as Instagram, Snapchat and TikTok. 'Capturing the moment' has been instilled in our minds. This norm extends to aspects of our society that are often taken for granted; watching news stories from around the globe is now a daily ritual. Moreover, social distancing has resulted in people relying on video calling to prevent the disruption of not only schools and businesses, but friendships too, all of which would be improbable without the discovery of photography.



This discovery dates back to 1807 when lithography became a popular form of printing in France. Joseph Nicéphore Niépce, a French inventor, began experimenting with printing an image automatically, rather than lithographically. By coating pewter onto several light-sensitive substances, he made efforts to superimpose stone engravings. Subsequently, he used paper sensitized with silver-chloride to partially fix an image of the view from his bedroom window. He called the process *heliography* - Greek for 'sun-drawing'. Furthermore, he tested alternative supports for bitumen of Judea,

succeeding in attaining a photographic copy of an engraving on glass. In 1826, he used a primitive camera to photograph the first permanently fixed image.

A few years later, Louis-Jacques-Mandé Daguerre devised the first method for photographic development. He used a camera to expose a silver iodide-coated plate to light, which photo-decomposed to metallic silver and iodine. An image was obtained by treating the plate with mercury vapor -which amalgamated the silver- and rinsing it in a concentrated salt solution to remove the remaining silver iodide. A positive image could be viewed by holding this *daguerreotype* in oblique lighting with a dark background. This caused the amalgamated silver zones to appear bright, and the silver plate dark, thus forming a monochromatic photograph.

However, this procedure could only produce one copy. In England, Henry Fox Talbot began developing improvements to Daguerre's method. Talbot's procedure consisted of washing paper successively in baths of saltwater and silver nitrate solution, which generated silver chloride deposits within the fibres of the paper. The damp paper was then exposed to photons through a camera until a dark silver image appeared in the light-struck regions. The prevailing thought about light at the time was restricted to Hooke's Wave Theory of Light; the concept of quanta only arose with Heinrich Hertz's work in 1887. Whilst testing an array of materials of which only some were affected by sunlight,

he observed the photoelectric effect decades before it was formally discovered. Oblivious to the magnitude of his findings, Talbot proceeded to wax the negative sheet, making the paper transparent. He then produced a positive image by shining diffuse light through the negative onto another sensitized sheet. An unlimited number of copies of a photograph could, therefore, be made from any one negative.

This discovery then led to the development of the Collodion Process by Frederick Scott Archer and Gustave le Gray. Their method helped reduce the exposure time of the sensitized plate to only fifteen minutes, and in 1888, their findings soon touched the general public with the production of roll films: spool-wound photographic films with a paper backing that protected it from exposure to light. The first commercial camera was built by George Eastman, the founder of Kodak. Although bulky and expensive, the novelty of Eastman's device made it popular. Soldiers later used it to photograph World War II, revealing the darkest of wartime horrors for generations to see.

Concurrent to the Second World War, the Polaroid Corporation manufactured the *Model 95*- a camera that developed film within seconds. The invention caused a chain reaction; point and shoot cameras, as well as SLRs (single-lens reflex cameras) would soon follow. By 1991, Kodak had once again proved to be at the forefront of



photographic discoveries as they launched the first digital camera. This gave birth to the 'digital era' where we are reliant on photography for entertainment,

journalism, communication, and much more. No doubt Nicéphore Niépce would have felt a mixture of pleasure and astonishment had he lived to see how his success in photographing his backyard has blossomed into a worldwide necessity.

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