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Monograph

“The history of photography across time.”

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Acknowledgement

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Summary

Photography is what I can say was the main technological development throughout the 20th century. It all started as an experiment made by Louis Daguerre that created the first reliable visual evidence captured by a machine, this was just the start of what we would see as the evolve of the photography in all the future left for it. It was the main source of visual evidence used in the 1st World War, among its other main roles it played during that century. Cinema is another area which benefited from the photography concept, because, before they started to film real people, they used to capture (with photo cameras) caricature drawings and made a film of it. But, after the scientists of the time developed a way to capture continuous images onto one product, they started to make the movies with real people actors. At the start of the 21st century, we found a pretty functional and state of the art combination between internet, computers and photography. These three things combined with each other to both compliment and create a monster called Social Media. This creation revolutionized the way people communicate and share information with others.

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Introduction

This monographic investigation is about the history of the monograph, specifically the development and the social impact that it had and has throughout history. Its main purpose is to inform the current generation about the importance in day to day photography has in our lives, as well as to give the deserved credits to the researchers and scientists who invested a great part of their lives in the development of this beautiful machine.

People currently use photography with great frequency, but few know where it came from or the effort that an immense number of people had to make to give us the benefit which came from the results they give today. Therefore, this research is aimed at all those people who do not know about the subject and do not give sufficient credit to researchers and scientists.

There are many books that contain and explain the subject, in a much more detail. Nevertheless, these texts are much more extensive, so perhaps taking away the interest of some possible readers. The career of artistic photography today is very common, and unfortunately there are students of this subject who do not know the true history of the origin of their work material and end up using it without even knowing or realizing its historical importance.

Within the research paper, you will find 3 chapters. Each one focuses on a different century, beginning in the 19th century. In the first chapter you can find the first steps on how the concept of photography was born and how it was objectified in the 19th century. In the

second chapter you will see how the concept of photographic cameras was already real and was affecting a society with a very closed mind, apart from the social evolution that it had during the 20th century. Afterwards, the within contents of the third chapter you will find how photography entered the digital era, thus giving way to new techniques that two centuries ago were unimaginable.

Chapter I

How the concept of photography was born

1.1 History before 1900s.

During the 18th century there was a great discovery of two critical principles, the obscure camera and the fact that some substances were altered by exposure to light. Around 1717, the scientist Johann Heinrich Schulzec conducted an experiment based on capturing cut-out letters on a bottle of a light sensitive slurry, but he never thought that the product of his experiment would long too much. It wasn't until 1800 that the scientist Thomas Wedgwood was able to document the first reliable source of documentation, although he was successful in producing photograms, which is a photographic image made or produced without a camera by placing objects directly onto the surface of the light sensitive material, but Wedgwood and Humphry Davy weren't able to make the images to remain fixed to the surface of the photo paper. And as Michael John Langford said (1979),

‘Light is essential to photography. Without light it is impossible to see or take pictures, and it is the light that makes the objects visible to the eye and the camera’.

In the 1820s the scientist Nicephore Niépce managed to make an actual image, but the problem was that it took minimum 8 hours or even several days of exposure (which is the amount of light per unit area). Niepce's associate Louis Daguerre initiated what today we know as the daguerreotype process, the first actual method to obtain permanent images with a camera. This process consisted in 5 basic steps:

- Polishing: This step consisted in the use of a silver plate, that had to be polished to reassembling at mirror to be as nearly perfect as possibly. The silver had to be completely clean when it was sensitized, so the daguerreotypist had to perform the final portion of the polishing and cleaning operation right before.

- Sensitization: The second step was exposing the silver surface to halogen fumes. Initially it used only iodine fumes where used to produce silver iodide, but yet discovery that exposure to bromine fumes increased the sensitivity of the silver halide.
- Exposure: then they proceed to carry the silver plate to the camera in a light-tight plate holder. Withdrawing a protective dark slider or opening a door in the holder exposed to the sensitized surface within inside the dark camera _the removal of the cap from the camera lens began the exposure.
- Development: After the latent image was produced, exposure to the fumes given off by the heated mercury in specially made developing every several minutes in a specially made developing box. In what is known as the Becquerel process (1840), the plate was sensitized with iodine alone.
- Fixing: After development, the light sensitivity of the plate was decreased by removing the remain silver halide with a mild solution of sodium thiosulfate.

Later, Nicephore Niepce died in 1833, nevertheless Daguerre continued with the experiment by implementing the use of copper plates coated with silver iodide to produce the first direct positive pictures. Daguerre discovered that from warmed mercury he was able to bring out an image from the latent image of an exposed plate. He also discovered that by the use of mercury vapor, resulted in less time of exposure was required, 20 to 30 minutes rather than hours as before. In 1837 Daguerre found a way of fixing the images with common salt solution. As Daguerre said (1938), ‘the daguerreotype is not just an instrument that serves to draw nature, it gives the power to produce itself.’

