

The Metaxic Photograph:
Between the Real and the Unreal

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Abstract:

This thesis aims for a better understanding of photographic theory with regards to photographs made of and within virtual environments. It argues that virtual photographs can be considered and understood within the discipline of photography, rather than only as an offshoot of computer programming, digital art or games design. Images produced in videogames, including via the relatively new innovation of the in-game photo mode, are read as photographs, along with the work of photographers who have produced work of, within and related to the screen, including Diane Arbus, Lee Friedlander, Harry Gruyaert, Michael Wolf, Roc Herms and Robbie Cooper. The history of the screen in modern photography is considered to demonstrate that screens create a window to another world, which is as fertile an environment for photography as the real world. A new term, the metaxic photograph, is suggested for an image made within virtual worlds, or one which denotes or connotes people's presence in, and relationship to, virtual worlds that exist beyond the physical, and which are observed and mediated through the screen.

The Metaxic Photograph: Between the Real and the Unreal

Introduction

At night the town glows orange. The dirt roads and buildings are dimly lit from the glow of streetlamps, windows and the illuminated façade of the Imperial Theatre.

In the distance the chirping sound of crickets, a lonely dog barking and a ragtime honky-tonk rhythm jangles down the dusty, glowing street from a nearby bar.

I have visited the town of Blackwater many times. In the daytime the streets bustle with horses and carriages. The sun-baked buildings and shop signs appear old and battered. Weathered over time from the harsh environment of the surrounding desert. But it is the night-time, or more specifically, the moment just after the sun sets that interests me most of all: when the sky is painted dark shades of purple and town is bathed in a warm artificial glow. This is the time I most enjoy making photographs.

Blackwater is an undeniably beautiful place: a seemingly perfect reimagining of how the viewer might expect a late 19th century desert town in the United States to have looked. Of course Blackwater isn't a real town, at least not in the physical sense. It exists in the videogame *Red Dead Redemption 2*¹, the town of Blackwater being just one tiny location on a huge virtual map. Everything that fascinates me aesthetically in this world is a virtual construct, designed and programmed by software engineers. The orange glow of streetlamps and the shadows cast across the deserted streets of Blackwater is virtual light: a simulation of light.

I've been making photographs in videogames for more than ten years, starting with *Gran Turismo 5*² on the PlayStation 3. My first photographs of a videogame however were taken long before this, in the late 80s and early 90s. As a child I would take photographs of the television screen with a cheap 35mm camera. Perhaps the first example of this was a poorly exposed image of *Alex Kidd in Miracle World*.³ The glowing screen of a black and white television appears to hover in almost total

darkness. Although the television screen is overexposed I can just about see that it's the first level. Later I would photograph games such as *Street Fighter 2*⁴ and *Superfrog*.⁵ Often I would arrange the surroundings of the television screen to make more interesting photographs: stacking Sega Mega Drive games on top of one another and facing out the colourful box art of Amiga games.

These photographs could be viewed as a still life or tableau vivant now; the rearrangement of gaming paraphernalia around the centre piece of the television, like fruit around a bowl. More importantly they make up a small part of my childhood memory in the form of a family photo album. These videogame photographs sit alongside images of birthday parties, visits to theme parks and family holidays: they are steeped in nostalgia like any other image from a family photo album. Viewing these photographs now, I'm immediately brought back to that time, and of the hours spent staring into these pixelated magical worlds.

Thirty years later I still photograph videogames, only now from the other side of the screen, using in-game photography modes, and the joy of gaming as a social experience has shifted from the physical (of playing together in the same place, on the same television screen) to the virtual (interacting as avatars/in-game characters). I've often wondered how these digital images relate to the real photographs of videogames taken thirty years ago.

There is a sense of duality or in-betweenness to these images, clearly denoted in the physical photographs, where the real (the room) and the unreal (the on-screen videogame world) are brought together. Digital images made within virtual spaces, share this idea of in-betweenness. Videogames are virtual constructs rendered by machines but designed by people, played by people, and often depict worlds similar to our own. These worlds often exist as online servers, visited by countless players. To make photographs in these virtual environments is to photograph humanity in its everyday environment, as so many people now live between the real and the virtual.

This thesis will attempt to bring a better understanding of photographic theory with regards to photographs made of and in virtual environments and explore how and why these can be viewed in the same way as traditional photography. It will look closely at images produced in videogames, including the relatively new innovation of the photo mode, which allows the user/player to suspend the gameplay condition and become a photographer in these virtual worlds.

Although this thesis is predominately focused on virtual photography and the virtual photograph, it will also discuss traditional photography (traditional in the sense that that the images were made using a physical camera, and from the physical world) as a way to demonstrate that these virtual photography is a natural extension of ideas and techniques developing in modern photography in relation to the screen. Later on, during analysis of photographs that comments on themes relating to this thesis, it will be seen that it is often the case that the final image is a result of multiple photographic methods, and sometimes a mutation made from and exists between both the virtual and the real. The goal of this thesis is to better understand these images, and to consider them as photographs, without the need to classify them outside of the medium of photography.

In an odd twist of circumstance, the research and writing of this thesis has coincided with a global pandemic. High streets and other places of social gathering becoming deserted as society stays in doors, isolating from an invisible threat. Whilst the impact Covid-19 has had on the world cannot be minimised, it has brought to the fore the many ways in which society has connected even more to the other world beyond the screen. The screen has become a means of escape from the confines of the home, whether that be video calls to family, friends or work; education and learning through online videos and resources; events being adapted and broadcast digitally, or visiting friends in virtual worlds like *Animal Crossing*⁶ or watching a movie or gig within the vibrant cartoony world of *Fortnite*.^{7 8} The smartphone has become the little screen that many members of modern societies have with them at all times. The smartphone has made everyone in the world a photographer: so much of what people see and know of the world is mediated through a 5- or 6- inch window held in the palm of your hand, and most photographs now (even the modern family photo album) are viewed and only exist electronically on these devices. They have doubtlessly

made humankind a creature that can exist between two worlds: the physical and the virtual, as people are tethered to the digital world in which many aspects of modern life are lived. Scholars of technology have been telling us for years that “we are all cyborgs now”.⁹

In the 1953 science fiction novel *Fahrenheit 451*, Ray Bradbury conceives a world where the television consumes the entire room in a ‘TV parlour’ (2008, p 29). In Bradbury’s future, television isn’t just watched but is rather a medium you can interact with, as you become a character in the show, and use the television screen to talk to your digital friends. In the subsequent decades, artists would make work that commented on our relationship with television, as screens became a fascination for photographers. Throughout the 1960s Lee Friedlander photographed television screens in hotel rooms. A decade later Harry Gruyaert’s *TV Shots* (colour photographs of television screens which were also taken in hotel rooms) made a comment on the way news journalism uses the medium of television to broadcast information, but also spectacle in the way they present it. Diane Arbus visited movie theatres and photographed the cinema screen.¹⁰ It feels a natural development that computer screens and the internet have provided a further realm for the photographer to explore. Tired of creating work in Paris (one of the most photographed places on earth), photographer Michael Wolf would turn to Google Street View and make photographs of Paris from existing automated photographs.¹¹ Thomas Ruff questions the way people consume modern imagery in his series *jpegs* by collecting images found on the internet, and enlarging them to the point that they become pixelated.¹²

Lee Friedlander’s *The Little Screens* would remain largely unheard of until the photographs were eventually brought together as an exhibition and book in 2001.¹³ Harry Gruyaert’s *TV Shots* “created controversy when first exhibited in 1974, with its disrespectful assault on the culture of television and its radical challenge to the conventions of press photography.” (Havlin, 2020)¹⁴ Today, photographic projects that comment on similar subjects are lauded with praise. Claire Strand’s *The Discrete Channel with Noise: Algorithmic Painting; Destination*¹⁵ was nominated for the Deutsche Börse Photography Foundation Prize 2020. Her images explore the process of transmission via telegraphic communication, recreating existing photographs as painting through encoded telephone messages. Drew Nixon’s *This World and Others Like it*, a photographic investigation of how technology arbitrates our

experience of the world, was nominated for a special mention at Paris Photo-Aperture Foundation Photobook Awards 2019.¹⁶

Friedlander and Gruyaert's work was pioneering in the choice of subject, as screens had not been considered something to be photographed, but in time this became critically accepted. A few years after Gruyaert's *TV Shots*, photography would shift from its modernist traditions, and in the late seventies entered its post-modern period, where different subjects and uses for photography became more accepted. Artists such as Jeff Wall, Cindy Sherman and Andreas Gursky were championed for adopting elements from other visual mediums alongside photography, such as painting and cinema. In the post-modern era there arguably isn't a subject the camera hasn't focused its lens on, including metaphysical themes such as memory and dreams.¹⁷

Virtual spaces are often talked about and described as unreal or dreamlike, or are interwoven with magical and fantastical dialogue pulled from fiction. But while these virtual worlds (be that a videogame or any interactive virtual environment) are not physically real places, they are still places that people go to, and exist in as players, users and avatars. Humankind seemingly exist in two plains of reality. In contrast to the television screen, a non-interactive, chronologically and narratively linear experience viewers might passively consume, today the screen can serve as a portal to other worlds: digital worlds people socially interact with and are present in. Janet H. Murray considers video games as a "new kind of dramatic experience" where players can take part in the narrative and make active decisions, and experience a dual conception of self as both existing within the real world and the game world (1997, p. 54).

As Bolter and Grusin have argued in their work, *Remediation* (2000), new media remediates old media, as computer technology remediates older media such as radio and television, and newer technology remediates again as these technologies continue to evolve. This thesis will consider the remediation of the camera via the screen – television, cinema and videogames. This thesis will explore the idea that photographs taken from within a virtual space, using software that simulates the physical camera and lens (the photo mode in videogame for example) can and should be considered part of photography's wide doctrine.

Currently, images created from virtual spaces are discussed and written about as something that exists between post-photographic theory and computer software theory. They are sometimes categorised as a form of digital art. Some professional practitioners who make still images from videogames even distance themselves from the words 'photography' and 'photographer' by referring to themselves as screen capture artists.¹⁸ Theory surrounding virtual photography (especial with regards to videogames) is often written by someone within a specialised field of computing. This thesis differs in that it approaches the subject very much from a photographer's point of view, and applies the theory, concepts and critical framework of photography when considering these images.

It has been suggested that the virtual photograph shares more in common to digital art¹⁹ and are often discussed in cold, machine-like terminology. Their referent reduced to "differential circuits and abstract data banks of information" (Batchen 1999, p. 213). Yet the almost magical or metaphysical characteristics of the photograph are also found in those made in virtual space. "There is no better 'souvenir', it seems, than the self-made photographic picture, which is meant to preserve individual memories from individual moments of an individual life." (Haverkamp 1993, p. 258). Virtual photographs have the same ability to hold memory and meaning, and fulfil the same emotive function as traditional photography.

Here it's important to note that this thesis does not attempt to alter ontological concepts of the photograph, but rather to connect virtual images with the medium of photography and to understand them as photographs. Seth Giddings argues that the "strange and new environment" of virtual space demands "a rethinking of the nature of photography" (2013). However, this thesis will explore the idea that images made in virtual environments can be 'read' and understood in the much the same way as traditional photographs, because existing theory and the artistic and methodological aspects, as well as the personal and memorable nature, of the photograph (which is different and unique to everyone), are applicable to photographs taken in virtual space.

Can a virtual photograph have punctum? “That accident which pricks me (but also bruises me, is poignant to me)” (Barthes, 2000, p. 27). Barthes’ punctum describes a unique connection with a photograph. For the writer of this thesis it undoubtedly can, although how a person individually experiences a photograph is very much a subjective matter. For those who spend time in virtual spaces, who socialise, who have fallen in love or sadly witnessed the passing of an online friend, the experience of virtual photographs of these memories is likely not radically different to that of a real photograph.

Virtual spaces are not static or unchanging. They quickly evolve and are often short-lived, as they are updated, expanded, and deleted, or reimagined years later as a high-definition remake, on different computer system or medium (the smart phone or tablet device for example). Photography must play an important role in documenting and recording societies interaction in virtual space, just as photographers such as Berenice Abbott documented the landscape in projects such as *Changing New York*. As Joel Meyerowitz said “If there are no photographs, then there is no history” (cited in Phaidon, 2006). Physically real or not, they are a part of everyday life, and the photographer’s voice must be heard in these worlds.

Literature Review

In between ‘betwixt and between’

Pixels and bits pixels and bits their perpendicularity:

One of the worlds I live in is as shallow as a pane of Glass

(Sexton, 2019, p. 8)

This thesis analyses photographic theory and artists’ work which either comments on the notion of various ways of being between the physical world and the virtual, or is entirely produced from within the virtual realm. This section will discuss the varied terms used to describe photography of this type, and proposes a new umbrella term to encompass this category of photography. To aid the discussion and close reading of this type of

photography in the exploration of artists' work later in the thesis, the images are considered in three levels or 'layers' of photography subject to its relationship to the screen.

Physical photographs that denote virtual environments as part of the image, or photographs made entirely within the virtual environment itself (ultimately replacing the lens with software) have been categorised into several different terms and phrases. The latter can be referred to as 'virtual reality photography' or more commonly 'virtual photography'. In other academic texts it has been defined as 'screen capturing'²⁰ and 'screen grabbing/screen shotting'.²¹ Photography specifically made in a videogame is most commonly referred to as 'in-game photography' and this the phrase this thesis will often use when discussing photographs made within video game worlds. All of the above phrases signify much the same phenomenon, which is the capturing of a screen view as a still image.

Photographs that depict virtual spaces but are created in the physical world, for example the act of taking a photograph of a glowing computer or television screen, have been classified as 'Schirmbildfotographie' or screen-image photography (Gerling 2018). When Winfried Gerling uses this terminology it more accurately describes the screen image only and not the screen in the context of the space it inhabits. As an example, Michael Wolf's project *A Series of Unfortunate Events*²², made by photographing the screen of Google Street View, could be described as screen-image photography. The images at first glance could be mistaken as screen shots but upon closer inspection the grid like pattern of LEDs that make up the surface of the screen are seen.

These terms and phrases describe the method used in capturing the resulting image. Virtual photography and the virtual photograph is a broad term that appears to encompass everything relating to photographs made in virtual spaces (or of virtual spaces). However, this quickly becomes a foggy term in many cases, especially when images depict virtual space but are made using traditional photographic methods. As this thesis delves into the working practices of different artists it will show that this is not an unusual occurrence.

As already stated, although this thesis is weighted towards looking at virtual photographs, it will not be solely focused on such imagery. In understanding photography's relationship to

the virtual or the screen view, this thesis will also look at traditional photographs: 'traditional' in the way they are taken and produced, not by the scenes they illustrate (which might be considered untraditional or niche to some).

