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Evolution of Photography: Film to Digital

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Abstract

Due to the ever changing advancements in technology, photography is a constantly growing field. What was once an art form solely used by professionals is now accessible to every consumer in the world. This study analyzes the history of photography from where it all began to where it is today. The literature being studied focuses heavily on the history of photography, specifically in the analog, alternate process, and pre-digital era, where the earliest discoveries were made in creating what is commonly known today as a camera. The goal of this research is to study the evolution and history of photography and use this information to predict where photography will go in the future with technology ever changing. The following research will cover the early discoveries of photography, how the technology evolved from film to digital, and where digital is today, predicting the use of photography in the future.

Through this research, I will be looking at the history of photography and how the first photograph was produced. The evolution of photography will be explained to show how technology has advanced to improve cameras and developing processes of photographs as well as the introduction of digital photography. Comparisons between film photography, digital photography, and cell phone photography will be addressed to show the advancements in technology and how photography has changed over time. I will take these comparisons to create a prediction of where photography will be moving in the future as technology continues to evolve and change.

Camera Obscura

In his book, *The History of Photography from 1839 to Present,* Beaumont Newhall explains how the Camera Obscura, defined as a dark room, was first used for the production of photographs (1982, 9). The basic idea of a camera obscura is defined as "light entering a minute hole in the wall of a darkened room forms on the opposite wall an inverted image of whatever lies outside," (Newhall, 1982, 9). This means a room or box was blacked out completely. Then, a small pin hole was created to allow very minimal light to enter the space. From there, the light would reflect what was outside of the room or box upside down on the opposite wall. The first concept of replicating what was seen from this reflection was by Jean Dubreuil, who used a glass window and traced what he saw in front of him. This process was the first step in the idea of duplicating or capturing what was seen outside of painting or drawing (Newhall, 1982, 8). The idea of capturing an image has been around as early as the Pre-Renaissance era, but it wasn't until 1839 that chemical processing was discovered that would allow a photographer to

capture the image in front of him through a light and chemical process rather than paint

elements (Newhall, 1982, 9).

The first portable camera obscuras were produced in the seventeenth and

eighteenth centuries with a fitted lens on the end of a box while the other end was

covered in a sheet of glass. This allowed the camera obscura to be portable, instead of a

dark room that the artist would enter. This advancement allowed the artist to have a

portable camera and to capture different images (Newhall, 1982, 9). The box could then

be moved and the artist would open the box and sketch what was being mirrored onto the

glass from the lens. This was the first process of light reflection that allowed accurate

representation of a subject outside of the field of painting (Newhall, 1982, 10).

Eventually, this portable camera became smaller and was called the camera lucida. The

main difference in this camera versus the camera obscura was the size and ability to

transport the camera between locations. This advancement allowed easier transportation

of the reflective devise, but required a high level of skill from the artist to draw what was

being reflected into a small lens (Newhall, 1982, 11). At this point in history, the sole

purpose of a camera was to reflect, trace, and document a moment in time.

When an artist would go to create an image, they would set up the camera lucida

so the lens would reflect the object or landscape in front of them. The artist would then

trace the reflection to create a duplicate version, also known as a photograph during this

time period. In her book, *A World History of Photography,* Naomi Rosenblum studies the

two major discoveries for capturing an image other than using a camera lucida to trace a

reflection. The first major discovery was the daguerreotype that produced a "unique,

unduplicatable, laterally reversed monochrome picture on a metal plate (2007, 15).

The second major discovery was a negative, which produced an image on paper

that was "also monochromatic and tonally as well as laterally reversed" (Rosenblum,

2007, 15).   These two discoveries both involved the camera obscura and both processes

required chemical and optical principles. The ability to capture a moment in time,

whether it be a person, location, or object, was a great need in the early 1800s because

"cultural and sociological needs… were not being met by pictures created by hand"

(Rosenblum, 2007, 15). The photograph allowed for a more accurate representation and

was used to capture portraits, architecture, and topography (Rosenblum, 2007, 15).

