

A Look into the Technological Advancements of
Cameras and the Effects on the Professional
Practice of Photography

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SUMMARY OF TOPIC

This essay will look into the technological advancements and the impact they have on cameras, general photography and the photographic profession. There are constant developments in photography with technology advancing each and every day, from the most minor developments to the most revolutionary and this essay will seek to explore how these developments have affected photography and how it may continue to affect photography.

INTRODUCTION

Developments in technology are integral to the ever progressing profession of photography not only due to its creative nature and practical applications as cameras are used in everyday life to capture moments, be it professionally or as an individual's avocation. There are constant developments in photography with technology advancing each and every day, from the most minor developments to the most revolutionary, as will be discussed in this essay. These developments, regardless of size, are important and benefit the photography profession as it enables photographers to do more with their cameras, to create art, leave a legacy and capture a larger array of moments and scenes; something that could only have been fantasised about by historic and influential photographers such as Henry Fox Talbot and Ansel Adams.

Photography, in its most primal stage, has been around since the 4th century BC (Mo and Johnston, 2010) with camera obscura, and since then there have been numerous developments that have transformed the practice of photography to where it is today. The first notable development in photography came in 1816 with the introduction of Early Fixed Images, as pioneered by Joseph Nicéphore Niépce (Newhall, 1982). This was significant for photography as it was the first time that images could be preserved, as images created through camera obscura before 1816 could not be preserved. Throughout the 19th century, there had been a vast amount of notable developments with the introduction of the daguerreotype (Kosinky, 1999), calotype and collodion dry plates. The biggest development came in the 1890's with

“the release of Kodak’s inexpensive and easy-to-use ‘Brownie’ camera” (Keep, 2014, 15) which led to the colloquially known “Kodak moment”, causing photography to go from a professional practice to a household activity.

“With the way technology is progressing, now is the worst it will ever be again” (Susskind, 2019). It is common knowledge that there have been great developments in technology, which has progressed the world we live in, meaning we have reached a pivotal moment within photography where it is yet again being transformed. The latest development has been the introduction of camera phones, and smartphones in particular which have a high-resolution camera as a basic feature. With cameras that are constantly improving in quality and easily accessible on every mobile phone, the “‘Kodak moment’ has now been replaced by the ‘mobile moment’” (Keep, 2014, 15). It can be simply put: “the ubiquitous camera phone has transformed our relationship with photography in the with every digital age.” (Keep, 2014, 15).

This essay looks at the developments that have been made in photography, how that has impacted the profession using publications, exhibitions and information from course lectures and professional practice, with the most helpful sources being publications and opinions from established photographers.

CHAPTER ONE: CAMERA DEVELOPMENTS

“The invention of the photograph ensued in 1839, and then all social changes and shifts how we see the world followed from that” - (Jurgenson, 2019, 28).

The rate of technological advancements in recent years has surpassed any progression that has previously been seen. Every time we get a new breakthrough it sends shockwaves through the community as well as to those outside of it. With every shift allowing more people to be able to access the practice with ease.

In exploring the development of cameras, it is important to analyse those developments, explore any future developments and to look at the relationship between development and accessibility; something that should be looked into in this essay, exploring the advancements and adaptations in camera technology as the “‘Kodak moment’ has now been replaced by the ‘mobile moment’” (Keep, 2014, 15).

As can be identified by looking at the history of camera developments, cameras have evolved significantly since their invention in the 4th century and subsequent developments in the 19th century, and as such, it must be necessary, before exploring anything further on the question of developments, to assess the trends of the developments, the rate of developments and how developments have benefitted cameras.

The revolutionary age of the digital camera can be seen as the last ‘revolution’ before the cameraphone era began. “Technology has put a camera, of one

description or another, into the hands of more people than ever. The collective output of which has seen an explosion of creativity, the likes of which we have never experienced before.” (Choy, 2016) .

What Choy is pointing out here was the ease in which digital photography became a part of everyday life, with digital cameras becoming one-off investments rather than the general public having to repeatedly pay for rolls of film and for access to, or to have their rolls of film developed in, a darkroom. “In today's digital world, developing a film just seems wasteful, eating away at both our time and bank accounts.” (Manuel, 2017). With the progression of digital cameras this was a cost that was no longer necessary as the cameras of the 1990's both held and displayed the images instantly; this digital development meant there was then an automated system as to how photographs could be produced.