Here a new umbrella term that encompasses all of the above is proposed: the metaxic photograph, derived from the Platonic term 'metaxy'. 'Metaxy' or 'metaxis' is from the Greek word that means 'between'. Although metaxy is generally a common word that has been used by many Greek philosophers, Eric Voegelin proposed this usage as a technical term, adopted from Plato's *Symposium*.²³

In Plato's *Symposium* there is a conversation between Socrates and Diotima where Eros (the God of love in Greek mythology) is described as being "between mortal and immortal" and a "great spirit [who] falls between god and human" (Plato, 2005, p. 47). Voegelin's interpretation of metaxy is the state of in-betweenness humans exist in, being between two poles of reality. On one side is the actual, material and mortal world. On the other is the perceptual, divine and immortal world. Metaxy is the point of convergence between the real and unreal.

The term metaxy has been used in other areas of study outside of Voegelin's political philosophy. In the 1980s, drama theorists Augusto Boal and Gavin Bolton used the term 'metaxis' to describe the interplay between the actual and fictitious, in relation to theatre and acting.²⁴ More recently, Liz Falconer links ideas around metaxy to virtual worlds. "The advent of virtual worlds has provided another interface we can now inhabit; that between the virtual and the real. And, particularly, that the notion of in-betweenness becomes significant when virtual worlds are used for education through simulations of real life experiences and activities." (Falconer 2011).

Rob Shields describes metaxis as "the key conceptual sleight of hand in allowing users to imagine leaving behind identities in one realm to become something/someone else or to play an entirely different role (for example in a role-playing game)" (2003, pp. 13-14).

The metaxic photograph is thus an image made within, or one which denotes or connotes our presence and relationship to, virtual worlds: those worlds that exist beyond the physical, and which are observed and mediated through the screen. This umbrella term provides useful clarity and facilitates discussion of these images as a type of photography, whilst allowing for the many different variations of methods, techniques and aims.

This investigation and analysis of metaxic photographs is divided into three sections, in order to outline three main types of metaxic photography identified. First are those images that exhibit both the real world and the unreal in relation to one another. Most commonly this will take the form of a screen of some sorts, acting as the portal or window to these other worlds, but in the context of the real world environment. These photographs evoke a sense of being in-between worlds, always photographed from a real/ physical environment yet the viewer's gaze is drawn to the otherworldly, or virtual.

Secondly, images made by photographing the surface of the screen will be investigated. Here evidence and signs of their real world production are (sometimes but not always) less obvious, but can be observed on a closer reading of the image. An example of this form of the metaxic photograph has already been mentioned, in Winfried Gerling's study of 'Schirmbildfotographie' (screen-image photography). Here the images may appear similar to that of a screenshots but are always produced by physically photographing the screen.

Lastly this investigation moves beyond looking at the screen from the physical/ real point of view, and instead discusses work made entirely within a computer program. Here photographs are taken in the virtual realm, using virtual cameras, for example Alan Butler's work using the in-built 'Snapmatic' mobile phone used by the in-game character in *Grand Theft Auto V*²⁵

It's an image but is it photography?

"To understand that virtual photography is used in so many different ways by so many different people is important because it ties directly into the entire history of

photography. After all, the history of photography is primarily a story of exceptions, mutants, technological quirks, mistakes and hybrids.”
(Rauch, 2015).

This section will consider the recently popular area of virtual image making, in-game photography, and discuss how it fits into a general understanding of the medium of photography. The innovation of photo mode is discussed, though it will be seen that there is no need for a dedicated photo mode in order to produce photographic work of a videogame. During discussion of notable artists' working practice later on in this paper, the methodology and tools they adopt to create photographic work in virtual environments will be considered in detail. This section also discusses arguments against this new type of photography being considered as photography, including issues around the reality of that being depicted, and questions of copyright and artistic ownership. It also discusses some areas in which virtual photography might seem to suggest and echo the theory and practice photography, as seen in areas such as gameplay mechanisms.

In-game photography has exploded in popularity over the last few years with most triple A titles now featuring a 'photo mode' either on release, or added to the game shortly after. "It's almost easier to list the games that didn't include a photo mode" noted games writer and reviewer Dia Lacina (2018) of 2017's releases, which included *Horizon Zero Dawn*²⁶, *Assassin's Creed: Origins*²⁷, *Super Mario Odyssey*²⁸, and *Grand Turismo Sport*²⁹.

2020 saw photo modes added via software updates to a host of titles: *Red Dead Redemption 2*, *Control*³⁰, *Borderlands 3*³¹, *Star Wars Jedi: Fallen Order*³², and most recently, *Death Stranding*³³.

"Photography has become one of the principle devices for experiencing something" (Sontag, 2008, p. 10) and the photo mode has now become an almost expected feature in most games. 'Virtual tourists take photographs for the same reason offline tourists take photographs' said Betsy Book. "They want to commemorate their travels, obtain a visual record of enjoyable experiences, and show evidence to friends and family" (2003). A game without a form of photo mode might be likened to being on holiday without a camera. When games do not feature photo modes – a prime example being *Destiny 2*³⁴ – it's now

common for players to develop a form of counterplay allowing them to make photographic images within the confines of the gameplay.³⁵ However, the photo mode is essentially the official way videogames implement the option of capturing a still image in their game world and allowing the player to perform in-game photography, which developers have clearly recognised as a need and desire amongst players.

Janet H. Murray, in *Hamlet on the Holodeck: The Future of Narrative in Cyberspace*, notes that “the more realized the immersive environment, the more active we want to be within it” (1997, p. 126). Games are so immersive that players not only wish to play the game but to take this activity further by creating photographs within the game environment. Murray’s description of the agency given to game players through this activity - “the satisfying power to take meaningful action and see the results of our decisions and choices” – can easily be seen as a description of photography, highlighting the fertile environment of videogame worlds for creative practice.

To fully understand in-game photography and the virtual camera, this study must look at the worlds they are connected to. All videogames and virtual spaces are made up of code. They are digital simulated worlds designed and created by people and brought to life by a machine. They are a virtual reality which connects them to the realm of fiction: intangible, abstract and unreal. As such, the images they show, and the images captured by in-game photographers, are the creation of another or a group of others. As a result, arguments against the validity of virtual photography as part of photography’s history, tend to broadly fall into two categories: those questioning the reality of the world depicted and those problematising questions around copyright and artistic ownership of the image.

The first argument concerns the nature of reality, both in terms of the virtual places being observed in the image, and also the means in which the image was made: how can these images be considered photography when the world being photographed is not real? How can these images be considered photographs when even the camera used to take the image is itself only a simulation of a camera?

It isn't unusual for the medium of photography to be embroiled in arguments and debates whenever new photographic technology, or a new way of seeing are developed. An apposite example is the debate in recent years around mobile phone photography. At times criticized for their use of filters, which not only emulate film but can now digitally alter faces (for example, skin tones and eye shapes). There is a sense among some that while these 'social photos' are a form of photography, they aren't photographs in the traditional sense of the word (Jurgenson 2019). Here discussions fall into the realm of 'is it or is it not art?', which is a question photography has fought to answer for over a hundred years. Geoffrey Batchen asserts that "when people seek to protect photography from the incursion of the digital, it is the reality that they are ultimately defending." (1999, p. 213). Batchen's claims ring a familiar truth when people seek to disassociate the virtual photograph with photography.³⁶

Winfried Gerling argues that because game worlds resemble and simulate photography then "in-game photography is simulating a simulation" or a "double simulation" (2018). Because of the level of simulation involved with images produced via in-game photography, it might seem clear to suggest that it has its ontological roots somewhere outside of the medium of photography. Any argument that concerns the simulation of the world depicted, the simulated camera, and the simulation of light or 'virtual light' (Rauch 2012) are of course correct in the fact that the worlds, camera and light do not exist physically.

However, in-game photography for all sense of purpose is still photography both in that it captures a 'light-drawing' in its technical definition and that it achieves the very basic functions photography serves. A person might take an in-game photograph of an aesthetically beautiful videogame location, in the same way a person might photograph their real life holiday. Photographs of accomplishments, things obtained or found in videogames mirror real life snapshots of things people have bought or the meals they have cooked. People photograph to share their experiences with others and to remember them. As Roland Barthes said, "the photograph is never anything but an antiphon of 'Look,' 'See,' 'Here it is' (2000, p. 5).

The second issue is related to questions of copyright and of artistic ownership of images made in videogames: how can these images be considered seriously as photography, and as the work of a photographer/ artist, when the worlds, items or people depicted within are the creations of others?

It is true that all commercially produced videogames are protected by copyright law, and so when people/ players enter these worlds they are asked to abide by certain rules, governed by the licencing agreement, and so subject to copyright. However, this is also the case for lots of traditional photography. Famous places and architectural structures are often protected by copyright; for example - the Eiffel Tower, which must surely be one of the most photographed structures in the world.³⁷ An argument that suggests that an in-game photograph is merely a construct of the game development team would be akin to suggesting that a real life photograph of Venice or the interior of the Sydney Opera House is merely a construct of the architects and builders who created it.

As Winfried Gerling acknowledges, “the [in-game] photographers move in a world formed down to its last detail” and therefore it is clear that “photographers can thus only record what others have created” (2018). But it is important to note that the photographers in these ‘created’ worlds have complete creative control of their subject and composition, and of the methods of creating these images. Remediation is not new or unique to videogame photography. Cindy Poremba points out that “the ability to remediate the game camera and manipulate point of view is essential [...] because it allows players to create original works even within existing works that do not occur in other media” (2007). There are similar parallels in traditional photography – an example being Man Ray’s photograph *Dust Breeding* of Marcel Duchamp’s artwork *The Large Glass*. Man Ray did not create the original artwork depicted, but *Dust Breeding* is undoubtedly a new photograph created by him.³⁸ Images that remediate another work in this way this will be considered later in discussion of Arbus and Gruyaert’s photographs of cinema and television screens.

“In-game photography allows artists to put things out of their original context and confers them new meanings” suggests Gemma Fantacci (2018). “The photos that this practice generates share similarities with the punctum described by Roland Barthes [...], a particular

element, a detail that usually exists within a scene or an environment that has the power to attract the observer's attention. Here, the punctum is a turmoil, that detail that shakes the observer's tranquillity. In-game photography is the only way that artists have to step outside the gameplay and extract moments that otherwise would have gone unseen. It's a medium that allows the punctum thanks to a careful observation of the environment, going beyond the video game's surface." Although the way people might think about photography adapts and mutates with changes to technology and society, Barthes' description of the photograph being a shared experience and object is still widely acknowledged as the dominant view of photography. A photograph can never escape its referent, in that a photograph of the Eiffel Tower will always be a celebration or at least acknowledgment of the architecture of Paris; whether that photograph was taken by the famous Henri Cartier-Bresson, or a holiday snapshot from the sea of similar images on social media sites. Like real world photographs, all in-game photographs celebrate/acknowledge their subject. Projects such as Casey Brooks' *You Only Live Forever*³⁹, Alan Butler's *Down and Out in Los Santos*⁴⁰, and Benoit Paillé's *Crossroad of Realities*⁴¹ all represent the videogame series *Grand Theft Auto*. Although these bodies of work are vastly different from each other, they are all tied to their referent, the game world, which is the same videogame made up of the same code.

It is unlikely that any of the arguments discussed above are concerns that developers and publishers have about others making artistic interpretations from their videogames, else they simply wouldn't implement the photo mode into their creations. It should also be noted that aside from artists who specifically work within the game industry (who will be discussed later), the majority of the photographers discussed in this thesis have not sought permission for their work. Arguments concerning copyright and artistic ownership of in-game photography do nothing to invalidate it from the medium of photography. They simply mirror old arguments, expressed within the art world against photography over a hundred years ago, as a machine that simply copies whatever is in front of it.

There are many ways in which in-game photography can be seen to be a natural reflection and development of photography, rather than an aberration. An interesting attribute of in-game photography is that our view of a game world (or the player's view) is itself a camera-like view. Our view of these worlds are governed by the game's programming, and this often

simulates a cinematic camera viewpoint. In that effect, regardless of any notion of performing the act of photography, the player's view is always a photographic view, akin to looking through the optical viewfinder of a camera. It is also common for modern videogames to refer to player's view as the 'camera' view.⁴² Modern videogames therefore suggest photography by default, though Seth Giddings reminds us that "no-one would have thought of this graphical output as camera like until the FPS (first-person shooter)" (2013). Giddings describes the virtual camera as being "made of the same material as that which it depicts: code. It too simulates vision but now it is the optics of the camera apparatus itself that is the aim of this simulation not biological vision" (2013).

Despite arguments surrounding a perceived lack of reality and attempts to subvert reality, as well as perceived tensions around copyright and artistic ownership, it can in fact be seen that in-game photographs acknowledge their referent more than any other form of photography, and in so doing, this can be said to make them some of the most honest and truthful images. A photograph of a videogame rarely attempts to fool the viewer into thinking it is anything else. Videogame worlds such as *Animal Crossing: New Horizons*⁴³ and *No Man's Sky*⁴⁴ have a distinctive game-like aesthetic. Even games that mirror the real world and seek to simulate it visually, still look like a videogame currently. However, as videogame graphics continue to evolve, and the line between what is real and what is simulated appears to blur, and so there may be more tension in this area in the future.

A primary way of sharing in-game photographs with others is through social media websites. Here the image's referent can not only be read in the photograph but is quite literally spelled out for the viewer in the form of hashtags. In-game photographers are quick to pay homage to the videogames they make work from, and to the developers who make them. This is seen in online galleries dedicated to sharing in-game photographs.⁴⁵ When a viewer looks at an in-game photograph, he or she can see and appreciate the artistry of the photographer: "Just as there is an art to taking a good offline photograph, there is an art to taking a good screen capture" (Book, 2003). However, the viewer can also see and appreciate the artistry involved in creating the virtual game spaces that are displayed.

Sontag describes photography as predatory act: “to photograph is to appropriate the thing photographed” (2008, p. 4). Ironically, it is this action of taking, collecting, or trophy-hunting inherent in all photography that is ultimately being questioned when fingers are pointed at in-game photographs, as critics argue that the invented realities of others are being appropriated in virtual photography. However, as has been demonstrated, virtual photography is no different to traditional photography in this respect, and in many ways more clearly acknowledges and echoes its referent.

Press X to start

Although this thesis does not attempt to describe a full history of the ways videogames have implemented photography modes, it does need to examine where other writing on in-game photography and virtual worlds ends, and where this thesis starts. Videogame technology, like camera technology, has evolved and mutated very quickly, and so the landscape of in-game photography looks vastly different now than it did just twenty years ago, as does the thinking around it. Furthermore, it is important to understand how an in-game photo mode works, and the various practices artists have utilised in order to create photographic work from a videogame, including creative choices around light, timing and the inclusion of photographic anomalies. Similarities with other forms of traditional photography including documentary photography, tableau vivant and urban exploration are also discussed.

The first scholarly articles that specifically addressed virtual and in-game game photography were Betsy Book’s *Traveling Through Cyberspace: Tourism and Photography in Virtual Worlds* (2003), and Cindy Poremba’s *Point and Shoot: Remediating Photography in Gamespace* (2007). Although Book’s essay does not focus on videogames per se, the major themes of being a virtual tourist or photographer in a virtual space are not dissimilar and can be applied to being a photographer in a videogame world. Poremba’s essay, which was certainly the first scholarly article on photography in videogames is more focused on photography as a gameplay mechanic. Pokémon Snap⁴⁶ becomes a key example for Poremba. Pokémon and photography seem a perfect marriage, with the franchise slogan ‘Gotta catch ‘em all’ echoing Sontag’s views about collecting and appropriating.