Chemical Processes for the Daguerreotype

Louis Jacques Mande Daguerre was the first artist to successfully create a

chemical process that would capture an image onto a surface. The chemical process used

to create a daguerreotype involved a silver-plated sheet of copper. While this technique

was successful, it was also very toxic to the artist and resulted in many photographers

dying from exposure to the chemicals. Beaumont Newhall describes this chemical

process in his book, *The History of Photography from 1839 to Present,* as:

> "[Daguerre] polished the silver side of the plate mirror bright and chemically
> clean. He sensitized it by putting it silver side down over a box containing
> particles of iodine, the fumes of which reacted with the silver to form light-
> sensitive silver iodide on the surface of the plate. [The plate] [was] exposed in a
> camera. The light forming the optical image reduced the silver iodide to silver in
> proportion to its intensity. [The exposed plate]…was placed over a box containing
> heated mercury; its fumes formed an amalgam with the freshly reduced silver and
> an image became visible. The plate was then bathed with a strong solution of
> common salt which [preserved] the unexposed silver iodine…to further light
> action (Newhall, 1982, 18).

Once this process proved that light could be captured, other artists began experimenting

with other ways to record an image on a light sensitive surface in an effort to create a less

toxic chemical solution. William Henry Fox Talbot found a different solution which

involved paper and a salt process that began by soaking the paper in different chemical

baths before exposing it to light. The paper was then processed to reveal an image on the

paper (Newhall, 1982, 19-20). Talbot's discovery led to other experimentation, which

created a "fixing technique" that artists would use to preserve their images once

developed (Newhall, 1982, 21). Other artists also took this research to create further

advancements in the development of photographic printing. While advancements were

still being tested, not all artists published their results because they wished to perfect their

processes. Artists, including Daguerre and Talbot, still used processes that involved light

painting and tracing reflections from glass (Newhall, 1982, 23).

The Negative

In her book, *A World History of Photography,* Naomi Rosenblum studies the

history of photography, specifically the negative. A negative is when an image is

inverted, so the subjects appear white and the sky appears black. Once the image is

processed to create a photograph, these values are reversed to appear accurate to what is

being seen. In the early years of discovery, photography was defined as "a process

resulting in a negative image that can be replicated almost endlessly to produce positives

in which tonal and spatial values are in normal relationship" (Rosenblum, 2007, 24).

With a negative, the artist was able to print a positive image in any size he wished while

also adjusting the contrast levels, much like what is used today in film photography

(Rosenblum, 2007, 27).

Early Stage of Photography

Michael F. Braive studies the differences between painting and photography in his book, *The Photograph: A Social History,* and explains the key purpose of photography during this early stage of development: to create portraits for subject's households. People often times went to have their portraits painted, but with photography becoming more available to the public, people preferred having their photograph taken because the final image was more accurate than a painting. Because the main purpose of photography was to create portraits, the nickname "death mask" was often times used because people would have their portraits taken and would frame the images in their homes so that future generations could see them and document their existence (Braive, 1966, 44). The term "death mask" meant that the sole purpose of photography was to document the person's existence. Without a photograph, nobody would know who lived before them because there was no other form of proof besides word of mouth.

In this era of the camera and technology beginning to take off, photographs were defined as "evidence" for proving that someone lived previously (Braive, 1966, 44). Braive states within his literature that "whether it is ambiguous or not, however many interpretations are possible of the evidence photography provides, it has clearly revolutionized our art and our habits," meaning that this technology has advanced the art world so much that paintings of portraits were no longer considered accurate (Braive, 1966, 44). People preferred to have their portrait taken by a photographer for documentation purposes. Because of the advances in photography, painters had to turn to individual styles in order to keep their skills wanted by the public.

Evolution of the Camera

When the invention of photography was announced to the public, it was not received well because the process was so complex and not easily accessible for the general public. It was not until later that technological advancements allowed for more people to use photography outside of professional use (Rosenblum, 2007, 27). The art of photography advanced rapidly through the nineteenth century. However, these advancements required the changing of the camera itself.