The rapid advancement of technology allowed anyone, with even the most basic entry-level digital camera, to achieve results previously the exclusive preserve of the professional photographer, simply by switching their camera to automatic mode. Where before, a correctly exposed image required technical knowledge, photographic skill and creative vision in equal measure, today onboard computers have assumed responsibility for exposing 99% of all photographs captured in the digital age. (Choy, 2016).

Choy observes here how the digital camera made the art of photography more accessible to the public. No longer was it necessary to have a deep-set understanding of camera functions or the development process to create images. All that someone needed to know was how to switch the camera onto ‘Automatic’. The

functions of the new wave of cameras made life simpler for those who could not understand the practice of photography, or those who simply did not want to learn, to get photographs of their loved ones and their day-to-day lives whilst still maintaining a professional quality. According to the opinion of popular photography:

Initially (in the early 1990s) framed digital photography [was seen] as a vexed and threatening technology that would likely lead to “decision free” photography, thereby taking away knowledge of and control over how the camera works, but by the early 2000s it began to report on digital in a way that emphasized the manner in which it would offer more control over the photographic process. (Murray, 2013, 171).

According to the market research firm ‘InfoTrends’, by 2004, 28 billion digital photos were produced. That number represents six billion more photos than were shot on film even though twice as many people owned film cameras than digital (Murray, 2013, 171).

What this research can tell us is the rapid rate in which digital photography took off in comparison to its predecessor, showing the impact that technological advancements have had on cameras and photography as it is evident that despite more people owning film cameras, the newer digital cameras were able to produce more photographs than film cameras. It was clear the advancement of technology in photography made taking photographs easier than it had previously been and “by 2011 it was estimated that 80 billion digital photos were taken by Americans alone” (Murray, 2013, 171) which demonstrates the fast growth of around 30 billion photographs between 2004 and 2011 (Murray, 2013, 171).

Instead of having to wait to see the results of an image, through developing a roll of film, this has progressed to the point where people are now able to take a photograph on their phone and have it edited and shared with the world within mere seconds. “For many, an image is always just a few taps from being produced and available for consumption on a glowing screen.” (Jurgenson, 2019, 12). Since the ‘digital revolution’ within photography and cameras, the greatest advancement is arguably that of the camera phone due to the “point-and-shoot” (Jurgenson, 2019, 4) nature of 1990’s digital photography advancing to being able to take images on “a small networked computer that is far more likely to always be on or near its owner” (Jurgenson, 2019, 4).

Over the past decade (2004-2014) the camera phone has played an important role in reconfiguring our relationship with photography, and has promoted a reimagining and remediation of the tropes associated traditional cinema and photography. (Keep, 2014, 15).

What Keep is saying in this extract is that we are facing another transformational period of photography as instead of the ‘Kodak Brownie’ paving the way to more inclusive access, it is now camera phones.

Cameras and photos have become increasingly liquid, the image that once existed as a solid and comparably heavy paper object is now near-weightless. Digital information, which thus moves across space with increasingly little effort. (Jurgenson, 2019, 22).

Showing the developments that have been made with advancements of technology and the increased use of the camera phone as a photographic tool. It is evident from this quote that camera phones have improved access to photography by being such high quality in addition to allowing what has been captured to be shared with ease, whereas before an artist had to work harder to share their image with the world than the social media user has to now. It has been a continuing fear of the loss of practical, physical, photography throughout the developments in photographic history.

Photography has progressed from sheets of material that we hold in our hands to “a hand-held computer device, for instance (a laptop, phone, display device), which can distribute an image globally in an electronic instant as easily as a blink of the human eye” (Bate, 2013, 78). For reasons that have been outlined, it is easy to see why people are favouring the use of camera phones over normal cameras as it allows individuals to take a photograph and share it, as well as store it; no longer will people need to store large photo albums, they will instead be able to store thousands of images on their “hand-held computer device” (Bate, 2013, 78) and be able to access those images at any time and any location.

Whilst everyone had access to a camera through the past few ‘waves’ of photographic transformation it has never been as easy as it is now with the mobile phone, particularly the smartphone, as around 76% of the UK and 81% of the US population own smartphones (Silver, 2019) and therefore have access to a high resolution camera at their fingertips, and a platform to share their photographs all through the one device.