Poremba describes photography as an “inherently game like practice. Composition is rule based (albeit with rules that can be broken), and the act of photography is a strategic endeavour” (2007). Gameplay and photography can be seen to echo one another, and navigating menu systems and settings within a digital camera (or mobile phone) has become increasingly similar to navigating menu systems within a videogame.⁴⁷ Furthermore, the act of photography using LCD displays or electronic view finders (EVF) aligns our view of the actual world to that of the virtual or a digital representation of the real. Here the world view is projected digitally onto a miniature screen, and which also displays a slew of additional information. This is not unlike the heads up display (HUD) in a modern first person shooter (FPS) game. In this ludic perspective of the camera, battery life icons might become health bars. Memory card space becomes a form of ammunition, and autofocus points lock onto the target: the photographer is armed and ready to shoot.⁴⁸

Videogames sometimes implement photography and the camera as a tool/item for information gathering or collecting. This can be seen in videogames such as *Bioshock*⁴⁹, where a ‘research camera’ (in-game item) can be used to identify the biological weaknesses of enemies. Or more recently *The Legend of Zelda: Breath of the Wild*⁵⁰, which encourages players to take photographs of the game’s creatures, and items using a camera ‘rune’⁵¹. These photographs are compiled in an encyclopaedic photo album called the ‘Hyrule Compendium’. The function of these collected images is so that they can be selected/viewed later on, and used to locate the thing depicted. Although their primary existence is to facilitate a game mechanic, players are free to update previous compendium entries by simply rephotographing the same subject, and therefore curating their compendium exactly like a traditional photo album of souvenir holiday snapshots. There are even websites dedicated to taking better photographs in this virtual world.⁵² These photographs are not intended to be viewed outside the virtual pages of the Hyrule Compendium (although they can be). That is, there is no formal option of sharing these images outside of screenshotting or photographing the screen, and in doing this the photographs will always include the user interface of the game.⁵³ Winfried Gerling states that “these types of screenshots always contain the interface of the particular game and are thus documents of a game culture and belong to a specific cultural scene” (2018). As

Poremba notes “although game photos remain a representation (through remediation) of the technique of representation, photography nonetheless carves out a space for itself within play” (2007).

Coinciding with the first academic writing on in-game photography, it was around this period of time that video gamers saw the first ‘official’ photo mode implemented in *Gran Turismo 4*, created by Polyphony Digital. Allowing players to photograph the game up close is a natural progression of game design company Polyphony Digital’s philosophy. A self-described “functional group of artists and technologists, driven by the two wheels of design and technology”, Polyphony Digital aim to create “works that are ‘open’ to society”, cultivating a creative and collaborative approach between game makers and game players (Polyphony Digital Inc, 2020). Publicised as "a new way for players to enjoy Gran Turismo from a different angle, with infinite possibilities" by the games creator Kazunori Yamauchi (cited in GamesRadar, 2004).

It seems apt that the first photo mode should be in some way related to the motor car. The commercial history of the camera and car developed at roughly the same time.⁵⁴ The motor car allowed people to travel further afield and with the camera, document their experiences which would ultimately enable a whole genre of photography in the ‘road trip’. Sontag considered the parallels between the camera and the car, as well as the gun, in her essay ‘In Plato’s Cave’, noting that they can be experienced as a “predatory weapon”, an “easy, invisible technology” and “fantasy-machines whose use is addictive” (2008, p. 14). Video games also sit neatly within this category of experience, and it is fitting that as cars were reproduced virtually within the video game, so was the camera.

Photographs made in the Gran Turismo series can be read and understood on a number of levels. There is undoubtedly a level of joy some players will experience from the act of photographing and commemorating the cars they have earned or bought in the game, and sharing these achievements with others, just as people might share photographs of a new purchase or commemorating an achievement. Yet they also work as a marketing tool for both the videogame itself and the gaming console. Gran Turismo (which is exclusively published for the Sony PlayStation gaming console) is often released alongside the newest

console, functioning almost as a technical demonstration of what their new console is capable of graphically. Interestingly the photo mode itself, and the images produced this way, acts as a form of free advertisement for those games which feature photo modes. Options that can include adding the games title, developer or logo to the image would make it hard to differentiate this from much modern advertising. Arguably all in-game photographs can be interpreted as advert of sorts.

It's important to note that while the photo mode was conceived a few years before Poremba's seminal essay, they remained rare or niche addition for many years afterwards. *Gran Turismo 4* might be hailed as the game that opened the gates to a world of photographic possibilities, but the photo mode has only recently become a staple feature in videogames. As stated previously, a videogame doesn't necessarily have to implement a photo mode in order for the player/artist to make photographs in that world. But it does make photography immediately accessible for the layman, in the same way the modern mobile phone has remediated the camera, allowing it to become more accessible to most people and to engender opportunities for photography where they may not have otherwise existed.

Photo modes have been implemented in a manner of different ways and as with real life photography, the technology differs from camera to camera or, in the case of this thesis, from game to game. For example, while many games allow the player to stop gameplay to take an in-game photo, this is not so easily done with games where multiple users play together online synchronously. Sebastian Möring and Marco de Mutiis' essay *Camera Ludica: Reflections on Photography in Video Games* sets out to make a kind of typology for photography in videogames. *Camera Ludica* provides an interesting insight into in-game photography and is at this point perhaps one of the few scholarly articles that specifically addresses the 'photo mode'. They note that "video games with photo modes generally suspend the gameplay condition in order to offer the player the time and space needed to produce artistic images" (Möring and de Mutiis, 2019, p. 82). Although that is generally correct in many cases, that is never the case for online (multiplayer/cooperative) games that feature ways of taking photographs, such as *Grand Theft Auto V*, *The Division 2*⁵⁵ or *Fallout*

76⁵⁶. Möring and Mutiis do recognise Grand Theft Auto V's smartphone camera as a "borderline case in [their] typology" (2019, p. 81)⁵⁷.

As the game world does not pause, there is also the addition of timing, or Henri Cartier-Bresson's 'decisive moment' when photographing with these types of games. There are also no options to position the camera view outside of what would be physically possible for a person holding a camera (or virtual camera phone in this case). Like real life photography, a photograph from an elevated position would require the location scouting of such a position. Alan Butler, who documents Grand Theft Auto V in his ongoing series *Down and Out in Los Santos* (2015-present), observes these limitations as "represent[ing] a really interesting proposition which is that if I was going to roleplay as a street photographer in this virtual videogame, that I wouldn't do that screen shotting in a nonhuman point of view. I like the restrictions that this piece of software gives its user. To explore this world through that lens" (Screen Walks 2020, Alan Butler).

One could argue that this archetype of in-game photography is more closely related to the traditional form of documentary/ street photography: of being in the moment, or right place at the right time. As David Hurn notes, "There are two fundamental elements in all picture taking: where to stand and when to release the shutter. These are the two basic controls at the photographer's command – position and timing – all others are extensions, peripheral ones, compared to them" (1997, p 57). It could be suggested that photo modes that suspend the game world (which are the majority of photo modes) conversely have more in common with pre-constructed or staged forms of photography. Composition and lens adjustments such as focusing are carried out in frozen time. The act of photography and making of the photograph in this sense is in complete contradiction to real life photography, where the moment is frozen in the opening and closing of the shutter. In effect the 'moment' is defined on entering photo mode.

The level of control a videogame gives to the player through photo modes varies from game to game. It's also easy to forget that although photo modes can potentially be viewed as an added feature, placed outside of the gameplay condition, they are still a part of the game engine and must adhere to the rules governed by the code (although those rules can at

times be broken). Some photo modes offer relatively basic (or realistic) composition and photographic functions, relative to the position of the in-game character/avatar, or akin to holding the virtual camera from that point of view (or there about). Others bestow almost god-like abilities by allowing camera movements that sweep high into the sky, or to seemingly push the camera into improbable areas, and even through the boundaries and walls defined by the game. Here there is an element of urban exploration photography (or Urbex), a subfield of architectural photography, where abandoned buildings and places (often in a state of decay), become an interest for the adventuring photographer, often entering without permission. The photo mode can offer a similar experience to glitching outside of the map: a form of videogame counterplay where players seek to bypass the defined playable areas of the gamespace, effectively breaking the game rules and wandering into the unknown and unseen. *Battlefield V's*⁵⁸ spectator mode⁵⁹ allows players (or in this case 'observers') to easily explore beyond the designated gamespace and often allows the camera to be pushed through and underneath the surface of the game world. The photographic view from the photo mode offers a new way of seeing and experiencing the game world, and is a vastly different experience to the established player view.

Almost all photo modes have options to hide your character and other non-playable characters (NPCs) from view and some videogames even allow the weather to be altered, facilitating a range of creative choices for the photographer. *Ghost of Tsushima*⁶⁰ allows a strikingly broad and detailed range of options regarding weather in its photo mode. Weather can be changed like cycling through television channels. Clouds and particle effects added, and even the wind direction altered. Videogames such as *Horizon: Zero Dawn* and *Ghost of Tsushima* actually allows the time of day to be transformed from day to night, quite literally dragging the sun around the sky. In this example the sun can be used as a movable source of light, which can potentially be used to light the scene/subject in a manner of different ways, like a real photography studio or movie set.

Although this thesis has already established that light in a videogame is a virtual construct, both game developers and artist who make work in their games are not blind to its beauty and opportunities. It's not surprising to see the golden hour so heavily featured in video games. The low sun in the early morning or late evening casting its warm glow across the

virtual environment. In *Marvel's Spider-Man*⁶¹ the sun appears to be in a constant state of setting (at least for the writer of this thesis). In-game photographers use all manner of techniques and tricks in order to create interesting lighting set ups, using light sources the game environment offers such as the position of the sun, windows and lamps. While under restriction due to Covid-19, fashion photographer Jessica Kobeissi challenged herself to create a professional photoshoot within the world of *Animal Crossing: New Horizons* (2020). Here Kobeissi positioned characters near to lamps or placed a candle to one side of her subject. A technique Rembrandt used (quite literally with a candle) and is often emulated in modern photography, using single light set ups. In game items can potentially be used by the creative in-game photographer in order to create their own lighting. Anything that produces a light source (anything from weapons to torches) might be used in clever ways, in the same way real photographers might carry around a bag of items including flashes, reflectors and gels to effect the environments and subjects they photograph. Screen capture artist for Electronic Arts Dice, Petri Levälähti (aka Berduu) demonstrates how he uses these techniques in *The Last of Us 2* via his Twitter page (5 July 2020): here the in game flashlight becomes a useful tool for illuminating the game world in creative ways. Throughout history, painters and photographers have been praised by the way they utilise light, from J. M. W. Turner and Rembrandt, to Fan Ho and Joel Meyerowitz. These artists are regarded as masters of light for the way they depict their subjects and scenes, from the subtle and intimate, to the awesome and sublime. The in-game photographer can become a master of virtual light, framing and capturing notions of the aesthetic, or creating it from nothing.

Interpretation of aesthetics is an area of research mostly outside of the scope of this investigation. During the analysis and discussion of work by various artists, the goal is not to compare or judge them by however aesthetically pleasing they appear, but it can be argued and appreciated that there is a beauty in much of the work: often a simulated beauty attributed to the traditional photographic world. This is especially prevalent in work by screen capture artist such as like Petri Levälähti and Duncan Harris (discussed later in this thesis) where the goal is to illustrate the game world in the most beautiful way they can, using similar techniques and aesthetic judgements around the use of light as would a traditional photographer.

As well as the similar concerns with aesthetics in traditional photography and in photo modes, there are areas where some of the technical elements are echoed or simulated. In-game photography and photo modes have almost nothing in common with real world photography from the mechanical or scientific point of view. The exposure triangle, formed of ISO, shutter speed, and aperture and which are the three variables that affect the exposure of a photograph, have no relation to photographs made in virtual space. However photo modes often incorporate the elements that make up the exposure triangle in some way, albeit simulated. The exposure triangle does after all present the photographer with creative decisions which can hugely alter the way the viewer reads the image.

The simulated effect of aperture, or the ability to creatively throw parts of the image out of focus is a common feature in even the most basic of photo modes. *Grand Theft Auto V's* simulated mobile phone camera merely has the basic option to blur the background, while more modern videogames such as *Tom Clancy's The Division 2* and *Ghost of Tsushima* allow the photographer to select specific focal distances and even use f-stops/f-numbers to further simulate traditional cameras, or at least make the options seem camera-like by using photographic language. It's interesting to note that most mobile phone cameras also do not incorporate real adjustable aperture settings (at least not mechanically) and like *Grand Theft Auto V's* virtual version of a mobile phone camera, seek to simulate out of focus areas of the image for aesthetic effects using software.⁶²

Shutter speed is a less common effect, although it is almost always incorporated in videogames that simulate racing, such as the *Grand Turismo* and *Forza* series.

ISO could perhaps be regarded as the least aesthetic variable. Its effect is to brighten or darken the image, but as a side effect it introduces visible grain or noise within the image when using high ISO film or digital sensor settings. What might be viewed as an unwanted by-product in photography is frequently deliberately added to videogames, and it's quite common to see 'film grain' options in photo modes.

Videogames simulate a number of other photographic anomalies such as chromatic aberration (or colour fringing) and lens vignetting. As with noise or film grain, these are

commonly undesired and unintended visual effects, but are simulated because they have become an intrinsic element when viewing both photographic and cinematic imagery. Videogame worlds seem more real with the inclusion of these optical defects. Of all the visual anomalies, lens flare might be considered the most visually appealing. Although this effect has largely been eradicated in photography through improved modern lens design, the effect is often seen in cinema, especially in modern Hollywood action or science fiction movies.⁶³ While lens flare is, for the most part, reserved for epic moments in cinema, the effect is often seen in videogames when looking towards the sun or another simulated bright source of light. Lens flare, simulated for cinematic effect (both in cinema and videogames) can arguably make the scene appear brighter than it actually is. That is, brighter than the light the screen can realistically project. The simulation of lens flare in videogames encourages the viewer/ player into believing the false reality of these worlds, or at least making the game more familiar to a cinematic experience. David Thomas and Gary Haussmann have concerns that “unquestioning reliance on cinematic perspective or assumptions about its position as an aesthetic goal, does nothing more than offer a rationale for cliché” (2005). There is a certain amount of irony in using simulated optical/ lens effects to interject a layer of realism, or at least what is perceived as being a more realistic view, in that this is not a natural or human way of seeing the world: it is the machine’s view of the world that is being simulated.

Analytical Framework

This next section of the thesis will look closely at and discuss artists’ work. Sometimes this will be a single image, from a series or project relating to the investigation into the metaxic photograph. Other times a larger body of work will be discussed, for example a book. Images are included in the body of this thesis for the photographs that are discussed in detail, and are vital to the argument. Seeing the images alongside the text is vitally important for an in depth reading of the images, some of which may be unfamiliar to the reader. This thesis also draws on a range of theorists of art, culture and photography, including artists’ discussions of their own work.