At the beginning of the 1840s the scientist, William Henry Fox Talbot, a famous actor preformed an experiment which was to become a huge success in the photography world he introduced the what today we know as the calotype process (a concept pioneered by the daguerreotype process), using paper coated with silver iodide. The stunning part of this process was that it reduced the time of exposure down to 1 or 2 minutes if the subject was in a bright sunlight. The paper that was shielded from further daylight was removed from the camera and the picture was chemically developed, the result was nothing less as a well seen image. One of the advantages that the calotype process had over the daguerreotype process was that it produced a translucent original negative image from which a couple positives could be made by simple contact printing. The calotype did not have the impact it should have had due to the daguerreotype process which was still the most popular, this was partly due to Talbot having patented his process in England, making it impossible for worldwide developers without the proper approval. On the other hand, we had Daguerre that was being paid by the French government to make his process known to the public. By this time the photography was a booming. A Public opinion stated that:

‘For some, photography augured a modern, bloodless class revolution achievable through the democratic dissemination of knowledge hitherto available only to the well-to-do. Others envisioned a monstrous social degeneration in which the middle class stated with visual fantasies of reality, would repudiate accepted values and become a breed of narcissistic, self-justifying voyeurs.’ (Warner, 2010, p. 2)

In 1851, inventor and scientist Frederick Scott Archer introduced the Collodion process. The “collodion wet plate process” consisted in the photographic material to glaze, refine, expose and develop within the measure about 15 minutes, needing a portable

dark place for use in the field. Collodion process was normally used in his wet form, but it could be used in his humidity form or even a dry form. The daguerreotype process was replaced by this method in the 1880s in almost every place all around the world.

In 1888 the first Kodak camera appeared to the market, what made so special this camera was that it was kind of the first reachable to all the peoples camera. Because its production was massive and the price was adjusted to accommodate to mid-high class.

Chapter II

A New Era Arrived.

2.1 How it changed the way we lived. 2.1.2 Social view.

Photography in the 20th century meant a radical change in society. One of the main factors that influenced this was the high acceptance that photography had when it came to representing and recreating moments that previously could only be recreated by means of paintings, but with photography already at a highly developed point, it was able to reach a larger audience at a more accessible price.

The Kodak camera N0.1 was one of the first cameras on the market to reach the upper-mid class due to its accessible price and its easy function. It was perfect for the public,

thus allowing many people and families to adapt and change their way of thinking about how useful photography actually really was.

2.1.3 Artistic View

Artistic photography was pretty criticized at the time (1900s), the old-gen artists were outraged of how photography (made with an instrumental and light-sensitive chemical instead of brush and paint) ever be considered as an equivalent. With a society criticizing them, the amateur photographers decided to form casual groups and official societies to challenge such conceptions of the medium. Elite art world figures like:

Alfred Stieglitz, who promoted the art photography with an example of low-contrast, warm-toned images like “The terminal” that highlighted the medium’s potential for originality.

So, what changed the way the society saw art photography was a social cultural change on an unprecedented scale. By that time the world was suffering main changes in the world with the industrialization, it also affected to the artists of the time. So, the photographers of the time thought, “For me, photography is an art of observation. ‘Try to find something interesting in an ordinary place ... I have discovered that it has little relationship with the things you see and a lot of relationship with the way you see them” (Elliott Erwitt, 1946).

By the 1920s, the cameras had evolved to a much faster and sharper level in the result. In the post WW1 era, photography ran a very important role, thus leaving evidence of what

had been and had happened, with well-marked photographs and artistic portraits for the time. By that time, photography was not just a way of making an image, it was a cultural change of what it was going to be in the future. That's why we can say that "The First World War is the conflict in which the concept of documentary truth first evolved" (Hilary Roberts, 2005).

Examples of photographic art such as "Disabled Man", "Pastry Chef" or "Secretary at the radio station" were an attempt of an artist to systematically document the modern type of people of the time, thus trying leave aside the criticisms and judgments of the society. Another great example that determined a change or evolution of this branch was executed by the photographer Cartier-Bresson's with his work called "Behind the Gare St. Lazare" which reflected in his time the potential that photography had for evolution, his work was based on individual moments being captured with such spontaneity that they were able to transmit all the meaning of it. One of the thoughts of Cartier was, "To me, photography is the simultaneous recognition, in a fraction of a second, of the significance of an event." (Henri Cartier-Bresson, 1930).