It is claimed, that in less than a decade the camera phone has put more cameras in people's hands than in the whole history of photography. They have a kind of mobility as we scroll across them, clicking one or another in and out of the foreground of the screen's shallow space. We pay attention to such photographs in different, more fleeting or distracted way. (Lister, 2013, 5).

Through the increased accessibility of cameras; the way that modern photography is viewed has become fragile, there is less appreciation and attention to the art of image-making. Through the ease and "distracted" (Lister, 2013, 5) nature of smartphone technology, the public now holds a database of images at their fingertips whilst also being able to instantly make their own images. It is this greater accessibility that has both improved and harmed photography as an artform, with everyone having access to such a small, simple and convenient camera embedded in a small, pocket-sized, networked computer means that everything in daily life can be documented. "Photography as we have known it is both ending and enlarging" (Kember, 2013, 57). What Kember says here seemed to be the general consensus amongst the photography community when camera phones were released. With the ever-growing way photography is coming into daily lives it is no wonder that Kember commented on the "enlarging" (Kember, 2013, 57) process of image-making today; though due to this ever-increasing documentation of the mundane everyday what is considered to be skill or artistic within photography has been redefined and perhaps even diminished. This leads us to ask whether the skill behind taking photographs can really be counted if it "becomes automated when machines offer to do it for us" (Kember, 2013, 57) through automatic controls or built in applications?

As identified above, a key comparison to look at right now is between cameras and mobile phones. Mobile phones are rapidly progressing in terms of camera quality and image sharing so a question must be asked as to whether the 'bridge' between the two is closing and whether mobile phones will ever surpass cameras?

In answering the former, there is an assumption, at least amongst the photography community, that cameras will always be ahead of mobile phones. This reasoning behind this is that the camera developments within mobile phones stem from the development of cameras, for instance the new feature on mobile phones is the depth of field control, which is a feature that has stemmed from SLR and lens based cameras.

However, despite this, there is an argument that mobile phones have advanced at a much greater rate and therefore ought to surpass cameras in the future, if they have not already done so. Whilst perhaps cameras may always be ahead of mobile phones in camera quality, it cannot be argued that mobile phones are more advanced when it comes to picture sharing as one could take a picture and have it uploaded and shared with millions of viewers within a matter of seconds "all such photo apps are synchronized to dominant photo-sharing websites such as Twitter, Tumblr and Flickr (where the iPhone has become the most used image-creation device)" (Palmer, 2013, 157).

In this instance, and in the assumption that cameras are unable to keep up with mobile phones in this regard, a secondary question arises as to whether cameras and photographers will be made obsolete by mobile phones or whether cameras will

always reign supreme over mobile phones. This question is considered in detail later on in this essay.

A further consideration that is raised comes from accessibility, which is also discussed later on in this essay. This consideration is whether camera developments would be made with the intention of solely developing mobile phones - for instance, would a mobile phone brand work to create technology that furthers mobile phone photography as opposed to regular photography? "The digital camera itself 'will be further absorbed into other devices' apart from mobile phones. These devices may include 'refrigerators, walls, tables, jewelry, and ultimately our skin'" (Kember, 2013, 57). Kember observes here the implications of where future camera developments may go. A matter of decades ago it was inconceivable that people would be able to walk around with camera-equipped computers in their pockets yet today it is a social norm as to receive a phone without a camera is a rarity in our digital society.

To repeat what Lister said above, "It is claimed, that in less than a decade the camera-phone has put more cameras in people's hands than in the whole history of photography", demonstrating the real development that has taken place in photography, by the mere camera phone. As can be seen, photography is developing with technology and, in-fact, these developments are aiding photography to grow by allowing the ordinary person to access the artform which can only lead to further positive developments within photography as it may be suggested that with a greater amount of people accessing photography, the more people will be interested in developing photography and making the artform more accessible to such a point where taking photographs and improving upon photography skills is an everyday

'routine' for people, as much as making breakfast in the morning, if it has not already reached that point.

There is an argument that can be raised as to whether further developments, and accessibility, to photography is a good or a bad thing.

Cell phone cameras and social media were certainly a disruptive innovation.

Depending upon your point of view, they've either cut the photography market severely or increased it amazingly. If you are a point-and-shoot manufacturer, the photography market is disappearing. If you own Instagram or Facebook, it's growing -- and phenomenally so. (Cicala, 2019).