Metaxic photographs are images that reference humankind's relationship to other worlds, the virtual world and the screen in general. These can be photographs where the screen is denoted or connoted, where the two worlds seeming come together (the real and the unreal), and also where the view is the screen or virtual view entirely. Of course not every photograph that denotes a screen of some kind within the image should by proxy, be categorised as a metaxic photograph. A metaxic photograph must include the screen or depict the screen world/virtual world as its primary referent. After all, screens are everywhere nowadays and are often the background of everyday life.

A metaxic photograph can be made or produced in a number of different ways as has been discussed previously, but at their most basic level of understanding they might be placed into two camps: those that are produced in the physical world, using a physical camera and those that are produced from the virtual world using simulated photographic methods. Another (and perhaps more apt) way of looking at this is that metaxic photograph can be created using both real light or virtual light.

Throughout this thesis virtual photographs are discussed in the same manner as traditional or real-world photographs. Viewing virtual photographs in this way is not a stance currently shared by all, as will be noted later in this thesis when considering the controversy around Michael Wolf's inclusion at the World Press Photo Awards 2011. Much of the photographers' work discussed and analysed in this thesis (specifically photographic work made in videogames) have been selected because of their close connections to real world photographic genres or studies. One obvious and extremely broad genre would be the all-encompassing 'documentary' genre of photography. Documentary photography is an umbrella term that encompasses a style of photography that tells a straightforward story (or record), capturing people, places, events and moments in history. Types of virtual photography can function as documentary photography as these virtual places and events are recorded for posterity. Abbot argued that "documentary pictures include every subject in the world" (1980, p. 184), and virtual documentary pictures are fundamentally no different to those captured in the real world.

Although this thesis discusses a diverse range of photographers, with different practices, methods and outcomes, one form of virtual image making is deliberately omitted in this exploration, and that is images created entirely from nothing, using computer software, for example, 3D graphics toolsets such as *Blender*, *Cinema 4D* and *Autodesk 3ds Max*. This type of software is largely used for animation, game design and other 3D rendering applications, but is also a popular way of creating still images. Despite the fact that the resulting images would rightly be considered a form of digital art, one could also argue that the method with which the final image was captured, considered and composed as a single moment, shares the same ideology as some forms of photography. These sorts of images share similar conventions and practices to photographers who construct their own realities (albeit in the real/physical world). Artists such as James Casebere and Thomas Demand who both create intricately detailed scenes built from paper and card. Or as previously mentioned Gregory Crewdson and Jeff Wall whose scenes are often built like movie sets.

Here the virtual artist is omnipresent as both camera operator and creator of their world. Although there is certainly an interesting argument in discussing these images as photographs (or as a form of mixed media perhaps), they confuse the discussion on virtual photographs by being so heavily connected to digital art. It should be acknowledged however that such imagery exists (and indeed is closely related to the making of a metaxic photograph), and deserves further discussion in the future.

To make clear, all virtual photographs selected for analysis are created from encounters with screen worlds. These encounters might be brief, and snapshot in nature or more deliberate and thought out, using additional image capture software such as *Nvidea Ansel*. But it is always the photograph that is made by the camera operator, not the world depicted. In other words, the artists here are never working from a blank canvas.

The analysis of artists and metaxic photographs selected for this thesis have been separated into three types that describe the different forms or layers of metaxic photographs identified: that of images of the screen and its surroundings, of the surface of the screen, and images taken within or through the screen. The first section 'the screen in relation to the environment' discusses work in this category and focusses in detail on projects by Diane

Arbus, whose early photographs included movie theatre screens in the mid-1950s and 1960s, and Lee Friedlander's series which depicts television screens in hotel rooms now known as 'The Little Screens'. Both these projects denote the screen world within the context of the real world: an image within an image.

The second section 'Photography at the surface of the screen' will examine photographs that are entirely made up of the screen. Harry Gruyaert's 'TV shots' and Michael Wolf's photographs of Google street view are discussed in detail, which both involve the artists reframing and repurposing existing work, using the camera to closely focus on the surface of a television and computer screen respectively.

The last section 'Photography in virtual worlds' describes photography made in, and of the virtual spaces of videogames. This is the newest and emerging type of metaxic photograph as new technologies and environments facilitate this type of photography. A number of examples are discussed, with two projects considered in detail. Roc Herms' book 'Postcards from Home' provides a look into the virtual (and now non-existent) world of PlayStation Home – a social gaming hub where players could meet and interact as avatars – and Robbie Cooper's book 'Alter Ego' which depicts portraits of people alongside their avatars or characters they play in videogame worlds.

Analysis

The screen in relation to environment

This section analyses photographs that depict a screen image within the context of their environment. In essence, these metaxic photographs act as images within images. The object or spectrum (Barthes), for example a television screen, becomes a frozen image in its own right: not dissimilar to a photograph, which of course television and cinema is made up of (a stream of photographs).

The work of Diane Arbus and Lee Friedlander is discussed, selected because these artists are relatively early pioneers of photographing societies relationship to screens. For Friedlander

it was the television set, and Arbus the cinema screen. Both the subject of movie theatre screens and more popularly the television screen have since been the subject in numerous photographs and large bodies of work, and seem of natural interest to the photographer: “I was thinking a great deal about the invention of photography. A photograph fixes dead reality in the form of an afterimage. But when you are shown a series of those same afterimages, dead reality seems to come back to life — that is what a movie is ... To watch a two-hour movie is simply to look at 172,800 photographic afterimages” (Sugimoto cited in Dunne, 2016).

Drive-in movie theatres have been a place of interest for photographers over the years, perhaps because the idea of a screen juxtaposed against the outside, the background being open sky is a fruitful concept for image makers, echoing notions of Michel Foucault’s Heterotopia, of two disparate worlds coming together. Guy Le Querrec’s photograph *Cine-park*⁶⁴ playfully brings together a cinematic view of characters kissing on screen, against the real-world view of the audience of cars. This in some way mirrors the slang term “passion pits” which drive-in cinemas were known as, and although the viewer cannot see in the windows of the cars, Le Querrec implies the stationary cars as more amorous objects in the scene.

O. Winston Links’ 1956 photograph *Hot Shot East Bound*⁶⁵, again taken in-drive-in movie theatre is a complex and busy photograph with many points of interest. A couple snuggled up together in a car, a huge steam train going past is perhaps the most eye-catching element, and on the screen a jet air craft. It’s an image about transport – a train, a plane, and automobiles, and there are perhaps notes of J.M.W Turner’s *The Fighting Temeraire* here too: the old train juxtaposed with the modern jet aircraft. It’s interesting that when viewing this image now, all the elements of the image antiquated, and even the concept of the drive-in has almost disappeared, existing only as a themed nostalgic attraction. This brings about the importance of photographing these metaxic places, though photography is not encouraged in these places, and is in fact usually banned.

Hiroshi Sugimoto’s series *Theatres*⁶⁶ are long exposure photographs that last the entire length of the film, leaving the screen as a white void, and a brightly lit movie theatre.

Here, although there is a blank space where the movie once played, it is this white void that draws the viewer's attention, "like a portal to another dimension" (Dunne 2016). The screens here are as a beatific vision – as though staring into the afterlife. The viewer stares into that white space, looking for something because as people who are conversant with the screen, the viewer knows something should be there. Similarly Magnum Photographer Trent Parke has produced long exposure photographs of outdoor drive-in theatres using the same long exposure technique, producing a similar result.

The television screen has become a far more popular subject than the cinema screen, as they grace almost every home in the world. For a documentary photographer or anybody interested in telling a story of humanity, they must at some point look towards the television screen. Examples of metaxic photographs that incorporate television within the context of their surrounds are plentiful, and include many different genres of photography. This thesis will discuss Lee Friedlander's series *The Little Screens* shortly, chosen because he is a relatively well-known name within the genre of documentary or street photography, and as this was one of the earliest examples of this type of photography. Other examples in the documentary tradition might include Martin Parr's series *Signs of the Times*⁶⁷, which is a humorous exploration of British homes and household décor. Some of the photographs in this series feature televisions, and like Lee Friedlander's *The Little Screens*, almost always have a human face staring back at the viewer.

Metaxic photographs of communities viewing an event through television or some other form of a screen are often taken as a form of photojournalism. A family gathering around a screen to watch the moon landing in the late 1960s or the tragic events of 11th September 2001 which saw numerous photographs of the event captured as a televised image/memory. These metaxic photographs are often the most honest records of such events, as people's memories of these events are so often linked with memories of the television.

Although in this section this thesis does not discuss those metaxic photographs relating to videogames, Benoit Paillé's series *Crossroad of Realities*⁶⁸ is an example that uses images made up of staged scenes (made in a studio setting). Here the artist shows various camera

devices ranging from large format plate cameras, digital and mobile phones where the videogame world is clearly visible on the camera's viewfinder/screen. The background/environment has been made to look as though the person taking the image (the camera operator's hand clearly visible in all the photographs) as though they themselves are stood in the virtual environment. A playful and impossible image that comments on being in a virtual environment. And perhaps the act of being a photographer in these virtual spaces.

Diane Arbus

"There are and have been and will be an infinite number of things on earth: individuals all different, all wanting different things, all knowing different things, all loving different things, all looking different. Everything that has been on earth has been different from any other thing. That is what I love: the difference, the uniqueness of all things and the importance of life... I see something that seems wonderful; I see the divineness in ordinary things"

(Arbus 2003, p. 70)

At age sixteen Diane Arbus wrote a high-school essay on Plato, describing a world filled with an infinite number of different individuals and things waiting to be discovered. Reading that small excerpt, her interest in the visual world of photography for Arbus, and the strange and different subjects and places synonymous with Arbus' work feels inevitable. The quote provides an interesting parallel to the themes of this thesis – Plato's 'metaxy', and being between a virtual/ screen world and the real world. It shares a common interest in that at its heart it defines and celebrates a different type of photography. For the writer of this thesis, the photographing of screen or virtual photograph is a unique and interesting creation, and does see 'the divineness in ordinary things'. And like Arbus, whose primary interest was always the human subject, the metaxic photograph is so often about a human relationship to screens (or a human/ machine relationship).

The movie theatre and screen might not, at first glance, seem an obvious subject for acclaimed street photographer Diane Arbus, but Arbus returned to the movie theatre throughout her photographic career.⁶⁹ On reflection it's clear why this would have attracted

Arbus' photographic gaze: she explored, carnivals, drag balls, nudist camps, Disneyland and Coney Island in her work. These places present an escape from normality and have a sense of the theatrical and make-believe. Susan Sontag - although quite critical of Arbus's work - gives a key to understanding Arbus by saying "Arbus took photographs to show [...] that there is another world. The other world is found, as usual, inside this one" (2008, p. 34). Arbus is always looking for another world in her work and finds it in cinema.

Arbus' black and white photographs of movie theatres combine images taken of the screen and images of the audience watching the screen. Many of the images have a sense of voyeurism to them – something often said of Arbus' street photographs. This can be seen in her 1956 photographs during the film *Baby Doll* - which captures the dark silhouette of an audience member as they appear to be walking past the projected film (Arbus 1956).⁷⁰ The photograph *Kiss from "Baby Doll"*⁷¹ manifests this sense of voyeurism both in the way the image is exposed and the intimate moment the movie depicts. Here the screen is suspended in almost complete darkness – the heavy vignette of the of the projected image creating a view unlike spying on a kissing couple through a keyhole.



Arbus, D. (1956). Carroll Baker on Screen in "Baby Doll" with Passing Silhouette, N.Y.C., 1956. Viewed 17 March 2020. Available at: <https://onlineonly.christies.com/s/photographs-diane-arbus/carroll-baker-screen-baby-doll-passing-silhouette-n-y-c-1956-20/241>

Discussions about exploitation and dehumanisation of her subjects are never far away from Diane Arbus' more well-known street portraits. Sontag describes them as "assorted monsters and borderline cases – most of them ugly" (2008, p. 32), while Jeff Rosenheim - curator of Metropolitan Museum's department of photographs – believes that "her work implicates you and the ethics of vision itself" (cited in DeCarlo 2004). There is another way of seeing Arbus' later work and one which parallels her earlier photographs from the movie theatre, which is that Arbus is always searching for a world beyond this one. Her subjects are larger than life fantastical characters, seemingly pulled from the movie screen, and the

streets of New York City are her movie set or stage to direct, always searching for the strange and odd moments where even a perfectly normal child playing a park can appear monstrous and deranged.⁷²

Perhaps it is fitting that one of the few times Arbus turned the camera on herself was in movie theatre. Although out of focus, it is only her face that is visible in the photograph titled *Audience with Projection Booth, N.Y.C.*⁷³, while the rest of the audience are presented as abstract shadows and streaking lights from cigarettes.

One of the last photographs Arbus took of the movie theatre, *An Empty Movie Theater, N.Y.C.*⁷⁴ was taken in 1971, the year she died. This photograph is in complete contrast to her earlier photographs which captured moments between the magical world of the cinema screen and the energy of the real-world audience. This last image, although much more detailed and pin sharp (partly due to a change from 35mm to 120 film, and also by this point being a more skilled practitioner of photography) lacks any of the liveliness or mystery of Arbus' earlier photographs. Here all the viewer is left with is an empty theatre with a blank screen, all the more jarring as Arbus is famous for her photographs of people. The blank screen can be read as something missing or wrong, as life is missing from the screen.

Lee Friedlander

Throughout the 1960s Lee Friedlander turned his camera to the small televisions that occupied hotel rooms and other anonymous interiors, making up a body of work known as *The Little Screens*, first introduced to world as a short four-page photo essay of the same name in a 1963 issue of *Harper's Bazaar* and later as a much larger archive of work in a 2001 photobook.

The Little Screens documents a time when the television set began to proliferate in domestic spaces, with screens appearing in the corner of every room - on stools, dresser tables and built into furniture. But Friedlander is also commenting on humankind's existence as beings that both exist in the domestic space of the home and also exist on the screens within them.

It isn't by chance that Friedlander photographed people on the television screen in every example in this series.

Friedlander treats his subject - the domestic spaces of the room and television - in a similar way to his street photography, for which he is best known. Although the scenes appear relatively still – the only moving part would have been the moving image on the television screen – one can imagine Friedlander waiting for the moment something interesting happens on screen: in most cases the appearance of a human face. His images are not uniformed, not taken at specific distances. The television appears in different areas of the frame, almost never in the centre of the photograph and sometimes at awkward angles. This gives the photographs a snapshot or 'of the moment' feel, as though the camera has quickly turned to capture a fleeting moment, like the spontaneity recognised and celebrated in street photography.

Marc Ries comments on television itself being an object “[..] embodying something living but in a different kind of ontological state” (2015, p. 50). Being between the televised world and the real world, or viewing images within images (television view within the interior view) is not dissimilar to some of the concepts of in-betweenness seen in Friedlander's photographs of the American social landscape. Friedlander would often visually impose himself into his photographs – sometimes as an ominous shadow looming over his subjects⁷⁵ or sometimes reflected in windows and mirrors: the camera operator staring back at the viewer. Almost as a calling card, Friedlander is seen reflected in a mirror in *7. Lee Friedlander, Portland, Maine, 1962*.⁷⁶ His reflected state of undress mirrors that of his televised subject, who lays in bed.

