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## **I. Introduction**

By definition, a photograph is an image of a person, object, or view that is produced by using a camera and film. Photography is the art of taking photos. Appreciating and paying tributes to the beauty of moments is something we have been told to do since we were little as we would miss these moments later. Reminiscing and nostalgia have been human characteristics for centuries. However, the easy access to cameras has made memories renewable to watch multiple times as per our desire. Being a visual-first medium, it relies heavily on vision to frame and compose the image.

Those with forms of vision loss challenge this assumption, by adapting various techniques, tools and perspectives, they redefine the art of photography in ways that change traditional notions of “seeing”. Their works not only reshape the creative practice, but also challenges the audience to interpret and engage with art in new ways. When a visually able person is presented with a photograph captured by a visually impaired artist, the involuntary immediate thought is often - How can one that cannot see produce visual art?.

The work produced by blind and visually impaired photographers aims to answer exactly that question. It invited audiences to pay less attention to the subject of the image, and rather focus on the story behind the composition presented. It offers new takes on perspective, framing, composition and exposure, leaving the viewer in awe. As this population of artists gains more attention and recognition, it fuels the need for the development of inclusive design and assistive technology in photography, which ensures that artistic expression is accessible to all, regardless of their physical abilities and condition.

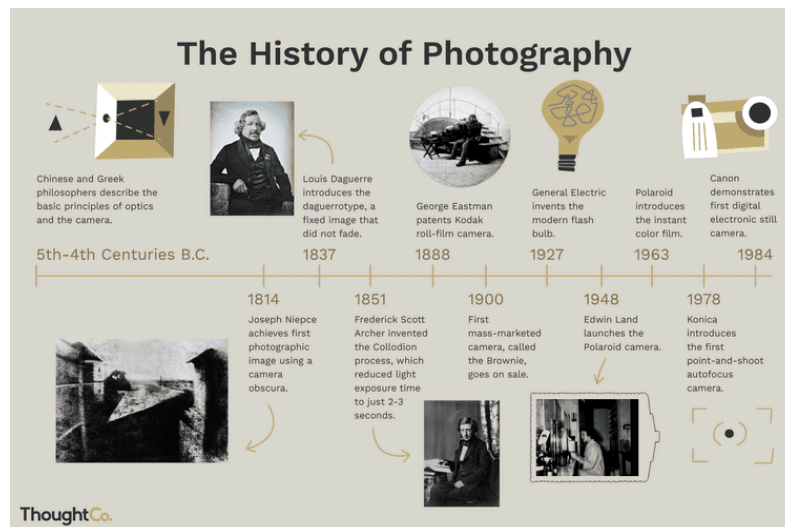
This essay explores how photographers with visual impairments navigate their craft and redefine rules, the increase in public awareness of their works and concludes with the technology and tools which promote inclusive photograph experiences.

## **II. BODY**

## OVERVIEW

Over the last century, humankind has witnessed exponential technological growth, which far exceeds that of the preceding millenium. We have reshaped industries, lifestyles and the way we perceive and interact with the world. The camera evolved from its primitive form as the camera obscura to the modern-day portable cameras which can even be found on spectacles.

The loss of sight is often misunderstood. The common misinformation is that those with visual impairments have had a full erasure of perception. However, being blind does not necessarily mean not being able to see at all. There is a wide spectrum of different kinds of legal blindness and conditions that cause them. However, their common result is not being able to perform certain tasks without assistance. They often have to relearn how to perform fundamental tasks or need extra assistance from others. Yet, this does not stop many from pursuing their dreams, even heavily visual ones; it simply changes their approach to achieving them



**Fig 1. Timeline of photography**

No matter how it is framed, vision is an inexorable part of photography. The history of photography dates back to 1826, with Joseph Nicephore Niepce being the first person to capture an image taken using a camera (camera obscura). Although the basic principles of optics and cameras were theorised centuries ago, this was the onset of humanity's shift from painting to film. People no longer needed artists to paint for hours to make their portraits slightly realistic.