Clearly what is being stated by Cicala is whether developments within photography are good or bad is purely subjective, as cameras themselves are, of course, being made obsolete by the use of high-quality camera phones, however, in contrast, there is a side to photography that is benefiting greatly from the increased use of camera phones, and that is the image sharing and editing side of photography, although some may disagree with this as it may be suggested that "the real victim of fast photography is not the quality of the photos themselves. The victim is us. We lose something else: the experiential side, the joy of photography as an activity" (Murray, 2013, 168), which suggests that camera phones will never supersede cameras within photography, despite the rapid technological advancements, because there is the "experiential" (Murray, 2013, 168) side of photography that also must be considered.

A question is raised, however, in relation to this; that question being whether this is a threat to photography or just a simple push for photography to adapt in a different way to the disruption that Cicala was referring to.

Having looked at previous developments and the comparison of cameras and mobile phones, we can now turn to look at future developments and how cameras can still develop technologically.

As suggested by Susskind we can see that technology, including within photography, will only ever continue to develop. Therefore, it is necessary to explore future developments within photography, including any barriers to development.

“With every passing decade, it is always said that photography now matters more than ever, and the statement is always true” (Jurgenson, 2019, 11). As stated, and alluded to by Murray, a threat to photography could be the increased use of camera phones, as the effect of this increased use is that cameras are being made obsolete as people are able to take photos and share those photos within seconds, which was more efficient than it was even two decades ago when film was used and camera phones did not exist, especially not in the same way they do today. It can easily be said “photography becomes a more alive, immediate, and often transitory practice/form, as the digital camera has become an essential tool in the navigation and documentation of daily life” (Murray, 2013, 166).

A question towards future developments is whether there will be any continuing disruption to photography. “People love incremental improvements, but they often

dislike disruptive innovations at first. Disruption causes major changes, and that can be threatening. It may be several generations before the new technology is clearly superior to what already exists, but eventually the disruptive innovation has a huge effect on the market” (Cicala, 2019). What Cicala is saying here is that disruptive changes may not be received well within the photography community, regardless of the advancement, and instead it is of greater benefit to the industry to introduce developments incrementally so that the photography community welcomes those changes and any future developments that are soon to follow, which perhaps might lead to faster rates of development instead of just having one disruptive development that takes years to get used to, or even accepted.

It would be difficult to more-or-less predict the future and try to suggest what future developments or disruptions might occur within photography, however, with the previous quote by Cicala in mind, it remains clear that with inevitable developments within photography should be incremental to avoid causing any real disruption to the artform and to enable newer developments to continue beyond that ‘disruption’.

Through research, it can be seen that camera technology has opened up the practice to a vast majority of the population, which has come with a variety of questions.

An issue explored was the comparison of progression between camera phones and cameras. Whilst it is true that cameras hold a better quality, it can be seen that the ease and functions of a camera phone may be what increases their appeal.

Additionally, with future developments in mind, it is clear to identify that photography will continue to develop with technology, however, an issue that is presented by this is how this technology will 'disrupt' photography as a professional artform.

CHAPTER TWO: THE PROFESSIONAL IMPACT OF CAMERA DEVELOPMENTS

"I can't help but wonder whether some of the doom and gloom talk on the future of photography is actually fuelled more by the fear of change than the reality of the art form" - (Choy, 2016).

The technological advancements in photography have a clear effect on photography as a whole, however, it must be borne in mind that these advancements also impact the photography profession and professional photographers in a variety of ways, both positively and adversely.

In exploring the professional impact of camera developments, it is important to look at how the profession has adapted to previous developments, how the profession has been affected by technology and what the future of the profession may look like with continuing developments in photography.

Photographers in the 21st century, often engrossed with analogue cameras, are fortunate to be practising the art-form in an age where photography is as accessible as it has ever been as the increased accessibility means that there is more available to modern day photographers than there ever was to the influential photographers that have been mentioned above, such as higher quality cameras that come in so

many different forms that can easily be transported around the world and used for a range of artistic purposes.