Friedlander's composition of this photograph utilizes a humorous visual trick. Where his shoulders and head disappear from the top of the image they appear completed in the television view, making up a divided but completed human form: a metaxic being made of from the real and the televised world.

Friedlander also plays with the convention that “photographs may be more memorable than moving images, because they are a neat slice of time, not a flow.” Here Susan Sontag

describes television as a “stream of underselected images, each of which cancels its predecessor” (2008, pp. 17-18). It is curious to see how similar to a photograph the television screen becomes in *The Little Screens*, and indeed any other photograph that portrays a screen. The projection of the human form (most commonly a person’s face) gazing back at us appear similar to a framed family photograph one might display in a room. This is evident in photograph 14. *Lee Friedlander, Aloha, Washington, 1967*⁷⁷ which depicts framed images of children atop of the television set, broadcasting an image of the then US president Lyndon B. Johnson.

Television is seen as a friend or family member as its familiar programmes, personalities and characters visit our homes. Marc Ries considers the televised close-up faces “as though these talking heads were seeking conversation with the inhabitant, or rather were not waiting to be invited in at all but simply imposing their visit on the viewer” (2015, p. 51).



Friedlander, L. (1967) 14. Lee Friedlander, Aloha, Washington, 1967. Viewed 4 April 2020. Available at: <https://static01.nyt.com/images/2017/07/03/blogs/03-lens-screens-slide-AZOP/03-lens-screens-slide-AZOP-superJumbo.jpg?quality=75&auto=webp&disable=upscale>

“The Little Screens does something remarkable” comments Saul Anton. “it considers and treats a ‘classic’ photographic theme – the family, the home domesticity – but links it to a reflection on the implications of the emergence of television for photography and on the relation between the two media” (2015, p. 28).

Interestingly one of the later photographs in the series (*16. Lee Friedlander, Pennsylvania, 1969*⁷⁸) differs from the others. Here the composition shifts from Friedlander’s customary face-on view of the screens (although sometimes taken at slight angles), to photographing the television from above, and Friedlander again imposes himself into the frame (his feet mirroring the legs and feet broadcast on the screen). Walker Evans describes the earlier photographs in the series as “toughly amusing” and “bitterly funny observations” (found in Anton 2015, p. 11). As Friedlander stands before the television, and the screen image seemingly stands before him, he shows television as something that is inherently ‘us’.

“We are ourselves these awkward, clunky boxes” notes Anton – “not because we are caught in the maw of capitalism, or because we are physically like televisions – [...] but because we are ‘are’ literally, tele-genic” (2015, p. 90). Here, ‘we’ are the little screens.

Photography at the surface of the screen

Screen-image photography in this example of metaxic image making, is the act of photographing the screen, with the resulting photograph being entirely made up of the screen as subject. As the camera is pulled closer towards the subject, the surrounding environment that places the screen view in its context, and the viewer is left with something that at first glance looks like a screenshot or something taken from the virtual realm.

The television screen has been a subject of interest for photographers since its invention. Societies first introduction to television was in fact an example of screen image photography. The ghostly image of Scottish engineer John Logie Baird must surely be amongst the earliest examples of the screen-image photography.⁷⁹

This section will look at two very different projects from two different eras of screen viewing. Firstly, Harry Gruyaert's series *TV Shots*, which like Lee Friedlander's *The Little Screens*, features television screens photographed in hotel rooms, only now the domestic space is gone and the view is a technicolour portal into the strange and abstract. Secondly, Michael Wolf's photographs of Google street view, in his series *A Series of Unfortunate Events*, which looks towards the internet (in this instance rephotographing existing photographs).

While both the metaxic categories of 'photography of screens in relation to an environment', and 'photography at the screen surface' are similar in that they are produced from the 'real world' (i.e. a real camera focused on a real screen), they differ as the environmental screen images can more easily be viewed and read in the same way as any other traditional photograph. Metaxic photographs that depict the screen entirely, with no surrounding context, might arguably be harder to read as photographs because they are so similar to a screen shot or film still. The skill and techniques of the photographer may be less obvious and the photograph's referent becomes the dominant component to the reader of such images.

For example, Lee Friedlander's photographs of screens within a room allow the viewer to identify and appreciate the composition techniques and the subtle details within the domestic spaces juxtaposed against the television view. In contrast, Harry Gruyaert's images of the television screen (which often like Friedlander present the human face) make up the entire scene. As such the viewer is reading another artist's work as well as Gruyaert's. It's here that questions of copyright and artistic ownership may come into question as an inevitable consequence of such photography. Metaxic photography at the surface of the screen, of a television programme for example, will often fall into this conversation, depending on the reader of the image. This is an argument that has previously been discussed and will be looked at later with virtual photography.

Gerling notes that "screen-image photography is a strange hybrid. It creates a clearly two-dimensional image using an optical lens. Its grasp is materially restricted to the surface of the screen. In this way, it makes the composition or materiality of the display visible,

including curvatures, dimming, scratches, finger prints, etc. Parts of the presented image and information about it are lost and other unforeseen things may occur – e.g. the coloration may be changed” (2018). These screen artefacts are discussed throughout this thesis, and are normally a side effect of photographing a screen surface with a camera, due to the camera’s ability to pick out details not usually seen with the naked eye, especially a moving image now frozen as a photograph. There are artists who have made the materiality of the screen surface the subject of their work. Maria Mavropoulou’s series *Tears spit & cum*⁸⁰ emphasises the make-up of a mobile phone screen’s pixelated two-dimensional surface by placing organic matter onto it.

Harry Gruyaert’s *TV Shots* would perhaps be the first time the art world paid attention to screen-image photography which has since been explored by other artists. In 1975 photographer Mochizuki Masao began using his camera to document television shows in Japan⁸¹, eventually the work being culminated in the book *Television*. A more current example of screen-image photography can be seen in Jason Shulman’s ongoing project *Photographs of Films*.⁸² Like Hiroshi Sugimoto, Shulman photographs a film in a single image: the shutter opening at the start of the film and closing at the end. Because the films are photographed on a modern 5k monitor which splays the light evenly across the screen (unlike a movie projector or television screen), the resulting image is not blurred to white but instead appears like an abstract colourful painting, with some scenes ghostly visible.

Drew Nikonowicz’s photobook *This World and Others Like It* is a curious example of metaxic photography, made up of images photographed from many different sources including books, television and computer screens, as often the image the viewer sees (for example a mountainous landscape) is not taken from the location depicted.⁸³ A standout image from *This World and Others Like It* depicts the interior view of a civilian vehicle from the videogame *Far Cry 4*.⁸⁴ At first glance the image seems real before obvious clues to its virtual origins are detected – the jagged pixelated edges or the lack of realistic shadows, making items such as the handles and switches jump out unnaturally. The view from the window looks photographic – the background and animals blurred as though photographed at a slow shutter speed. This is a simulated effect provided by the game engine, not the actual camera (as this is photograph of the screen, and not a screenshot).⁸⁵

An unfortunate paradox when viewing metaxic photographs that are taken at the screen's surface, or screen-image photographs, is that historic (and often contemporary) projects of this nature are imagined physically and meant to be viewed as physical objects – be that a book or gallery print. However, when a viewer's first experience of an screen-image photograph is a screen representation of that work, they may be harder to read as photographs and may seem like any other imagery viewed on a screen: they become a simulacrum of itself.

Harry Gruyaert

“When I was living in London in the early 70s there was a crazy television set in my house. By playing around with the antenna and tweaking the controls I could suddenly obtain fascinating colours. This led me to spend a couple of months following the latest news as it happened from the first Apollo flights to the Munich Olympic Games, as well as American and English television series and ads. It made me see the world in a different way and to question the ever-growing influence of television throughout the world.”

Harry Gruyaert, cited in Havlin, 2020



Gruyaert, H. (1972) Television broadcast. Great Britain & France. *TV Shots*. 1972. [Viewed 6 November 2019]. Available at: <https://www.magnumphotos.com/arts-culture/art/harry-gruyaert-tv-shots/>

Harry Gruyaert's *TV Shots* make for some of the most visually arresting and colourful photographs discussed in this thesis. One of the most striking aspects of these photographs is how unlike television the scenes appear to be. In *TV Shots* the view of the televised world appears a completely alien landscape: saturated colours and scenes that sometimes look inverted or as though the world is seen through some form of thermal imaging. Admittedly some of the images immediately give away their true identity – the television frame, a famous face or recognisable scene⁸⁶ (albeit a distorted representation of those broadcasts). Some readers may see a familiarity to how a paused on-screen image from a videocassette recorder used to look – the suspended image sometimes having a similar distorted appearance to those photographs in *TV Shots*.

Regarding a more recent publication *Edges*, Richard Nonas describes Gruyaert as someone who “[..]photographs nature, culture, art different realities meeting and merging. He

photographs whole worlds marked onto other world, realities cut into other realities.” And as “unreadable worlds, barely readable ones” (2018, p. 5). Gruyaert presents us with an otherworldly view of television, and one which questions the perceived reality being witnessed.

Gruyaert has considered and approached photographing the television screen (the object/surface) in much the same way as he might photograph the real world. His compositions are not consistent – sometimes the screen fills the entire frame and other times the black frame of the television encroaches the image. In many cases only a portion of the image appears sharp and in focus – the tiny red, green and blue matrix of the cathode-ray tube television is often blurred. There is an urgency to these photographs – an energetic and of-the-moment approach that is commonly seen in street photography, and as such these image feel more alive.

Anne Bourgeois-Vignon notes that “the single frames that Gruyaert so uniquely captured, examined, and displayed recall the universal moment of a global phenomenon witnessed by millions in their living rooms: a shared human experience that transcends location and time” (Bourgeois-Vignon, 2016).

Although Gruyaert unquestionably captured some of the most seen televised images (the Olympic Games and the Apollo fourteen moon landing for example), his hyperreal machine view causes the viewer to consider whether these photographs really portray a shared human experience, or a shared machine experience: something that exists between what the television shows and what the camera sees - a remediation of the televised world through the lens of photography.

Although today, *TV Shots* exists and can be viewed in an online gallery through Magnum photos and a photobook of the same name published in 2007,⁸⁷ it's important to note that the original exhibition was very different. Initially exhibited at the Delpire Gallery in Paris, and later at the International Center of Photography in New York, the images were printed on rolls of photographic paper and hung side by side, creating a wall of television images: a stream of photographs which often featured similar imagery (perhaps from the same

television programme) and the same person or face in a sequence of different postures. This clearly mirrors conventions of television, being a stream of images, a stream of programmes, and an endless cycle of flashing moving imagery. In 1974 the curation of these photographs mirrors the medium of television. Today these same images are viewed more as single images and are given their own space to be read without the noise/ distraction of other images. They are no longer a stream but stand on their own. As time passes those once familiar television images, programmes and people become less familiar and more curious. A reader/ audience (especially those who didn't grow up with cathode-ray tube televisions in the 70s) will view these photographs both as an interesting piece of art, and as a historical document. That is something that an art critic and audience would not see in the same way 1974: for some they were simply a snapshots of a television screen.

This is why metaxic photography is so important. For some there will always be an argument questioning the validity of photographing a screen world, especially when the reader of that photograph is so familiar with the medium being photographed – be that a television programme, or videogames. It is difficult to separate the referent from photographic story telling when the audience is so well versed and familiar with referent, but as time passes, the viewer will inevitably think differently.

Gruyaert's *TV Shots* questions the reality that television presents to us and also echoes post-modern ideas concerning the influence of television, posed by philosopher Jean Baudrillard - "TV is watching us, TV alienates us, TV manipulates us, TV informs us" (2019, p. 30). They remind us that what is being seen isn't real but rather a televised version of the real.

Gruyaert notes that "you could do a portrait of a country through its TV" (cited in Aether Studio, 2015). This statement captures the notion of the metaxic photograph. Stories can be told of a society through its television. Today photographers and artists look towards the internet and virtual space – these screen-based universes presenting infinite possibilities for alternative storytelling and seeing the world a different way.

Michael Wolf

In 2011, photographer Michael Wolf received an honourable mention at the World Press Photo Awards for his series *A Series of Unfortunate Events* (2009-10), unusual and bizarre images of people seen on *Google Street View*. Wolf photographs an on-screen view of *Google Street View* with a camera set up on a tripod. There are similarities to Harry Gruyaert's *TV Shots* – the physical structure of the screen (this time the grid like matrix of the liquid-crystal display) being immediately apparent when viewing these images. Wolf's photographs differ in that he never attempts to fool the viewer into thinking they are seeing anything else.

The interface of the software can sometimes be seen in these photographs (for example, direction indicators for navigating the map overlaid onto the image) although for the most part this information has largely been cropped away. In addition Wolf deliberately includes the mouse cursor in many of these photographs – their inclusion further signposts to the viewer that they are looking at a screen image. In the particular photograph below one might even imagine the impossible scenario of the rider tripping over the cursor.



Wolf, M. (2010). Title unknown, from a Series of Unfortunate Events. Viewed 16 June 2020.
Available at: <http://photomichaelwolf.com/#asoue/24>

Wolf's inclusion at the World Press Photo Awards caused some controversy, and Jim Casper echoes the unease some felt in seeing *A Series of Unfortunate Events* at a prestigious photography contest that celebrates photojournalism. "Can this really be considered 'daily life' documentary photography when it was captured first by chance, and then again by someone glued to a computer in a darkened room, sifting through thousands and thousands of random images in search of only the quirky ones?" (Casper 2011). If anything Jim Casper's comments seem to connect Wolf's series to traditional photographic storytelling. Sifting through the thousands of random images to find the quirky, interesting or eye-catching ones is exactly what real photographers do, be that Martin Parr, Bruce Gilden or Diane Arbus, as well as photojournalist and paparazzi. In response to the criticism, Geoff Dyer noted "that while the news part of the content might be minimal (crashes, brawls, mishaps),

the way of making these pictures was itself a newsworthy story and an up-to-the-minute investigation" (2012).

Wolf's photographs are ultimately photographs within other photographs, and the source material was not created by human hand but by machine automation. Artist Jon Rafman – who also makes work using Google Street View⁸⁸ - reminds us that these stitched together panoramas are "photographs that no one took and memories that no one has" (cited in Dyer, 2012).

A Series of Unfortunate Events shows us that photojournalism or documentary photography can exist in some of the strangest of places. That even in *Google Street View* – where images of people are an unwanted by-product and are commonly pixilated so as to be unrecognisable – meaningful photographic stories can be told and retold.

There is a recurring and obvious point to make here which concerns the question- what is the point of it all? Why ultimately photograph Google street view? Because like everything in this world – It changes and photographs remember.

Those looking to find the original scenes Wolf photographed in 2009 have disappeared and been replaced (perhaps several times since).⁸⁹ They remain a snapshot of what a virtual Paris looked like then. Not just locations and the places but the make-up of the interface, the quality of the imaging software as well as the subtle building blocks of the screen itself. The familiar surface and portal into these world.