2.2 Main discoveries in the 1900s.

In 1906, the Lumière brothers invented the first procedure capable of being used by amateurs to capture color images on a single plate. This procedure took the principles of trichrome synthesis, but this time it was achieved in a single plate by applying a mosaic of 3-

color micro filters made thanks to grains of potato starch. In 1935, the Americans L. Mannès and L. Godowsky improved the procedure which in turn was bought by Kodak. This procedure took the name of Kodachrome, based on 3 superimposed layers, respectively sensitive to blue, green and red. A developer that colored the layers according to color sensitivity was created and perfected. This finally allowed to reproduce in the film, faithfully the colors of the object that was being captured by the camera.

Great photographic advances had taken place in the late 1800s, such as the printing on paper of a photographic capture. However, the photographers of that time had a big problem with the transport of the camera and the tripod, since they were large and heavy. One of the first photographers to overcome these adversities was Erich Salomon who invented the photographic style called "live photo", which was characterized by the spontaneity of the photo, very much in the current style of the paparazzi.

After this, many advances were made over the years, as for example. In 1947 an agency called Magnum was founded. Its purpose was to worry about and limit the photographic information that the press of that time issued, as well as the photographic edition at the time of its publication. Another great breakthrough when talking about hardware, scientists or developers managed to increase the capture speed and the sensitivity to light in black and white films, the speed of this last one from 100 ISO to a theoretical 5000 ISO.

In 1960, the first VTR (video tape recorder) emerged. This meant a revolutionary change since they were already capable of capturing television images, and then converting them into electrical signals and storing them in magnetic media. The VTR was used to capture the first electronic images of the planet Mars. Whereas in 1969, it was considered to big of a change to take for granted the theoretical beginnings of the digital career. William Boyle and George Smith designed the basic structure of a system called CCD (charge couple device), which was proposed as a photographic information storage system. A year later it was used by Bell laboratories as a system to capture images when building the first video cameras. The photographers by that time had evolved a lot, thinking like this “I discovered that this camera was the technical means in photography of communicating what the world looks like in a state of heightened awareness. And it’s that awareness of really looking at the everyday world with clear and focused attention that I’m interested in.” (Stephen Shore, 1975).

Chapter 3

Welcome to 21st century.

3.1 Internet.

3.1.2 Social Media.

In the 21st century, photography notably revolutionized society and even more so with the creation of what we know today as social networks. Obviously not all are the same, but there are a lot of these that are based on the publication of photographs and diffusion of them. And as Adams (2010) said “You don’t make a photograph just with a camera. You bring to the act of photography all the pictures you have seen, the books you have read, the music you have heard, and the people you have loved”.

One of the social networks that shot the use of photographs as a social media was Facebook, which through posts could share states and / or photographs, thus giving the option to their acquaintances to like or comment on these photos. With the passing of the years this began to take on and grow in popularity and today is the most used social network in the world. Meanwhile another of the most important social networks in terms of photography is Instagram. The dynamics of this is based solely on publishing photographs and videos and sharing them with the users.

There are people who generate money through social networks, because, by having a large number of followers more people will visualize the content and so it transforms into publicity. The people who dedicate themselves to this sell spaces in their profiles for advertising of large or small companies. A clear example can be that of Kylie Jenner, who has more than 50 million followers, for each photo that goes up generates an approximate of 100,000 dollars. Since brands pay for her to upload photos with their clothes on.

3.1.3 Cloud Storage.

Nowadays you do not need a specific device to take photos, since the cell phones that most people have can capture high quality photos at the level of a conventional camera. On the internet, now, there are many sites that offer a service that stores digital photographs in "the cloud ". This term refers to the ability of the internet to store documents in an online server and access them without the need of any physical device. The main storage companies in the cloud can be said to be: Google Drive, Dropbox, iCloud and Mega amongst other.

Nowadays, most cell phones automatically store information and photos on the internet. This is beneficial for the user since it avoids the risk of losing data in case of damage or loss of the physical device.

3.1.4 Data Base.

In the 21st century, most large companies have a database. This can be composed of either its workers or its customers. Nevertheless, these are highly important and disputed as it is comprised of contact information which, if in the wrong hands, could make or break the competition.

If workers were the topic of discussion, the database has to be composed of simple data such as the names or date of births. But, they also have a photo of the face of all their employees since everyone has a physical identification and always has a picture printed on it.

When we talk about customers, there are few companies that include photography in their database. However, most of the public entities must have a portrait since there is now a mechanism called facial recognition, so when, for example, a person has a police record and this person decides to join an insurance company, they can Use the police database to see your police record.