Fig. One, 24 Hrs in Photos

The effect of technological advancements on photographer's practices have been great, for instance, with the 'digital revolution' there was more to do with cameras as they developed from analogue to digital. There was more freedom and security in images as the results were instant rather than waiting to see if the image had come out. "More than just fast, the social photo is nearly instantaneous" (Jurgenson, 2019, 22). Jurgenson refers to this newly discovered demographic, brought forward from the advancements of camera phones, as the "social photo" rather than that of a

traditional photograph. The ability to instantly see an image ties into the impulsive nature of this new demographic of “photographers”. What Jurgenson is saying about the “social photo” fits in well with when Choy says “photography died the moment a camera lens found its way onto a cell phone, and overnight everyone in the entire world became a photographer” (Choy, 2016). These two notions look into how the profession of photography is changing yet again; much like when the time of analogue cameras was introduced to their digital evolution, there has been an increase in not only those who would now deem themselves as photographers but also the amount of images being produced on subject matters that seem inconsequential in comparison to the pedestal that photographs have been put on in the past. Referring back to the first chapter, Palmer talked about “photo-sharing websites such as Twitter, Tumblr and Flickr” (Palmer, 2013, 157) which ties in to the “instantaneous” nature of camera phones being connected to these various apps and websites. An aspect that arts photographers are using in their practices; such as Erik Kessels in his work ‘24 Hrs in Photos’, *figure one*. This series utilizes the volume of images being produced by taking all of the images uploaded to Flickr in 24 hours, over 350,000 images, and printed them all out as a comment on the reality of contemporary photography in this new digital era.

The collodion process, dry-plate film, roll film, 35mm film, rangefinders, SLRs and a dozen other disruptive innovations all rocked the market place. Each increased the number of people who considered themselves photographers. (Cicala, 2019).

It is because of the increase in the ease of nature that these in-between moments find themselves being recorded, as seen by Jurgenson when he says about how “photography’s scope reaches increasingly into the everyday, past the special scenes and into the spaces inbetween” (Jurgenson, 2019, 14). As the process became cheaper and easier to replicate images made there was less importance put behind what should be in front of the camera; with a camera in the pocket of nearly everyone, with no limitations, it meant that it did not matter whether there was any importance to a scene as it could be taken and discarded with little to no thought behind it.

This also demonstrates a pattern of disruptive developments within photography and the impact those developments have had on the profession. This can be read with Cicala who said “when George Eastman mass produced dry plate film in 1878, most photographers thought it useless. Any photographer worth his lens made his own wet plates, developed them, and printed them. When Charles Dodgson (aka Lewis Carroll) first saw dry plates, he spoke for most professional photographers when he said, “Here comes the rabble.” Within a decade, film dominated photography - not because existing professionals flocked to it, but because so many new photographers entered the field that wet-plate photographers couldn’t compete” (Cicala, 2019). What these two quotes are demonstrating is how new photographers “flock” to the new, disruptive developments in such magnitude that it disrupts the photography profession and established professionals within the profession may subsequently struggle to ‘keep up’ or stay ahead of these “new photographers”.

It could also be argued that it is less to do with the development of the camera’s technology and adaptability, but instead these “new photographers” that are the

threat to photography. The development of camera technology has been proven over the years to provide a professional level finish to any image taken by anyone; this is supported by Jurgenson saying how “if the professional photographer develops an instinct for visual form, today, the social media user has learned to do the same” (Jurgenson, 2019, 38). Within this text, Jurgenson meant this through the use of developing software and applications, though this can also be seen in relation to that of developing camera technology. Through the automation of camera devices it has become easier for amateur photographers to replicate that of professionals with little to no effort on what could be considered “between” scenes which could pose a threat to photography as a profession. However, this could be contrasted with the fact that not everyone who owns a camera phone considers themselves to be a photographer with their interest purely being to document the “between” moments that they want to immortalise, not display. Jurgenson quotes van Dijck saying how the younger generation “take less interest in sharing photographs as object than as sharing them as experiences” (Jurgenson, 2019, 15)

However, there are adverse impacts as in photojournalism, the number of in-house photographers are decreasing as a result of overzealous members of the public with their camera phones as can be demonstrated in Sweden: “a mere handful of newspapers in Sweden still employ photo editors” (Nilsson, 2017).

A growing area of research examines a phenomenon alternately labeled user-generated content or citizen photojournalism, that is the contribution of eyewitness footage and imagery of breaking news, which, it should be noted,

is not new to journalism. However, an increased flow of images and videos available to news organizations has brought into focus and helped question professional norms and claims within photojournalism, including the notion of objectivity and photojournalism as the domain of eyewitnessing as well as the question of accuracy and immediacy as a signature of news photography. (Nilsson, 2017, 43).