Todd Gustavson studies chemical processes in his book, *Camera: A History of Photography from Daguerreotype to Digital.* At this time, cameras still required chemical processing to expose the images. Early photographers would use these cameras to try and replicate what they were seeing, much like painters did when painting a landscape or architecture. In order to do this, the photographer would take several photographs and layer the negatives in order to correctly expose for both the sky and the landscapes (Gustavson, 2009, 27). While photography continued to impact other fields such as medical and police evidence, the process was still very tedious. The Daguerreotype cameras at this time could only make one image before going through the development process. Other cameras and technology allowed for multiple images to be made, but the quality was lesser compared to a Daguerreotype. Technology had to evolve to create a camera that would allow for multiple, high resolution images because people were looking for convenience (Gustavson, 2009, 27-28). Cameras that only took one image at a time were not convenient for everyday use. Cameras that captured multiple, low resolution images were more convenient, but the image quality turned consumers away.

Eventually, a new process was developed called dry plate photography, which could capture multiple images before having to go through chemical processing. These advancements made way for film and motion pictures. Gustavson writes in his literature that while these advancements led to motion pictures, the invention of dry plate photography made new headway for photographers (2009, 100). In 1882, cameras were being used to appeal to general audiences, not just professionals. The idea was to create a small, hand-held camera that would appeal to the customer who had no interest in taking a picture (Gustavson, 2009, 100). From here, the look of the camera evolved from a small box shape, to what mimicked the look of a hand gun (Gustavson, 2009, 100). These styles allowed for smaller cameras, which were light weight and easy to carry.

Gustavson writes in the 1880s, "…that roll film became a foundation for camera development," allowing technology to advance at rapid speeds (2009, 116). Cameras were using film and the camera was small enough to produce 4"x5" photographs (Gustavson, 2009, 116). These easy to use film cameras were advertised to the general public, making photography take off quickly (Gustavson, 2009, 120). A man by the name of George Eastman was a key figure in this growing field. He understood the big picture and worked to create a camera that worked on roll film (Gustavson, 2009, 127). Eastman created the brand Kodak, which played an important role in the photography industry because it was the first company to mass produce cameras and sell them to the public. From here, Eastman hired some of the smartest inventors and scientists of the time period to create a camera for the general public that used a roll of film (Gustavson, 2009, 128). The first Kodak camera was created and sold for $25, which was a high price for the time period. The camera allowed the photographer to capture one hundred, two and a half inch

circular images on a single roll of film (Gustavson, 2009, 129). The camera was easy to use for the novice user, and once the film was used up, the photographer would take it to a print lab to have the images printed. The camera was advertised as "Easy to use, press one button and we do the rest" (Gustavson, 2009, 130). This new camera was superior to everything before it because no chemical processes were used. The camera was easy to control and anybody could use one.

Every year, Kodak would produce a new camera model and design to try and create a smaller camera that would be more appealing to the general public. Eventually, in the early 1900s, the Eastman Kodak Brownie camera was created. The first few models of this camera had some flaws, but once perfected, the camera was sold mostly in England and made George Eastman one of the richest people in the United States (Gustavson, 2009, 142). The Brownie camera was mass produced and advertised everywhere for the general audience. Eastman required all manufacturers to have the cameras on hand because once a customer held the camera and saw how it worked, they bought it (Gustavson, 2009, 142). The Brownie camera was so successful that more than 150,000 cameras were shipped and sold the first year they were produced (Gustavson, 2009, 142). This advancement in technology allowed for mass production of the camera as well as other companies to start up their own cameras and create an industry for photography.

Advances in Media Culture in the Nineteenth Century

With the invention of Kodak and the camera industry taking off, cameras began to evolve rapidly to keep up with the advancing world of technology. In her journal article, *Photography Reframed,* Anna Dahlgren writes how photography was affecting the media

culture in the nineteenth century (2016, 2). Mass media is known as image culture, which means in today's society, everything is shown in pictures. Studies show that most people are visual learners so therefore, we remember things by seeing images and photographs (Dahlgren, 2016, 2). Dahlgren studies how the photo album and the printing press affected the media culture in the nineteenth century and how those influences played a role in the advances of technology. The idea of the photo album cannot be tracked down to a single individual instance, but rather began to appear when photography and cameras became easily accessible to the public (Dahlgren, 2016, 3). Dahlgren goes on to explain that photo albums were introduced sometime in the 1850s. By this point, other methods of displaying photographs were also being used such as engravings and prints (Dahlgren, 2016, 3).