Photography in virtual worlds

The investigation of metaxic photography now passes from the real and physical world, through the threshold of the screen surface and into the virtual realm. While the previous examples of metaxic photography have commented on screen worlds, they are all captured from the real world, by pointing a camera towards a screen. Although critics may question the artistic merit of the subject, and occasionally discussions about copyright and artistic

ownership arise, the images are unquestionably photographs. The light of these scenes (and screens) expose a piece of film or digital sensor, and thus a photograph has been taken. In the virtual realm, there is no real need for a camera. The player, user or avatar's view in this world is entirely governed by the screen and as such a screengrab or screenshot function can act as a camera shutter, and captures exactly what the screen depicts at that moment.

This section will look at two projects that both comment on society being present in virtual spaces. Firstly, Roc Herms' series *Postcards from Home*, which documents life on the online social gathering space PlayStation Home. Here there are examples of traditionally documentary storytelling which communicates in the same way as those photographs made in the real world. Secondly is Robbie Cooper's *Alter Ego* which is a portrait series that juxtaposes real portraits of people (gamers) alongside their digital self (in game character or avatar).

These examples of virtual photography are relatively early examples of the genre 'virtual photography' and today that genre is becoming more and more popular. The examples chosen for this section both comment on videogame worlds. PlayStation Home is not a videogame in the traditional sense, but rather a virtual gathering space for gamers. It shares a similar social aspect to Second Life. Another example of photography in this sort of virtual world is Eva and Franko Mattes' series *Portraits (2006-07)*⁹⁰ which like *Alter Ego* is a portrait series of avatars which but taken in Second Life.

There are many artists who have used videogame worlds as a subject and place in which to photograph and create compelling work and stories. Casey T Brooks' series *You Only Live Forever* is a fictional photo essay made in the videogame *Grand Theft Auto*. Here non playable characters are photographed and text is used alongside the images to tell a completely new story within this world. Similarly Alan Butler uses the same game world to tell a story of poverty and homelessness in his series *Down and Out in Los Santos*. Butler prompts a discussion on human society by mirroring what people might see in the real world, only virtually. While a real-world equivalent of scenes that feature people sleeping rough on the street and looting bins could be accused of being insensitive or exploitative to

its subject, the viewer is placed in an uncomfortable position where they understand that none of the photographs are real, yet these are scenes that are happening in every major city. “These individuals do not provide the game with any functionality per se, as they never intersect with the narrative” says Butler. “Instead they exist as what I think of an ‘ambient human presence’. I am not proud to say they exist in a similar place of reality to the homeless people who sit on the doorstep of my studio every day in Dublin’s city centre” (Butler 2015). Eron Rauch uses photography to illustrate the concept of ‘levelling up’ through trial and error in his series *A Land To Die In (2005-2007)*⁹¹: a humorous photographic account which sees his character from the videogame *World of Warcraft* lying dead in hundreds of images as he progresses from level one to seventy.

Some of the most alluring examples of virtual photography are those when it’s not immediately clear what the photographs referent (the virtual world) is indeed a digital space, and seems as though it was taken in the real world. Writer, artist and games designer Gareth Damian Martin’s project *The Continuous City* is a loose typology of urban spaces and architecture within a multitude of videogame worlds. The resulting grainy black and white images are created by projecting the videogame view onto a wall, and photographing it with a real 35mm camera.⁹² “When we photograph a subject we are often exposing its qualities, its materiality – I feel the same about games,” says Martin. “Games are illusions, built to resemble reality but without any of the qualities our own reality possesses” (cited in Zhang, 2018).

Kupfer emphasises that “the sublime is nowadays only accessible through technology” (2019). This has become particularly noticeable during the Covid-19 pandemic where travel has been restricted, where the screen has become a window for family and friend get-togethers, as well as representing a place of longing and of somewhere that can be escaped into.

Rob Ball’s series *Postcards from Lockdown*⁹³ is a definitive example of this. Unable to travel during restrictions imposed during lockdown, Ball responded by making a series of photographs using screenshots from webcams located at various seaside resorts from around the world. There is a distinct sense of a remote presence in these photographs,

specifically, when considering the photographer and act of taking/ making these photographs. Notions of the metaxy are obvious here as the proximity of seaside resorts from across the other side of the world, and the photographer (from his own home) are brought together. It's important to note here that although there are some similarities with other artists who have made work using existing internet-based imagery (such as Michael Wolf's remediation of Google Street View) Rob Ball's photographs are not separated by time. They are live views, captured (screengrabbed) in real time.

Postcards From Lockdown realises the sense of longing, of being unable to physically experience these places and to reimagine the virtual webcam views as a physical object (print). Poignantly, the physical barrier separating the artist from the scene (literally the sea) is used to create these salt print photographs – saltwater collected from the North Sea by Ball's home. This series also demonstrates that important work and exceptional stories can be told even from a fixed view from a seaside webcam. It does not matter how limited or one dimensional a virtual or screen world may seem: there is always artistic opportunity.

Pascal Greco's *Place(s)*⁹⁴ is another example of a project born from the inability to work and travel due to restrictions during the Covid-19 lockdown. Where Greco had to cancel a project meant to be shot in Iceland, he manages to find 'his' Iceland in the world of videogames – in this case using the photo mode in *Death Stranding*. Although Greco doesn't set out to fool the viewer into thinking these are indeed real images, it is remarkable how realistic these photographs are. The cropping of the images to a square format further disconnects the photographs from a screen world/ cinematic world and to something more photographic: they appear like polaroids.

Roland Barthes declares that "the photograph is always invisible: it is not it that we see" (2000, p. 6), but that isn't entirely true. Surely the materiality of the tintype, the Daguerreotype, the salt print photograph or the polaroid could never be imperceptible to the viewer. The charm and beauty of these photographs must be appreciated from both the material (physical object) aesthetics as well as the content of that photograph. That is why photographic-like filters, which today emulate many of these traditional photographic

processes, are such a popular feature on mobile phone apps, social media and of course in-game photo modes.

Rob Ball, Gareth Damian Martin, and Pascal Greco all present projects that comment on screen worlds that people spend time in and that exist in some form or another. Whether they're simply the fixed view of webcam, or entirely immersive digital world, they are places that are both real and unreal. In these examples the viewer is made well aware of the medium of photography. They are either made using traditional photographic techniques or presented so that they do inherit photographic qualities. Here the screen is invisible, they do not appear like a screen shot. It is a photograph the viewer sees. Of course paradoxically they are both.

The most common form of virtual photography today comes in the form of in-game photography, born from a player's basic desire to capture the beauty of these worlds and to share memories of their time in them. These are photographs that often say very little outside of a conversation on aesthetics – their sole purpose to celebrate the game and to enjoy their aesthetic beauty. Certainly, photographs of videogames can actually look more dazzling and sublime than the videogame itself, as can photographs of real-world locations. Susan Sontag affirms that “often something looks, or is felt to look ‘better’ in a photograph. Indeed, it is one of the functions of photography to improve the normal appearance of things” (Sontag, 2003, p. 72).

It is in this subjectively unimaginative yet hugely appealing form of photography that conversations concerning in-game created photographs versus real photographs appear. Most arguments that arise regarding virtual photography compared to a real world photograph relate to the fact that the camera operator (or in this case the virtual camera operator) is less obvious, and the object/ referent (the game world) becomes almost overwhelming for the viewer. Videogame worlds are already made to look visually impressive, and although the still image can look more impressive, as mentioned above – they risk being viewed merely as a screenshot. The artistry and skill of making that photograph hidden in assumption that all virtual worlds and videogame worlds look divine from the outset. Another problem virtual photography has is that it is so often viewed on a

similar medium to the world it was born from – a screen, be that a computer monitor or mobile phone. The image glows and looks like a videogame paused.

There are countless examples of this form of in-game photography, which can be viewed on various social media and photo sharing websites. Among the millions of amateur virtual photographers, there exists professional virtual photographers such as Berduu (Petri Levälahti) and Duncan Harris who create some of the most impressive looking photographs from videogames and are hired by some of the biggest videogame companies to create visually striking still images of their games. Both have in the past attempted to distance themselves from the term ‘virtual photography’ – Levälahti playfully belittling his work as “silly screenshots” and that he is “more or less reframing other people’s finished work” (Berduu, 27 July 2020). Harris appears to agree with arguments against virtual photography by saying “I’m not sure I’d call it a controversy but the issue people have is with this idea of a screenshotter assuming artistic credit for other people’s work. I have an issue with that too, which is why I don’t do it. I don’t call myself a ‘videogame photographer’, I don’t like that term” (cited in Talley, 2015)

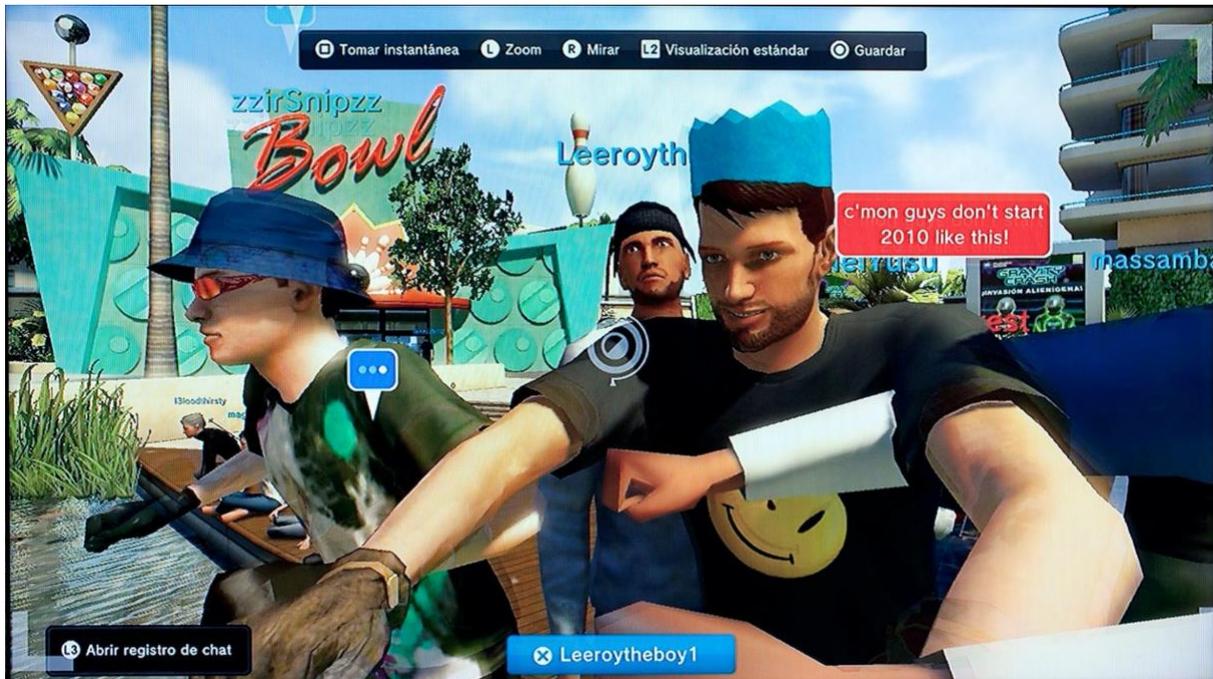
Their apparent distancing of their work and videogame photography may in some way relate to their close connections with various videogame corporations, and not wanting to take credit for the work of the companies employing them. Secondly the term ‘videogame photography’ or virtual photography has become synonymous with amateur and hobbyist photography as seen and shared on social media (some of which as equally impressive) and so they use the term ‘screen capture artist’ to distance themselves from the flock, while at the same time evoking an impression of professionalism.

Roc Herms – Postcards from Home

“With Second Life and virtual reality platforms like PlayStation Home, the world has split in two. In it we have total freedom to invent our own personality and choose any lifestyle we want; on screen we can continue our everyday tedium or we can embark on intrepid adventures. We can decide which virtual urban tribes we want to

subscribe to, and, logically, in this world of possibilities, we can become photographers [..]”

Joan Fontcuberta on Herms, 2015.



Herms, R. (2015). From *Postcards from Home*. Viewed 12 April 2020. Available at: <https://www.lensculture.com/projects/25069-postcards-from-home>

Roc Herms' *Postcards from Home* presents one of the most useful projects analysed as part of this discussion because – even though it is made almost entirely within a virtual environment (*PlayStation Home*⁹⁵) – the way it is conceived is completely immersed within the traditions of documentary photography.

'Postcard' is perhaps an incongruous term to use in the title as it suggests a holiday memento, a keepsake and souvenir. Often these tend to present aesthetically beautiful or pleasing scenes to the viewer but Herm's photographs resemble something more like a snapshot or street photography: quick and of the moment. Postcard also suggests a material object which is interesting because the photobook *Postcards from Home* conveys many forms of materiality throughout. The layout imitates ideas of a scrapbook or family album in

places, with photographs placed off centre, as though the viewer could pick them up. Later the photobook starts to resemble a comic book or graphic novel.

In the introduction to the book (which takes the form of a conversation with annotated photographs) Herms reminisces about socialising with his friend, and includes pictures of their adventures together. This starts with a group photograph of them playing paintball and quickly moves into memories (and screenshots) of them playing videogames together. Herms has stated that “the physical and the digital are both as real as each other” (Screen Walks, 2020, Roc Herms), with virtual memories equally as important as real world memories, as this thesis has argued: screen memories and virtual world memories are as important to document and remember as those real world memories.

Herms uses the in-game camera to compose his shots but like many artists discussed here, an actual DSLR camera is used to capture the scenes (set up on a tripod).⁹⁶ As such these photographs can be viewed as both an example of virtual photography and screen-image photography. They are ultimately a mutation between the two forms of metaxic photography. It’s important to note that at the time the screenshot function on the Sony PlayStation 3 produced very small resolution images, often quite blurred, with dull colours, and so a DSLR photograph of the television screen could produce a much larger images (albeit with the screen imperfections present in the image). Although the end image is captured on a real digital camera, it’s crucial to observe that the act of photography – looking into the viewfinder and composing the image – are performed in-game, from the point of view as Herm’s avatar or digital self.

There is second important point as to why Herms may have preferred the use of a traditional camera in that there is an immediacy to the performance of photography. The act of taking a photograph using the game software, or the screenshot function present on the PlayStation 3 is not as instantaneous as simply pressing a button on a shutter release. The user will often have to navigate multiple menus in order to take a screenshot, introducing delay. Capturing conversations (as on-screen text) is a vital part of this series, and such photography must be quick and of the moment, like many forms of street photography.

Interestingly many of the photographs included in the book deliberately include the user interface of the in-game camera. Framing lines can be seen in the corners of the image, or a circular rangefinder style icon in the centre of the image, as well as basic camera functions such as 'flash' at the top of the image. These can all be hidden but are deliberately left in and as such the in-game camera becomes a subject in the photographs. The viewer reads the images from the point of view of being behind the camera. Of course all photographs (real or virtual) are from this point of view however their creation is rarely signposted in this way. As has been examined with other artists who create screen image photographs, the makeup of the surface of the television is apparent in many of the photographs, especially when they are cropped into and blown up and fill the entire page.