What is being highlighted here is the current threat posed to the photography profession, namely photojournalism here, by the increased use of camera phones. As already detailed through Nilsson, citizens sending in photographs to news-agencies is not new and is, in fact, possibly incredibly important in the case of obtaining eye-witness imagery, as citizens are often first on the scene. However, there is the growing threat now that photojournalists may become obsolete by citizens sending in photographs, as the vast majority of citizens have a camera phone readily available and often take photographs at any given or notable opportunity - this, in turn, means that almost every event, regardless of how minor, is able to have 'coverage' due to citizens and their camera phones - as demonstrated by Choy:

Today many newspapers around the world have laid off their entire team of staff photographers. Citizen Journalists (aka readers encouraged to submit their photographs for free) have taken their place. Decades of photojournalistic tradition reduced to something anyone with a cell phone can do. (Choy, 2016).

However, in contrast, there is the argument that photojournalists are not at any risk as "research has shown that imagery created by non-journalists challenges editorial

standards of ethics and verification” (Nilsson, 2017, 42). This shows that although the quantity of photographs being sent into news-agencies by citizens are growing, there is an ethical and regulatory risk in the journalism profession of heavily relying on non-journalists, therefore it will likely be commonly seen in the profession that photojournalists are an absolute necessity and will continue to be such a necessity for the foreseeable future. Additionally, there is a question arising from the increased use of digital images as to their authenticity. “Even more interestingly, within the image-driven economy of our age, images undertake functions of proof and persuasion more than ever, though digital images, it is claimed, have less credibility than analogue images” (Degirmenci, 2010, 147). What is being highlighted here is that, especially in a photojournalism context, photographs are often used for “proof and persuasion”, yet with the increased contributions and use of photographs by non-journalists challenges the authenticity of those photographs and events as it would be difficult to tell whether the photographs or edited in any way. Therefore, it is evident by this further quote, that at this time there is no real threat to photojournalism for the ethical and authenticity-based reasons as stated above.

I don't think anyone will argue that cell phone cameras and social media have disrupted the photography market. They came from outside the mainstream photography world, and attracted a new set of consumers to a new market. Let's call them picture-takers since most of us don't consider them photographers. (Cicala, 2019).

What Cicala is saying here has two possible meanings. The first possible meaning from this quote provides that “picture takers” will less likely be a threat to professional photographers as they are, in fact, focussing on different aspects of life - with the “picture takers” potentially focussing on their “between” moments, to treasure them, whilst professional photographers create work based upon the “special scenes” - whilst there is a remote threat, it is not one that is worth worrying about or even considering with such seriousness. However, a second meaning from this quote is that Cicala is trying to defend photography as a profession by demeaning the role of the camera phone and those who take photographs with their camera phones.

Whilst it is unlikely that Cicala is really suggesting that there is a real threat to the profession by these so-called “picture takers”, it must be considered whether professional photographers are a ‘dying breed’ and will need to adapt themselves or face being made obsolete by future developments in photography.



Fig. Two, Instagram

The change of technologies, with the need to adapt, has allowed artists to reinvent themselves to evolve with this new demographic. Cindy Sherman has taken such an opportunity with her work by progressing with her work, yet again, through Instagram. This new medium for Sherman was a way for her to reinvent her artform again; through this she has created a space in which she can experiment with new technologies as they are made available. Sherman's work has now adapted to portray herself in unusual 'selfies', figure two, a take on the usual selfies that are posted online though instead making herself into other figures, paintings and people to add her own, thought provoking touch to the work and adopting this new medium as her own.

Having looked at the previous impacts developments and disruptive technology has had on the profession, it is necessary to explore the future of photography as technology evolves.

The first question raised, and is often posed to most professions in the 21st century, is whether professional photographers are a dying breed and whether they will be forced out of the market by advancements in technology?

“Photography is more popular than ever, yet the art form is dying a quick and painful death” (Manuel, 2017). As demonstrated by Manuel, the art of photography is less and less ‘needed’. The further technology advances, it may be argued, that it is the trained eye of the photographer that becomes needed. It is the same as when more accessible cameras were released in the past, the only difference then was the chemical barrier as not everyone had access to darkrooms or knew how to use them and the only other option was to pay someone to do it which added a further cost. Nowadays it is possible to search anything or download applications to edit your photos so that barrier is diminished; all we have is the photographers perception and moral boundaries.