After further research, Dahlgren writes about how photo albums were not sold with camera supplies in the nineteenth century, but rather in the "same commercial context as albums of graphic prints" (2016, 4). This means the albums could be found with books and other graphic illustrations so the photo album was not specifically sold for photographs to be placed in them. At this time in history, photographs were seen as a printed medium that would be placed in a frame and hung in a house. Photographs were not printed off in batches and placed in books until the photo album entered the scene (Dahlgren, 2016, 9). This then led to further developments such as the illustrated press. People were drawn to printed imagery because photographs were never printed except in portraits for individual's households. The photo album allowed for images to be printed and kept in a book, including the good images and the bad family photos. The album was

a place to store all these images and memories. With the introduction of the illustrated

press, people everywhere could see a printed photograph.

The illustrated press led to mass production of printed newspapers and magazines

that included visual elements. These visual elements at one point, purely hand drawn

images, but with the use of cameras, the printing press was able to include printed

photographs as well. The illustrated press also led to book production and other forms of

literature. Dahlgren discusses in her journal article, *Photography Reframed,* how

enhancing the photographs in an illustrated press can be done by layout design and other

effects that would draw a reader in (2016, 13). Photographs included in the illustrated

press were a huge success because people were able to have "authenticity and

immediacy," which allowed the viewer to experience a current event in a visual form

(Dahlgren, 2016, 13).

In his book, *Camera Lucida,* Roland Barthes looks at the printed photograph and

the impact a visual element has on a viewer. Barthes (1980) provides a new perspective

on photography and how to interpret an image, stating that photography is unclassifiable

(4). He starts off his research by identifying and defining the referent, or the obvious

subject matter being photographed (Barthes, 1980, 5). He states, "It is by [study] that I

am interested in so many photographs" (1980, 27). Barthes uses his book to explain the

importance of having a printed photograph to hold and look at, much like a printed image

within a newspaper. The importance of holding an image and studying the subject matter

is why the illustrated press and digital media took off. People were used to portrait

photographs creating a time stamp, not a printed image that told a story.

As photography continued to provide advancements in other disciplines of visual media, Robert Hirsch (2015) looked at how the field of photography itself continued to advance. In his book, *Exploring Color Photography: From Film to Pixels*, Hirsch (2015) touches on the history of photography, but his main focus is on where photography is today. Digital photography took off in the twentieth century as computers entered the world of technology. Hirsch looked at the software and technology there is today and how we can go about using them within media and advertisement (2015, 236-242). Hirsch also looks at how we have progressed with advances in technology. With the internet advancing and computer software becoming more accessible to the public, image editing programs and digital formats have begun to take over the world of post processing in photography (Hirsch, 2015, 246-247). Hirsch also goes into instant photography and how photographs are in easy reach for all of society (2015, 260-264).

Gary Anthes (2012) also studies the importance of post-processing and how technology has evolved. In his book, *Smarter Photography*, Anthes compares how digital photography and film photography mimic one another. With advances in technology, however, digital photography has surpassed film in the post processing stage (Anthes, 2012, 1). Post processing is when a photographer edits and adjusts the contrast, exposure, lights and darks, etc. in a photograph by using software on a computer. Before digital photography, if a photographer captured something in the frame that they did not want, they could work to blur that bit of the image in the darkroom. Once image editing software came about, a photographer could cut out pieces of an image altogether and create layers and copy bits of an image to cover up unwanted subject matter (Anthes, 2012 1). This software is allowing photographers to make adjustments to their images in

post processing. Rather than worrying about every fine detail when they are taking a

photograph, a photographer can now rely on photo editing software to adjust fine details

such as contrast levels and exposure times. This technology allows the photographer to

quickly create a clean, sharp image in the post processing stage.

H.H. Arnason and Elizabeth C. Mansfield (2013) write about how art has evolved

from the modernism era to post modernism. In their book, *History of Modern Art,*

advances in photography and other technology influence other mediums of art such as

painting (Arnason and Mansfield, 2013, 609). When photography entered the scene,

painters felt threatened because their works were no longer seen as perfect

representations, whereas a camera could make an identical replication. Arnason and

Mansfield focus on how photography has influenced painters such as Chuck Close

(Arnason and Mansfield, 2013, 610-611).