It isn't so much the virtual landscape of *PlayStation Home* that takes centre stage but the people who inhabit it. Like Robert Frank's epic road trip across America, which culminated in the iconic photobook *The Americans*, Herms spent five years (from 2009 to 2014) documenting the people and places in Sony's virtual world. One of the most interesting and unique aspects to this project is that, because conversations amongst people/avatars appear as visual information (as speech bubbles), dialogue is recorded into the photographs. As a result, Herms' initial contact with the subject is sometimes recorded which creates an interesting (and sometimes amusing or confrontational) image.

In one such instance Herms' avatar 'oRcstaR' is photographed asking "can I take a picture" with the on-screen response "no u ***** cant u fairy freak" (2015, p. 71).

Here the viewer is party to a verbal exchange which is normally invisible or accessible only when the artist discusses their work in retrospect. The photographed text shines a light on some of Herms' working practices, in that Herms will photograph and present images of people (albeit avatars) regardless of the subject's consent. It could be argued that Herms actually uses text in order to provoke a reaction. Like Bruce Gilden, who would thrust his camera and flash towards his subjects, the seemingly innocent act of asking to take a photograph can create a similar reaction captured as visual text. The visual text conversations depicted in the photographs remind the viewer that behind all these human-like representations of a people is a real person and this project is entirely about people.

While photographers such as Gilden or Arbus wandered the streets and sought out the visually striking individual, Herms seeks the same in the visual conversation. It isn't the vibrant world or the fantastical characters that inhabit it, but the visual conversations Herms is interested in. While the first chapter of *Postcards from Home* is presented as a humorous and sometimes bitter photo essay about society in a virtual space, it morphs into a more personal and deeper storytelling device. Here Herms interviews people (their virtual self) and the reader gets to understand how their virtual life is as important as their real life. These interviews take the form of story panels in a graphic novel, the conversation being photographed in speech bubbles (like a comic book) but being a real component of this virtual world, not illustrated and added in afterwards.

"[...] the possibility of photographing words has steered the book towards a more graphic language that we are already familiar with (similar to a comic book or a graphic novel)" says Herms. "The major difference is that none of these stories came from my imagination nor did any of the drawings come from the tip of my pen" (2015, insert titled 'Homestation Magazine', p. 8).

Clayton Purdom observes that "Perhaps befitting of an exploration of digital space, *Postcards from Home* is a playful physical object, riffing on paperstocks and page layouts, and the imperfections of an in-game camera" (2016). There are moments (between pages 43 and 83) where the book borrows from a conventional way one might expect a traditional photobook to be presented: the photographs sized and positioned consistently before mutating into an altogether different document, resembling a comic book, scrapbook or even an old gaming magazine.

Alec Soth affirms that "like the great documentary photobooks of the Depression, *Postcards from Home* is not just a catalogue of images, but also a narrative of engagement and an important historical document" (Soth, no date). Soth's characterisation of Herms' book being akin to those that documented the Great Depression is poignant here in that *Postcards from Home* doesn't seem to depict a dying world in the way Dorothea Lange or Walker Evans photographs do – in contrast Herms' photographs are seemingly filled with

life and potential. But PlayStation Home is non-existent today: the world completely obliterated when the service was shut down on the 31st March, 2015.

All photographs end up as memento mori in that everything in them is eventually gone or changed forever – people and places. People perhaps forget how temporal virtual worlds can be, and that their time in them is relatively fleeting. Their demise is not a drawn-out process, or something that can be observed over time. They seem almost immortal right to the last moment. *Postcards from Home* embodies an additional message at its heart, which is that these worlds should be photographed, documented and celebrated before they inevitably are gone or become irrelevant – forgotten over time. Herms asserts that “this book in a way can be like a backup of the lives people were having in here” (Screen Walks, 2020, Roc Herms).

Cartier-Bresson said “We photographers deal in things that are continually vanishing, and when they have vanished, there is no contrivance on earth that can make them come back again. We cannot develop and print a memory” (2014, p. 16). The importance of the photographer even within a virtual world or a videogame remains paramount.⁹⁷ History must be recorded.

Robbie Cooper – Alter Ego

Photographing avatars is a popular subject matter for artists who are interested in commenting on our relationship to the virtual world. Behind those pixilated faces in both Roc Herms’ and Robbie Cooper’s work is a real person, and these are very human photographic stories. Of course today, photographing other people in virtual worlds is as natural and easy as snapping a photograph of friends with a mobile phone camera. In-game photo modes as have been discussed are generally not difficult to use. Even Kratos the God of War can take a selfie.⁹⁸

“We say they’re only games, these little worlds, but often we end up end up devoting more time to them than to any other realm of our existence, until it starts to make less sense to think of our avatars as fictional characters than as ourselves.”

(Dibbell, 2007, p. 6)

While people spend more and more time in virtual worlds, and those worlds enable the customisation of the digital self, it feels a natural progression that people would want to photograph themselves within these worlds. Robbie Cooper’s *Alter Ego* presents a series that explores social identity in virtual worlds. Here, Cooper travelled the world photographing gamers and juxtaposed those (real) portraits alongside virtual photographs of their avatar.

Alter Ego represents an obvious and immediately understandable example of metaxic photography – the notion of inbetweenness so fundamental in this investigation is seen quite literally – two portraits taken from two worlds, one of them the actual, material and real world, and the other the virtual world where players are like gods. The threshold between these worlds is made clear to the viewer, yet both images depict the same person: a portrait of their actual self and their virtual self. Cooper firmly advocates that they are one and the same.

Cooper is interested in the way people present themselves as avatars in different ways. Throughout the published book all manner of aesthetic representations are shown. Some avatars are in complete contrast to their real-world counterparts: superheroes, monsters, different genders and races. Others appear to have been constructed to mirror their user quite closely. Viewers should note that Cooper, in many instances, has photographed both real and virtual subjects so that they do mirror one another visually, with the avatar and person depicted at a similar size, in a similar position. If multiple people are included in the image, their positions are also mirrors in the virtual image. In some instances, the person and avatar are dressed in similar clothes – a suit or matching patterned dress, or positioned in similar environments, doing similar activities (driving a car in the virtual world and at the wheel of driving simulator in the real world).⁹⁹



Cooper, R. (2007). Image from *Alter Ego*. Viewed 19 February 2020. Available at: <https://www.brainpickings.org/2011/12/14/alter-ego-robbie-cooper/>

Julian Dibbell observes “[...]the abundance of powerful, beautiful avatars posed next to glamour-challenged, suburban nobodies seems to argue the proposition that we fly to virtual worlds as a departure from quotidian reality; yet just as striking is the number of avatars shaped to look precisely like the people who play them, suggesting just as forcefully that virtual worlds are better understood as an extension of reality and no escape from it at all” (2007, p. 8).

There is something oddly nostalgic about viewing Cooper’s virtual portraits today, in that it is striking how dated many of the avatars appear compared to modern technology. It’s an interesting observation seeing virtual time and real time juxtaposed together. The virtual world appears old today, while the real-life portraits still feel like modern photographs – the way the subject looks, dresses and the world they are placed in. This – like their virtual twin image – will eventually change in time, and they will be read as historical photographs. Despite this not being Cooper’s initial intention, *Alter Ego* evolves into a historical photographic documentary of how avatars used to look online. Viewers are reminded how

very quickly technology, the aesthetics of these virtual worlds, and virtual selves change over time.

It's curious to see a correlation between Cooper's portraits in *Alter Ego* and how people present themselves online through the medium of photography today. Sherry Turkle references "[the] kind of identity work [that] can take place wherever you create an avatar. And it can take place on social-networking sites as well, where one's profile becomes an avatar of sorts, a statement not only about who you are but who you want be" (2017, p. 180). The lives people choose to present via social media might be as fictional and reimagined as the lives their avatars lead.

Cooper features accompanying text below the images which further emphasises the notions of existing in virtual spaces. The left photograph (which is always a real portrait) is accompanied by text that seems familiar to a character statistics menu from a videogame. It includes the subject's actual name, date of birth, current place of living, as well as their character name, the game they play, and the current level of their character in the game. The right image (the avatar portrait) is accompanied by a short piece of writing about their experience playing in virtual worlds. Cooper deliberately muddles and blends the real and the virtual by placing the text in this way: the portrait of the real player is accompanied by gamelike character details, and the avatar gives voice to the human experience of playing the game.

"There's not much difference between the real and the virtual world when you get right down to it. It's simply a place where people hang out and socialize" comments one of Cooper's subjects (Cooper, 2007). This passing comment encapsulates both the heart of Cooper's project *Alter Ego* and the heart of this thesis. Virtual spaces are social spaces filled with life and stories, and photography provides the medium to record those memories as it historically always has. Virtual worlds will become more impressive and more popular, and those people and places photographed in *Alter Ego* will disappear like they have in PlayStation Home. The virtual world is history of humankind and must be recorded and remembered.

Conclusion

Photography (the act of taking and of making a photograph) is itself a kind of metaxic process. There is a sense of duality – of being between the photographic world and the real world – inherent in photography, whether this is through seeing the world flipped upside-down underneath a dark cloth, reflected in the ground glass of a large format camera, or represented as a television-like view on the LCD screen of a modern digital camera or mobile phone.

Photographers can be said to see and think in a machine-like manner – “I am a mechanical eye. I, a machine, show you the world as only I can see it” (Vertov 1923, cited in Gartenberg Media, 2020). The more familiar the photographer is with the camera, the more mechanically they are able to see the world – life through the lens can be understood through a language of aesthetics as well as f stops and shutter speeds.

A new umbrella term, the metaxic photograph, has been proposed in this thesis to define an image made within virtual worlds, or one which denotes or connotes our presence and relationship to virtual worlds, that people exist in beyond the physical, and which are observed and mediated through the screen. The history of the screen in modern photography has been explored in order to demonstrate that screens have long created a window to another world, which is as fertile an environment for photography as the real world.

This investigation and research on metaxic photographs has by chance befallen at a very strange time as the Covid-19 pandemic forcing people in and out of lockdown. While in isolation they inevitably have turned to the screen– televisions, computers and mobile phones. This is where society communicates with friends and family, meet up for video chats, work from home in virtual meetings, where children learn and where they can escape. The world is seen virtually through webcams, Google maps and by exploring the ludic worlds of videogames. The screen is a place people live and exist in, now more than ever.

Throughout this investigation into virtual photographs, and the metaxic photograph, the artists discussed have been seen to create stories in these virtual worlds, but the worlds themselves are not the sole subject. These projects often transcend the virtual boundaries of the virtual worlds they depict and in every example are about (in some way) humanity's existence in, and relationship to, virtual worlds: "The virtual photograph, whether it is a screenshot from a video game or from a Google Street View scene, is particularly compelling in our time regardless of whether it features a glorious moment of beauty or a jarring glitch precisely because it is leveraging one of the simplest ways we know and share in the Instagram age, photographs, to directly explore the immensely complicated systems that produce the myriad of digital realities that swarm around us" (Rauch 2015).

The metaxic photograph plays an important role in documenting and remembering those moments people exist in between the real world and the screen world. "Nonstop imagery (television, streaming video, movies) is our surround, but when it comes to remembering", Sontag reminds us, "the photograph has a deeper bite. Memory freeze-frames; its basic unit is the single image. In an era of information overload, the photograph provides a quick way of apprehending something [..]" (2003, p. 19).

Throughout this investigation into virtual photography, many artists have been discussed, all of whom have very different approaches to photography of screens and in virtual worlds, and have produced very different work: from early images of cinema and television screens in context (Arbus and Friedlander), to photography of the screen (Gruyaert and Woolf) to portraits and documentary photography (Herms and Cooper).

This thesis has rejects assumptions that the virtual photograph is only closely related to notions of digital art, constructed and ultimately fake or fictional imagery, and refutes notions that the photographer should be metaphorically stopped at the digital door for wearing virtual attire. The idea that photography cannot exist in virtual space, or is required to be thought of and read as a separate art form is false. Virtual photographs can be understood as photographs without the need to classify them outside of the medium of photography. Virtual photography can be seen as a natural extension of ideas and techniques in modern photography in relation to the screen.

Virtual photography also fulfils the same functions of traditional photography and can echo the same modes, whether that is documentary photography or the sharing of memories and experiences via snapshots or souvenirs. The world is a metaxic society as many people can now be said to live between the real world and the screen world. To photograph these worlds and to photograph in these worlds is to simply document human history, memories, moments, and ways of seeing. Photographing virtual worlds is paramount to document and remember them but virtual photographs (like any real photograph) can often be very personal, magical and special memories.

My most treasured photographs are subsequently not the ones discussed and shown in this document thus far (although many I do value very highly). Nor is it my own photographs taken in videogames. Although many of them I am proud of, and can appreciate subjectively as a good photograph, it is always photographs shared to me by friends I cherish the most. These images sometimes capture myself (my avatar) alongside friends. The photographs (sometimes made in a photo-mode or sometimes simply a screenshot) are often amateurish in nature, appearing like snapshots, quick and unconsidered. These images often capture moments of triumph – beating the final boss on a *Destiny 2* raid, or an of-the-moment keepsake – deliberately photographed in way a family might group together and pose for a holiday snapshot in front of well know landmark. I'm often presented with photographs that depict nothing but beautiful locations, sent to me by friends who want to share the view. This has been a common occurrence with the knowledge of my interest in photographing videogames and the fact I have been researching the subject for a number of years. Photographs from *The Last of Us Part 2* and *Red Dead Redemption 2* have become the most commonly shared – often depicting landscapes and scenes that are unquestionably pictorial. Capturing a storm in *Red Dead Redemption 2* with lightning in the background (something that requires a certain amount of skill or luck!) makes for a particular favourite of this example. Sometimes I receive photographs that depict funny scenes, posed scenes that are deliberately made to look obscene or crass, or images of the game world misbehaving or illustrating a bug or glitch in the game. Photographs I have taken and shared with others, or

those photographs shared with me have become my dominant memory of the games and virtual worlds over time, and as in Robbie Cooper's *Alter Ego*, the way I remember my friends is via the virtual presence of their avatars and messages.

Like viewing old family photographs in a photo album I am brought back to those moments, reminded of feelings, experiences and sometimes even conversations: the first black white photographs I took of my hometown, and of developing them in a makeshift darkroom with my dad; family holidays to Bournemouth with my grandparents; birthdays and Christmases past; photographs of my rag tag posse in *Red Dead Redemption 2* made in the photography studio in *Blackwater*, like friends cramming into an automated passport photo booth. These photographs are oddly special to me, making for tiny snapshots that forms my own life story: inconsequential and arguably meaningless to nearly everyone yet everything to me.



Baker-Croft, R. (2019). Untitled image from Red Dead Redemption 2. Unpublished.

Endnotes

¹ Rockstar Studios (2018). *Red Dead Redemption 2*. [Blu-ray] PlayStation 4. New York City: Rockstar Games.

² Polyphony Digital (2004). *Gran Turismo*. [DVD] PlayStation 2. Tokyo: Sony Computer Entertainment.