The answer to this is not one that can be so easily predicted, all that can be said is that “the function of the photographer is different; they have become computer operators, whether ‘in the field’ with the camera, by remote control from an office computer at home on a sofa” (Bate, 2013, 79) - demonstrating how with ever evolving technology, the role of the professional photographer must also adapt and evolve.



Fig. 3: Van Gogh, A Starry Night: Projected

Photography as a profession has adapted in various ways before, and it will, no doubt, adapt again by making something new as an artform, photographers will continue to progress or adapt with the times as the more technology advances, the more freedom an artist has to experiment with their work. With the creation of social media came pieces that exploited new networks and with the development in new areas, such as virtual reality and immersive technology, art will progress to follow as evidenced by the 'Van Gogh, Starry Night Exhibit' in Atelier des Lumières during 2019, figure three, - it is simply another avenue for photographers to go down; where viewers are able to go into the work in a way that is taking advantage of what current technology can achieve.



Fig. 4: London Riots

However, more specifically, events photographers will likely suffer the most, or face more risk as the further self-reliant technology is developed. With these developments, events photographers will not be needed as much as they once were as people are now able to search for artistic ideas for their events photography or people being able to capture and send images of news-worthy items in seconds, replacing photojournalists, as highlighted before. The only way for professional photography to stay relevant is to ensure that it 'keeps up' with the evolving technology; for journalists this means keeping up to date with the latest camera technology, whether this is a tablet that they can 'snap, edit and send' images on or merely using their camera phones during the course of their work as "photojournalists recognised that opting to use their mobile telephones helped considerably" (Allan, 2013, 196), demonstrating the advantages that photojournalists can take by adapting and evolving with technology - this need for photojournalists to adapt and evolve was further demonstrated by Lewis Whyld during the 'London Riots' of 2011, figure four, as with "his professional equipment safely stowed in his car, he continued documenting the carnage around him using his Blackberry

smartphone, which also enabled him to relay the images to the newsroom without having to use his laptop. Several of them would duly appear in newspapers around the world” (Allan, 2013, 197).

Further to points made above, a distinction must be drawn as to when professional photographers offer advantages over camera phones and ‘non-photographers’. It can be argued that it is the training of the photographer that will keep them separated, whilst everyone will have access to the technology to take images, “a small networked computer that is far more likely to always be on or near its owner” (Jurgenson, 2019, 4), not all of them will have the ‘trained eye’ or moral guideline to take the images needed to the standard desired. For photojournalists, it will be their insight into a situation and balance of ethical judgement and skill that would set them apart. Whereas for other professional photographers it would be their trained artistic eye and ability to create a scene in a moment that would separate them from the lay-photographer.

The general view on how technological advancements have affected the professional practice of photography solely depends on the source you look to.

With the development of technology, the main disruption identified was the ‘camera phone generation’ and the “picture takers” that they produced - redefining what is classed as photography through the “social photo”, presenting challenges for both professional events photographers and photojournalists.

Throughout all of the advancements, it is clear that how the professional photographer adapts is truly the test of the profession. With art photographers taking

advantage of technology to display their work and photojournalists using smartphones to speed up their work. However, a true argument in favour of a professional photographer would be their “trained eye” and moral boundaries; features that cannot be replicated by technology.

CONCLUSION

Overall, this essay has examined the effect of technological advancements on cameras and the general photography industry. It has been seen as a topic of debate as to whether the developments are for better or for worse as many argue that technological advancements provide better equipment for photographers and, of course, improve the quality of photographs. However, in contrast to this we have identified the rise of the camera phone, which has made the art of photography far more accessible than it has ever been before, which is seen by many as a bad thing for photography as it could be said that the “fast photo” works towards making photography and ‘real’ cameras obsolete.

Further, the effect of these developments on the photographic profession has been explored. A key question in relation to this is whether camera phones and advancements in technology pose a threat to the profession. Many argue that camera phones threaten the profession as, in the case of the photojournalist, non-journalists are able to submit their photographs to news-agencies with ease which removes the need for a photojournalist; and in the case of the events photographer, it may be argued that people are less likely to hire events photographers as they are able to access a high quality camera, editing software

and sharing platforms on their camera phone which removes the cost of hiring an events photographer. It is suggested that the only real way forward, despite recognising photographers as having a 'trained eye' and moral boundaries within photography, is for the profession to adapt with the advancing technology, meaning that photojournalists ought to utilise their camera phones and embrace new technology and 'art' photographers ought to take advantage of the current and developing technology to further display and share their work with their desired audience.