The basics of photography revolve around optics and light, which is inadvertently the main factor of sight. However, light can also be felt. Even when one's eyes are closed, we can feel the light falling on our eyes. As humanity evolves with technology, so must our inclusiveness. When photographers lose their sight at various severities due to various conditions, their way of interacting with their environments changes significantly.

Partho Bhowmick is the founder of Blind with Camera which is a platform where Visually Impaired photographers. There, they not only learn photography and exhibit pictures taken by them but also engage as trainers and earn money. When asked about how those who lost their vision and can no longer depend on sharp sight continue to photograph, Bhowmick explained that they must rely on various tactile cues, auditory signals, their memory of sight, the warmth of the light and cognitive skills. These factors work together to help form a mental image which helps make the judgement of taking the photo. (18) This shift of basics pushes the boundaries of the art of conventional photography. It reveals how photography can be just as much about the result's interpretation and story as its visual clarity.

## **FAMOUS WORKS**

A striking proof of photography not needing to be heavily dependent on sight lies in the works of visually impaired and blind photographers. Their art poses an opposition to traditional rules and deep-rooted bias that links photography and visual aesthetics and perfection. Artists such as Pete Eckert, Bruce Hall and Sonia Soberats have not let their disadvantages backtrack them and have produced marvelous works. If anything, perhaps their lack of one sense and focus on the others is what truly makes their craft standout.

The works of visually impaired photographers give a new perspective on the art itself, by capturing the true essence of the subject beyond aesthetics and rules. It adds a new dimension of "imperfection" which in a way makes it more perfect. It steers away from photography's conventional rulebook of symmetry, exposure, framing etc. The "flaws" of being off centred, overexposed or blurry is what gives life to these works and makes them stand out.



**Fig 2 : Movements of Light by Sonia Soberats**

An example of a visually impaired photographer whose works are well known is Sonia Soberats. Her story is nothing less than tragic, yet she managed to follow her passions. She was a single immigrant mother of two, when things took a turn for the worst. She lost both her children in a span of just 3 years. In that time, she also lost her vision to glaucoma. Refusing to lose her sense of purpose after these dark times, she decided to pursue the arts and photography, creating numerous marvels. Fig 2 is titled “Movements of Light”, displaying her talent in light painting regardless of her impairment.

She works in complete darkness with the help of her visually able assistant. Soberats uses the sense of touch to guide her models. He hands feel every aspect of what will be covered in the image and adjusts them to her liking. She then asks her assistant to open the shutter, which can be open for anywhere from two minutes to an hour, and uses multiple light sources to begin her new masterpiece. The lights she uses range from flashlights to christmas lights. She frolics and darts about the frame and highlights the details she wants to cover in the image. This effort results in ethereal images which have an angelic charm to it.



**Fig 03 - Light Painting By Pete Eckert**

Another visually impaired artist that mastered light painting is Pete Eckert. He is an infamous blind artist who has collaborated with multiple high end brands such as Swarovski, VW and even Playboy. He even has an article written on him by UCLA. Contrary to assumptions of photography being his passion from the start, Eckert did not take photography as a serious job until after he lost his vision. He was originally an industrial designer and a sculptor and was on the path to study architecture at Yale. However, he had to give up those dreams after getting diagnosed with retinitis Pigmentosa.

By using sound, touch and a “mental map” of his surrounding space, Eckert perfects his captures. His photography is characterised by bold otherworldly light trails and layered long



exposures. His works are a reflection of his intuitive understanding of the presence of light over just its superficial appearance. His process is heavily reliant on previsualisation, which is imagining the scene he is about to capture in his mind before taking the shot. Eckert's images invoke curiosity with its emotional intensity, making his work truly breathtaking.