Chuck Close used photography in his painting to create large portraits that

appeared to be photographs until studied further. He used photography to take a

photograph of his subject and then use it as a reference while he painted their portrait. His

works are breathtaking because of their size and detail. This detail is achieved by

airbrushing, a method of painting where no bristles or brushes actually touch the canvas.

Close argues that "photography is quick and doesn't capture the subject of an image

whereas a painting does because it takes time to create the work and to capture the inner

beauty of a person" (Arnason and Mansfield, 2013, 610-611). Other painters felt this

threat from photography as well, but have taken a different approach. Because painters

were no longer needed to create exact replicas of a subject, artists were able to

experiment and create works of art that held a unique form of self expression.

As technology continues to advance, there are many paths for the field of photography to go. Gary Anthes (2012) looks at the technology we have today and how computers are making it easier for photographers to create any image they wish. One of these advancements includes software, such as Lytro Inc.'s Light Field Engine, which allows a photographer to refocus on any point in the image (Anthes, 22012, 16). If the photographer tries to take a photo, but focuses on the wrong subject such as a tree in the background instead of a person in the foreground, they can go back in post processing and change those focal points. These advances are allowing photographers to point and shoot without having to worry as much about where the camera is focused (Anthes, 2012, 16).

Photography Changes Everything

As technology continues evolving, the world of photography and the way photographs are viewed is forced to evolve as well. In his book, *Photography Changes Everything,* Marvin Heiferman examines how images are seen based on their original locations and the original purpose behind the image. As technology evolved, photography became more accessible to society and embedded in all disciplines (Heiferman, 2012, 7). "Photographs give us a reason to tell stories" Heiferman states, "sometimes the stories are about the subject of the photograph; sometimes about the photographer…"(2012,8). A visual image no longer has a single purpose, but rather, is used in all industries to convey an idea or story to a viewer. Photography proceeds as technology advances but photography is not dying away (Heiferman, 2012, 9). Rather, it is at a crossroad. More and more people have access to smart phones with cameras, allowing people to create visuals that they may not have made otherwise (Heiferman, 2012, 9).

With cameras being so accessible, society has become greedy to see more photographs and visual information (Heiferman, 2012, 11). Heiferman studies this visual phenomenon and reports that Facebook's 750 million users uploaded and shared 100 million photos every day in 2010 (2012, 12). Heiferman explains "we are defined…by the photographs we view, make, use, share, and respond to" in response to the volume of Facebook photos shared daily (2012, 12). Photos are transforming the world, but even more intriguing than the visuals themselves is how people speak and define photography for themselves (Heiferman, 2012, 12).

Camera Phones

In 2010, camera sales dropped by 17 percent, but the number of photographs made on camera-phones rose by 27 percent (Heiferman, 2012, 14). This statistic shows that photography is taking off even though camera sales are dropping. With the convenience of a camera in cell phones, the desire for a digital camera has diminished except for professional use. Heiferman studies the statistics and the evidence of photography expanding is shocking. 1.3 billion photographs are taken daily, resulting in half a trillion a year, and they can span the world in seconds (Heiferman, 2012, 14). The visual industry is not disappearing, but is growing at rapid speeds, forging a new relationship to photography (Heiferman, 2012, 14). With cameras being easily accessible to society, the question changes to say what is the purpose behind these visual images?

History shows the purpose behind photography is to document and capture a moment in time. Photography slows time to a standstill and freezes a scene or moment for viewers to look back on (Heiferman, 2012, 16). What many people don't realize, however, is that photography is also active. Heiferman elaborates on this theory, stating

"it keeps things moving" (2012, 16) because photographs do things. They engage us in the visual itself, but also emotionally, physically, and intellectually. Photographs promote ideas and make the audience feel something (Heiferman, 2012, 16). Photography is no longer just capturing and documenting a moment to look back on; photography is "…aggressively [moving] forward and [is changing] everything" (Heiferman, 2012, 17).