BIBLIOGRAPHY

- Allan, S. (2013). 'Blurring Boundaries: Professional and Citizen Photojournalism in a Digital Age' in Lister, M. (2nded.) *The Photographic Image in Digital Culture*. London: Routledge.
- Bate, D. (2013). 'The Digital Condition of Photography: Cameras, Computers and Display' in Lister, M. (2nded.) *The Photographic Image in Digital Culture*. London: Routledge.
- Choy, P. (2016). *Is Photography Dead?*. [online] Fstoppers. Available at: <https://fstoppers.com/originals/photography-dead-151449> [Accessed 27 Nov. 2019].
- Cicala, R. (2019). *Disruption, innovation, and the future of photography: Roger Cicala reads the tea leaves*. [online] Imaging-resource.com. Available at: <https://www.imaging-resource.com/news/2014/02/19/disruption-innovation-future-of-photography-roger-cicala-reads-tea-leaves> [Accessed 26 Nov. 2019].
- Degirmenci, K. (2010). 'Photographic Images in the Digital Age: Does Photography Still Exist?' in Stejskal, J. (1sted.) *The Aesthetic Dimension of Visual Culture*. Newcastle upon Tyne: Cambridge Scholars Publishing. p.146 – 154.
- Jurgenson, N. (2019). *The Social Photo: On Photography and Social Media*. 1st ed. London: Verso Books.
- Keep, D. (2014). 'Artist with a Camera-phone: A Decade of Mobile Photography' in Berry, M. Schlessner, M. (1sted.) *Mobile Media Making in an Age of Smartphones*. New York: Palgrave Pivot. p.14 – 24.

Kember, S. (2013). 'Ambient Intelligent Photography' in Lister, M. (2nded.) *The Photographic Image in Digital Culture*. London: Routledge.

Kosinski, D. (1999). *The Artist and The Camera: Degas to Picasso*. New Haven: Yale University Press, p.25.

Lister, M. (2013). (2nded.) *The Photographic Image in Digital Culture*. London: Routledge.

Manuel, A. (2017). *Photography: A Dying Art Form That's Getting More Popular*. [online] Huffingtonpost.co.uk. Available at: https://www.huffingtonpost.co.uk/adam-manuel/photography-a-dying-art-f_b_17764802.html?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_sig=AQAAAD3jIOJgMe6z1AHLBbl23zdk1m8C90HqHXkOy_32R9jax-BJOntjYoQUqC5OSqdYIATiCkYm3PnijYdwZduF4rmOhLdlu_1KBHXni5dAWGMYTOcKenYGpKk_qVz0IFxHI_vgxDSHJBfbgYDI5nLPJIHZMvuVDTjLTurFrRjULANm [Accessed 26 Nov. 2019].

Murray, S. (2013). 'New Media and Vernacular Photography: Revisiting Flickr' in Lister, M. (2nded.) *The Photographic Image in Digital Culture*. London: Routledge.

Mo, D. and Johnston, I. (2010). *The Mozi*. New York: Columbia University Press.

Nilsson, Maria A. (2017). "A Faster Kind of Photojournalism? Image-Selection Processes in a Swedish Newsroom."

Newhall, B. (1982). *The History of Photography*. New York: Museum of Modern Art, p.13.

- O'Hagan, S. (2012). *Photography: an art form that never stands still* | *Guardian photography guide*. [online] the Guardian. Available at: <https://www.theguardian.com/artanddesign/2012/nov/16/sean-ohagan-photography-art-form> [Accessed 25 Nov. 2019].
- Palmer, D. (2013). 'The Rhetoric of the JPEG' in Lister, M. (2nded.) *The Photographic Image in Digital Culture*. London: Routledge.
- Silver, L. (2019). *Smartphone Ownership Is Growing Rapidly Around the World, but Not Always Equally*. [online] Pew Research Center's Global Attitudes Project. Available at: <https://www.pewresearch.org/global/2019/02/05/smartphone-ownership-is-growing-rapidly-around-the-world-but-not-always-equally/> [Accessed 29 Nov. 2019].
- Susskind, R. (2019). *'Technology and the Future of Courts'*.