## **PUBLIC AWARENESS IN INDIA**

Partho Bhowmick stumbled upon an article on Evgen Bavcar, a popular visually impaired photographer originating from Slovenia. Bhowmick got immense inspiration from there and decided to conduct a workshop on photography for the blind. For his workshop in 2006, only one student was in attendance. However, Blind with camera has grown significantly over the years and now has over five hundred skilled photographers he works with. Bhowmick also hosts a mobile exhibition - "Sights Unseen : International Photography by Blind Artists" which travelled around the globe since 2010 to ten venues which include but are not limited to : Kennedy Center for the Arts, Washington D.C; Center for Visual Art, Denver, Colorado; Centro de la Imagen, Mexico city and Flacon Art Center, Moscow (2). The works sought to unlearn social stigmas on the indispensability of sight in the arts. Bhowmick's project aims to dismantle the ableist notion of art and to bridge the gap between vision loss and the art of photography. It broadens our understanding of the art form and further explores the restraints imposed by sight.

A 2013 award winning feature film titled "Ship of Theseus" also aimed to grow the awareness, acceptance and appreciation of the Indian audience to blind photographers. The film was accepted with a few eyebrows raised, but more people were now informed of this extension of art which had remained unappreciated for years (1). The film follows three main characters, one of whom is Aaliya, a blind Egyptian photographer in Mumbai. She uses her intuition, surrounding sounds, and touch to compose unique and eye catching photographs. However, she receives a corneal transplant and regains her sight, causing her to struggle with how her creative process and identity as an artist will change. It sheds light on a unique perspective and brings forth the normalcy of pursuing arts with visual impairments.

## **ASSISTIVE TECHNOLOGY**

Technological advancements have always slowly expanded creative possibilities, including for photographers who suffer from vision loss. Modern cameras, smartphones and editing softwares already include various accessibility features designed to support various

differently abled audiences, and continue to add more over time. For example, almost every brand of smartphones include interfaces which can read aloud texts to users (VoiceOver in Apple, TalkBack in Android etc (191). This can be customised by changing the accent, gender and speed of the voice heard. Many smartphones also include voice command, which allows users to interact with their phone even with imperfect sight.

Tools such as haptic feedback and voice command-based camera apps can also help guide users to frame their subjects by using auditory cues. Apps such as “Be My Eyes” or “Seeing AI” also offer real time audio descriptions of the composition in frame, which helps photographers ensure the alignment and lighting is to their liking. Camera manufacturers are also starting to imply more inclusive designs with the help of tools such as autofocusing, which completely discards the need for precise manual adjustment for capturing an image. More features include face detection and automatic exposure, which aid the photographer to take their ideal shot.

A software called “EasySnap” is an Iphone application that aids in blind photography. It bears in mind the requirements and provides users with an accessible photo album to assist them in reviewing and sharing their capture non visually. It provides real time feedback while taking the photos which helps in the framing, exposure and detection of blur. It even has different modes like “People” and “object” which are used for their respective subjects in images - People mode is designed to aid in taking photos of a person by detecting faces, while Object mode reports the object’s position in frame (409).

While such tools do not fully help completely replicate sight, they assist in the collaboration of technology and human perception. It promotes inclusivity and is continually evolving to improve its range. These new features help shape very exciting new aspects of visual arts and the enabling of non visual based individuals to contribute to visual products which helps in broadening the very principles of photography itself.

### **III. CONCLUSION**

Vision loss can be caused by various conditions and has various areas of impacts. Some lose central vision, some lose peripheral vision, some lose vision later in life, some are born without sight. One common impact across all is having to relearn basics of what they are

used to. However, it should not diminish their worth as a creative voice, but should rather be used to provide a new perspective to the world of art.

Photography by blind artists helps break down assumptions about visual art and proves that perception and creativity are not limited to clear sighted individuals. Through recognition, assistance by others, sensory adaptation, intuition and assistive technology, creators and audiences are both encouraged to question and redefine the fundamentals of visual storytelling. Photographers create images that are inspiring, bold, emotional and intriguing regardless of their ability to see.

As the creative world changes, these artists and their works are a powerful reminder that one's creativity should not be designed by their biology, but should be fueled by passion and imagination. In a future with an abundance of inclusive design and diversity, photography is an art form which will continue to evolve beyond just sight and be a profound form of human expression.

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