Digital Disruption

Tim Fawns (2015) conducted a study on photography and the impact it had on the ability for students to remember information. This study illustrated that photography is no longer used as a form of documentation, but it is being used as a way to forget (Fawns, 2015, 50). The evidence Fawn discovered showed that "[humans] are slowly becoming dependent on photographs for remembering life events" rather than remembering the moment (2015, 50). With photography and images being easily accessible with cell phone cameras, people are relying on the captured visual to document a moment or life event. Personal photography has become a popular way of remembering and documenting because the digital technology has allowed for easy storing of these images (Fawns, 2015, 51). However, with these technology advancements, humans "prefer [to access external information] rather than go to the effort of recalling internalized information, "creating a lazy society that relies heavily on technology (Fawns, 2015, 51).

Because photography is "cheap, technically simple to learn, and not formally encouraged," more and more people are relying on it in everyday situations (Bourdieu, 1990, 157). This, in turn, results in the picture produced being the highest level of importance rather than the process itself (Bourdieu, 1990, 157). This has led to the debate of classifying photography as art in the same category as painting and other art mediums.

In his book, *Photography: A Middle-Brow Art,* Paul Bourdieu (1990) challenges this debate because he states that "taking, developing, and printing photographs are creative acts, the process is a fragmented one and disruptive to the continuity of inspiration" (1990, 158). This statement challenges whether or not photography is classified as a traditional art form. Due to the convenience of a cell phone camera, inspiration is lost because everyone is taking photographs of everything. Others, however, disagree with Bourdieu and continue to say the traditional methods of taking and producing photographs in the darkroom is considered a form of traditional art making. The debate, however, does not have a definite side because technology is continuing to evolve, allowing more and more people access to this art medium.

John Berger (2006) also touches on this debate in his journal, *Understanding a Photograph.* He states that "a photograph is a result of the photographer's decision" to create and capture a moment in time (Berger, 2006, 1). He goes on to state that photography is nothing like painting in that "composition in the profound, formative sense of the word cannot enter into photography" like it does in painting (Berger, 2006, 2). He goes on to explain how photography is closer to music than to painting because it shows a human action and choice in creating the visual (Berger, 2006, 2).

Berger also brings up the theory of a photograph, while capturing a visual image, is also capturing what is not seen (2006, 2). He explains this theory stating "painting interprets the world, translating it into its own language, but photography has no language of its own" (Berger, 2006, 3). Rather than learning how to look at a photograph like one does with a painting, a photograph allows the viewer to create their own interpretation of what they are seeing and not seeing within the photo.

Other Uses for Photography

Photography is also used in other fields outside of the mass digital world. K. Aranda et al (2015) conducted a study with nursing students to see how they portrayed the community around them through photographs. By using visual elements, the students were asked to take photos that "explore, describe, represent, and illuminate your culture" (Aranda, 2015, 309). They had to capture ten images that fit several other requirements. By completing this assignment, the study helped nursing students portray their thoughts on culture and values while also helping them learn how to provide better care to their patients. Most people are visual learners so by using photography to illustrate their culture, the students were able to think and observe the area around them. This study helped them better understand their own personal community as well as others, which helped them provide better care to their patients (Aranda, 2015, 310).

Much like K. Aranda's study, Christopher Sonn (2014) also studies how photography is used in a community setting. A group of people were asked to photograph how they saw their culture and community around them. The study was conducted by taking the photographs that people captured and putting them up for everyone to see. People were able to see the photographs and comment what they liked and didn't like, bringing the community together. This study showed how photography can be used to express individual viewpoints on the same subject matter. Photography provides a visual for everyone to see and have different opinions (Aranda, 2014, 91).

Another study by Elspeth Brown showed how photography was being utilized in the American corporate culture in the 1920s. Brown's (2005) investigation examined how the corporate world was using photography as a way to "build employee loyalty, reduce

labor turnover, and manage public opinion and consumer desire" (2005, 304). By

incorporating cameras and photographs into the work place, companies were finding that

there was major improvements when it came to "efficiency on the shop floor,

with…work processes and management structures" because employees and customers

were held accountable for their actions (Brown, 2005, 304). Incorporating photography

into the corporate world in the 1920s also helped naturalize racial and class hierarchies

(Brown, 2005, 304).