3.2 Business Marketing.

Marketing in the 21st century has taken an indispensable role in relation to the position of public relations for a company. Most companies have a specific area dedicated to marketing, given that depending on the effectiveness of it will affect the profits that the company has. There are many techniques and strategies in marketing to reach the public in the way that the company wants, however one of the most effective is to arrive through photographic material, either in photography or video. A good portrait of your product or a good commercial where you can perfectly understand your product can generate a good idea in the public, consequently the sales of it will rise considerably. A picture is a secret about a secret, the more it tells you the less you know [CITATION Dia12 \l 1033].

Throughout history we have seen numerous strategies of visual marketing, such as the famous commercials in the Super Bowl, on 5th Avenue in New York (which is characterized by being illuminated by advertisements or portraits of companies). As a clear example you can use Apple, which since its creation as a company whenever it presents a new product, produces a commercial video directed by the best film directors and thus giving a sublime result. Another great example we can find in the social networks of companies, now we could say that more than 90% of companies have a social network for which they generate advertising that in most cases represents a very low cost. Now we are going to use Audi as an example, this German car company is constantly presenting new products, and what better way to make them known than publishing photos and information on Instagram, for example, that having more than 15 million followers, these They can see your product instantly.

Another platform that is currently being used to publicize a product is YouTube. Large companies that can afford to separate advertising from their budget, pay certain "youtubers"

for them to talk and analyze their product. Continuing with the example of the cars, we find Mexican channels such as 'Autodinamico' that specializes in the analysis of cars whether economic or high-end. The companies lend these people the cars and they make videos analyzing their characteristics and giving their professional opinion about the product.

3.3 Cinema

The film industry has grown considerably over the years, thus leading to incredible progress with respect to the quality of the final product, either in image quality or in the way in which it is recorded. Currently there are many ways to shoot a scene, depending on the budget will be better or worse. And as Adams said "You don't take a photograph, you make it"[CITATION Ans15 \l 1033]. After the 2000s the films began to be filmed in a different format known as 18: 9, which refers to the dimensions of the pixels captured by the camera. Another great evolution at this point is the improvement of the image quality, reaching up to 8K (8129x4320 pixels per inch) that provides an unparalleled sense of reality when watching the film.

At the top of the list, in terms of movie quality, we are all in Hollywood. Studios such as Universal, Paramount, Sony, Warner, Fox, etc. They use a large number of cameras due to the large budget they have, however one of the main options while filming the most important scenes is the Millennium DXL. This camera has no problem recording in 8K and has a lens of 41x26 millimeters, which can fit 35.5 Megapixels. One of the main features of this camera is the ability to record a rate of 60 frames per second, a very high number considering the quality with which this camera records.

Another clear advance is the digital editing capacity that directors have today. The special effects in movies such as marvel, are what could be considered a masterpiece given its degree of complexity at the time of its editing and the way in which a scene where there is only one person and a green screen can visually generate the apocalypse in New York while the Empire State Building is in the background. Because as Wan said “What I realized is that it doesn't matter how big or small your film is. The actual filmmaking process, the actual storytelling, it's still the same thing. It's still all about creating characters that you like and creating moments that get you excited or get you tense” [CITATION Jam09 \l 1033].

One of the special effects software is Adobe After Effects, which although it is true that it is one of the most common in terms of special effects, if you know how to use it perfectly and professionally you can get some amazing results.

Conclusions

1. Photography is one of the most important developments we have seen all along the history, due to the role it played in the progress of social society.
2. Without photography, the social media we know today, wouldn't exist. Because what peoples mainly do in social networks, Instagram for example, is posting pictures and videos of what they did or what they reached in their days. Our society is used to share the most thing they do in in their daily live, including a picture of it.
3. If photography wasn't invented or created there would be no cinema, due to the main concept of cinema is captured images of a scene. It's true that with the technology nowadays, computers can create a simulation of living creatures, animations, without being captured with a camera.
4. In World War I, the photography played an essential role in capturing visual evidence of the war before, between and after it.
5. It took more or less 100 years to fully develop a technique that gives you a final product of what would be a photograph, with reliable results, although of poor quality compared to that of our time

6. Photography has evolved constantly over the years, reaching what is nowadays. We can find results with details that do not get lost practically nothing of what is real

Bibliographic References

Beaumont Newhall, (1982). *The history of photography: from 1839 to the present*.

Lawrence Chan, (2011). *Social Media Marketing for Digital Photographers*.

Photo Museum Org

<http://www.photo-museum.org/es/historia-fotografia/>

Revista De Artes. Buenos Aires, Argentina. (2007).

<http://www.revistadeartes.com.ar/revistadeartes%207/historiafotografia.html>

Whinston, Foster, (2018). *A Short History of Film, Third Edition*.