Technology and cameras continue to advance at rapid speeds. In his journal

article, *After the Artifact: Post-digital Photography in Our Post-Media Era,* Greg

Shapley (2011) studies why people believe there is a chance that photography is going

away. In Shapley's literature, he looks at the impacts photography has had on film and

other digital media platforms. He explains in his study how digital media is at an all-time

demand because of technology advances and how accessible digital media has become.

Photography is being used in the film industry by taking hundreds of photos and putting

them together to make the visual element appear as a photograph, but it is actually a

video clip (Shapley, 2011, 13). This is not realized until the figure or subject matter in the

photograph moves slightly, revealing that it is, instead, a film. "The photographic

imagery…mixes with the [video] media to create an experience in which your mind jolts

back and forth" Shapley states as he explains how photography is collaborating with film

(2011, 12).

Shapley finds that while people may believe that the digital photography world is

fading, it is actually collaborating with different digital media. Some will still argue that

the digital era is ending, but with technology growing and advancing, cameras are

changing to meet these demands (Shapley, 2011, 7). Rather than using photography to capture portraits for documentation, they are being used for advertisements, visual elements, and video. The camera is not going away, but rather, is evolving to meet the needs of the mass media world. Because so many people have access to a camera on their "smart" phones, which has the same amount of technology as a digital camera, the art of photography can be done by many people. Therefore, the art of traditional development processes is believed to be going back to the darkroom, back to the chemical processes. These processes are tedious and more time consuming, but the results can be the same as a digital photograph.

Predictions

From the research conducted, photography has drastically changed over the course of time. The original methods of creating and developing images are still used in the 21st century, but the use of digital imagery is taking off and changing the world of photography. Cell phone cameras have allowed people to have access to digital media at the tips of their fingers, creating an unbelievable amount of visual information every day. With the convenience of cell phone cameras and digital cameras, the ability to create digital imagery is accessible now more than ever before.

From the original methods of printing photographs in the darkroom to using cell phone cameras to take hundreds of digital images a day, photography continues to grow and change as technology advances. From the information I gathered, photography is not dying away. Photographs and visual imagery are used everywhere because people rely on imagery to communicate. It was just announced this past week that Canon and Nikon both released a new mirror-less camera (newatlas.com, 2018, 1). Other competitors such

as Fuji and Sony have already produced mirrorless cameras, Canon and Nikon are only

trying to keep up. Canon and Nikon released this new digital mirrorless camera as well as

a new series of lenses that are compatible with the newest camera body to set themselves

apart from competitors. Apple also announced their newest iPhone, set to release this

year, has new Depth Control software so the user can adjust the depth of field after the

photo has been shot (apple.com, 2018, 2). This technology allows the viewer to take a

photograph and manipulate it later in post processing, rather than perfecting the

photograph in the moment. Within the past decade, cameras have been used in drones to

capture photographs from heights not easily reached. Phase One was the first company to

put a 100mp camera into a drone (petapixel.com, 2018, 1). From drones to court rooms,

uses for a camera are always expanding to capture as much visual imagery as possible.

        These are only a few examples of the latest steps in the technology of digital

cameras, but there is always going to be something new. As each new product is released,

it seems that the industry of photography is becoming more focused on the consumer

rather than the products they are selling. Instead of furthering photography, companies

are more concerned about convincing the consumer to purchase their newest product. By

purchasing the newest camera or lens, the photograph produced isn't necessarily better

than the photograph produced with last year's camera model, but the consumer can say

they have the latest equipment. Every year, a new camera or lens will be released that is

better than the previous year's model.

        Research shows that photographs are being used in industries all over the world,

from the medical world to the design world. Every company and store uses imagery in

their marketing and branding. This need for visual imagery is only going to grow as

technology evolves. Photographs are the essence of our world. They are used in every

industry on every street. As technology evolves, the ability of a camera advances as more

and more people take photographs. I predict that in the future, photography will continue

to collaborate with other medias. These collaborations will lead to further advances in

other areas of technology, expanding the digital world.

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