³ Sega (1986). *Alex Kidd in Miracle World*. [Cartridge] Sega Master System. Toyko: Sega.

⁴ Capcom (1991). *Street Fighter 2* [Cartridge] Sega Mega Drive. Osaka: Capcom.

⁵ Team17 (1993). *Superfrog* [Disc] Amiga. Wakeford: Team17

⁶ Nintendo EPD (2020). *Animal Crossing: New Horizons* [Cartridge] Nintendo Switch. Kyoto: Nintendo.

⁷ Epic Games (2017). *Fortnite*. [Online] PlayStation 4. North Carolina: Epic Games and Warner Brothers Interactive Entertainment.

⁸ See *Fortnite Movie Nite: Christopher Nolan's hit films screen in-game* <https://www.bbc.co.uk/news/technology-53176946>

⁹ See Sherry Turkle's *Alone Together* (2017, p.152) and Amber Case's TED Talk, *We are all cyborgs now*. Available at: <https://www.youtube.com/watch?v=z1KJAXM3xYA> [Accessed 12 December 2019].

¹⁰ Diane Arbus's (arguably lesser known) early work featured movie theatres and drive-in cinemas. These photographs depict the architecture and the social environment but also include photographs taken close-up of the cinema screen.

¹¹ Found at Michael Wolf Photography. 2012. *Foam For You – Peeping*. [Online]. Available at: <http://photomichaelwolf.com/#fils-about-michael-wolff> [Accessed 19 March 2020].

¹² For example, see Thomas Ruff's *jpeg msh01, 2004*. Available at: <https://www.moma.org/collection/works/149384> [Accessed 2 February 2020].

¹³ Lee Friedlander continued making similar images subsequent to the *Harper's Bazaar* photographic essay in 1963, up until 1969. They were eventually brought together and exhibited in 2001 at the Fraenkel Gallery, San Francisco. See Fraenkel Gallery. [no date]. *The Little Screens*. [Online]. Available at: <https://fraenkelgallery.com/exhibitions/the-little-screens> [Accessed 12 January 2020].

¹⁴ It should be noted that *TV Shots* was exhibited before the medium of photography moved into its postmodern era, at the end of the seventies. In 1973 photography was still very much rooted in the documentary and pure or straight photograph - which refers to sharp focus and highly detailed images. Aesthetics that differentiate it from other visual media, most notably painting. Photographs exhibited in this period were almost exclusively black and white images.

¹⁵ See Strand, C. (2018). *The Discrete Channel with Noise : Algorithmic Painting; Destination*. [Viewed 6 June 2020]. Available from: <https://www.clarestrand.co.uk/works/?id=361>

¹⁶ See Warner, M. (2019). *Winners announced: Paris Photo-Aperture Foundation Photobook Awards 2019* [Online]. British Journal of Photography Online. Available at: <https://www.bjp-online.com/2019/11/paris-photo-aperture-foundation-photobook-awards-2019/> [Accessed 4 March 2020]

¹⁷ Both Jeff Wall and Gregory Crewdson reconstruct scenes from dreams and memories as large scale photographs. These are often shot on constructed sets, using actors.

¹⁸ Both Petri Levälähti (aka Berduu) and Duncan Harris seem to want to distance themselves from photography in general – their websites describing them as ‘screenshot capture artist’ and ‘screen and video capture artist’ retrospectively. Their work is discussed later on.

¹⁹ See Ahmad, W. (2017). *It May Be Art, But In-Game Images Aren't 'Photography'* [Online]. FStoppers. Available at: <https://fstoppers.com/originals/it-may-be-art-game-images-arent-photography-170382> [Accessed 2 October 2019]

²⁰ See Book, B. (2003). *Travelling Through Cyberspace: Tourism and Photography in Virtual Worlds* [Online]. Available at: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.462.1276&rep=rep1&type=pdf> [Accessed 14 October 2019]

²¹ See Bittanti, M. (2011). *The art of screenshot-ing: Joshua Taylor, videogame photographer*. [Online]. Wired.it. Available at: <https://blog.wired.it/misterbit/2011/12/24/the-art-of-screenshot-ing-joshua-taylor-videogame-photographer.html> [Accessed 12 November 2019]

²² See Wolf, M. (2009-2010). *A Series of Unfortunate Events*. [Viewed 10 November 2019]. Available from: <http://photomichaelwolf.com/#asoue/1>

²³ James M. Rhodes provides an in-depth view of Voegelin’s metaxy in his article ‘What is the Metaxy? Diotima and Voegelin’

²⁴ See Allern, T., 2002. *Myth and the Metaxy, and the Myth of ‘Metaxis’*. In: Rasmussen, B., Østern, A., eds. *Playing Betwixt and Between: The IDEA Dialogues 2001*. Bergen: Idea Publications. Pp. 77 – 85. [Viewed 12 December 2019]. Available from: <https://www.researchgate.net/profile/Tor->

[Helge Allern/publication/273454200 Myth and Metaxy and the Myth of Metaxis/links/5508157d0cf27e990e08eb4c/Myth-and-Metaxy-and-the-Myth-of-Metaxis.pdf](https://helge.allern/publication/273454200-Myth-and-Metaxy-and-the-Myth-of-Metaxis/links/5508157d0cf27e990e08eb4c/Myth-and-Metaxy-and-the-Myth-of-Metaxis.pdf)

²⁵ Rockstar North (2007). *Grand Theft Auto V*. [Blu-ray]. PlayStation 4. New York: Rockstar Games Inc.

²⁶ Guerrilla Games (2017). *Horizon Zero Dawn*. [Blu-ray]. PlayStation 4. California: Sony Interactive Entertainment.

²⁷ Ubisoft Quebec (2017). *Assassin's Creed: Origins* [Blu-ray]. PlayStation 4. Montreal: Ubisoft.

²⁸ Nintendo EPD (2017). *Super Mario Odyssey* [Cartridge]. Nintendo Switch. Kyoto: Nintendo.

²⁹ Polyphony Digital (2017). *Gran Turismo Sport* [Blu-ray]. PlayStation 4. California: Sony Interactive Entertainment.

³⁰ Remedy Entertainment (2019). *Control* [Online]. PlayStation 4. Milan: SOS Games.

³¹ Gearbox Software (2019). *Borderlands 3* [Blu-ray]. PlayStation 4. California: 2K Games.

³² Respawn Entertainment (2019). *Star Wars Jedi: Fallen Order* [Blu-ray]. PlayStation 4. California: Electronic Arts.

³³ Kojima Productions (2019). *Death Stranding* [Blu-ray]. PlayStation 4. California: Sony Interactive Entertainment.

³⁴ Bungie Inc (2017). *Destiny 2* [Blu-ray]. PlayStation 4. California: Activision.

³⁵ There are various tutorials on the internet describing how to achieve an on screen view without a HUD or elements of the character model. This often involves pushing the character into corners so that they disappear at specific angles. See Prime, K. (2020). *How to take Cinematic Screenshots in Destiny 2*. [Online]. YouTube. Available at: <https://www.youtube.com/watch?v=-dFPDviQonk> [Accessed 11 June 2020].

³⁶ See Ahmad 2017.

³⁷ Daylight images of the Eiffel Tower fall within the public domain, however, the illuminations at night are protected by copyright. See TourEiffel.Paris (no date). Using the image of the Eiffel Tower: Filming and Shots. [Online]. TourEiffel.Paris. Available at: <https://www.toureffel.paris/en/business/use-image-of-eiffel-tower> [Accessed 20 February 2020].

³⁸ Ray, M. (1920, printed c. 1967). Dust Breeding. [Viewed 15 June 2020]. Available from: <https://www.metmuseum.org/art/collection/search/271420>

³⁹ Brooks, C. (2014). You Only Live Forever. [Viewed 19 March 2020]. Available from: <http://www.caseybrooks.com/photography#/you-only-live-forever/>

⁴⁰ Butler, A. (2015-present). Down and Out in Los Santos. [Viewed 2 October 2019]. Available from: <http://www.alanbutler.info/down-and-out-in-los-santos-2016>

⁴¹ See Paillé, 2014.

⁴² Camera movement is often introduced to the player early on in videogames as part of their gameplay tutorial. Field of view and the speed in which the player can effectively look can usually be adjusted under camera setting in the game's options menu. Game engines such as *Unreal* and *Unity* also refer to any player-facing view as a 'camera'.

⁴⁴ Hello Games (2016). *No Man's Sky* [Blu-ray]. PlayStation 4. Guildford: Hello Games.

⁴⁵ Virtual galleries such as Societyofvirtualphotographers, gamergram.gg, and the_themed_collective on Instagram are dedicated to sharing in-game photography. The photographer, game and developer are almost always credited in these posts.

⁴⁶ HAL Laboratory, Pax Softnica (1999). *Pokémon Snap* [Cartridge]. Nintendo 64. Kyoto: Nintendo.

⁴⁷ It should be noted that technology companies that design videogame hardware and software also design camera technology. Sony with its PlayStation, Xperia mobile phones and range of digital cameras. Microsoft with the Xbox and Lumia mobile phones. Polyphony Digital, creators of the Gran Turismo series, helped design technology in the Sony Alpha series of camera. See Evans, 2017.

⁴⁸ As Poremba observes "there is an extended metaphor connecting photography and the most popular video game dynamic, gunplay" (2007). Here Poremba's analogy mirrors that of Sontag who describes the camera as being a "sublimation of the gun" and as a "fantasy-machines whose use is addictive" (2008, p. 14). Sontag's metaphor is quite literally manifested in the videogame *Fatal Frame* (Koei Tekmo (2001). *Fatal Frame* [DVD]. PlayStation 2. Montreal: Ubisoft) where the gameplay mechanic revolves around using a camera as a weapon to defeat/capture ghosts.

⁴⁹ 2k Boston (2007). *Bioshock* [DVD]. PC. California: 2K Games.

⁵⁰ Nintendo EDP (2017). *The Legend of Zelda: Breath of the Wild* [Cartridge]. Nintendo Switch. Kyoto: Nintendo.

⁵¹ Other videogames that have used photography as a core gameplay mechanic include *Gekibo: Gekisha Boy* (Tomcat System (1992). *Gekibo: Gekisha Boy* [CD]. PlayStation. Tokyo: D3 Publisher), *Beyond Good and Evil* (Ubisoft Pictures, Ubisoft Milan (2002). *Beyond Good and Evil* [DVD]. PlayStation 2. Montreal: Ubisoft), and *Wild Earth* (Super X (2006). *Wild Earth* [CD-ROM]. PC. Montreal: Ubisoft). These videogames place the player in the role as a

photographer, and the act of photography being the means of progressing through the game.

⁵² See Apolon, 2017.

⁵³ Images saved within the Hyrule Compendium (an in-game photo album of sorts) include a stylised frame and visual artefacts (vertical lines which run across the entire image).

⁵⁴ The first commercial Kodak cameras were available from 1888 and popularised in 1900 with the Kodak Brownie. The motor car became popular in the early twentieth century with likes of the Ford Model T in 1908.

⁵⁵ Massive Entertainment (2019). *Tom Clancy's The Division 2* [Blu-ray]. PlayStation 4. Montreal: Ubisoft.

⁵⁶ Bethesda Game Studios (2018). *Fallout 76* [Blu-ray]. PlayStation 4. Maryland: Bethesda Softworks.

⁵⁷ Grand Theft Auto V is perhaps a curious example when photo modes are discussed in general, because there is no photo mode in Grand Theft Auto V (or at least by name). In contradiction there are ways of taking in-game photographs that are much the same as any other photo mode. A player can stop and photograph the game environment at any point using the 'Snapmatic' camera on their (in-game) mobile phone. Here the player has access to basic photographic functions such as zooming into the image, depth of field and applying coloured filters.

⁵⁸ EA Dice (2018). *Battlefield V* [Blu-ray]. PlayStation 4. California: Electronic Arts.

⁵⁹ The spectator mode is a feature in the Battlefield series of games, where a player can observe an active server (map) without actively participating in the action. This mode features an array of options similar to a traditional photo mode, and arguably there is no difference but the name. This feature is popular for YouTubers and other content creators, who are able to produce cinematic sequences from the game.

⁶⁰ Sucker Punch Productions (2020). *Ghost of Tsushima* [Blu-ray]. PlayStation 4. California: Sony Interactive Entertainment.

⁶¹ Insomniac Games (2018). *Marvel's Spider-Man* [Blu-ray]. PlayStation 4. California: Sony Interactive Entertainment.

⁶² Mobile phone cameras tend to have a fixed aperture, although in recent years mobile phones have introduced technology that includes dual aperture settings as well as multiple cameras on the rear of the device. *Huawei* have introduced a 'Pro Aperture Mode' to their devices which has very little to do with actual aperture but instead cleverly combines images together, and thus allows the photographer to adjust the aperture after the photograph has been taken, creating aesthetically pleasing bokeh effects (smoothing out of focus backgrounds), very similar to the way images are made in videogames.

⁶³ Lens flare was introduced to cinema in the 1960s with films such as *Woman in the Dunes*, 1964 (the first example seen of this effect) and *Easy Rider*, 1969. Before this lens flare would have been considered an unprofessional aesthetic in cinematography. Today films like Super 8, Star Trek, The Marvel and Transformers series champion the use of lens flare effects, sometimes adding it digitally in post-production.

⁶⁴ See Guy Le Querrec's "*Cine-park*", drive-in. Montreal. Saturday 22th May 1982. Available at: <https://www.magnumphotos.com/arts-culture/cinema/drive-in-cinema-movie-theater/>

⁶⁵ See O. Winston Link's *Hot Shot East Bound*, 1956. Available at: <https://fraenkelgallery.com/exhibitions/o-winston-link>

⁶⁶ See Hiroshi Sugimoto's *Theatres* available at: <https://www.sugimotohiroshi.com/new-page-7>

⁶⁷ See Martin Parr's *Signs of the Times* available at: https://www.martinparr.com/books/#gallery/8_1613978489/243

⁶⁸ See Benoit Paille's *Crossroad of Realities* available at: <https://www.behance.net/gallery/15802679/CROSSROAD-OF-REALITIES>:

⁶⁹ Arbus photographed movie theatres and the screen from 1956 and up to her death in 1971.

⁷⁰ Arbus, D. (1956). Carroll Baker on Screen in "Baby Doll" with Passing Silhouette, N.Y.C., 1956. Viewed 17 March 2020. Available at: <https://onlineonly.christies.com/s/photographs-diane-arbus/carroll-baker-screen-baby-doll-passing-silhouette-n-y-c-1956-20/241>

⁷¹ Arbus, D. (1956). Kiss from "Baby Doll", 1956. Viewed 17 March 2020. Available at: <https://onlineonly.christies.com/s/photographs-diane-arbus/kiss-baby-doll-1956-23/244>

⁷² See Arbus, D. (1962). Child with a toy hand grenade in Central Park, N.Y.C., 1962. Viewed 16 March 2020. Available at: <https://www.metmuseum.org/art/collection/search/284712>
It can be seen how Arbus photographed this scene by studying the contact sheet (the 12 images that made up this roll of film), available at:

<https://www.scribd.com/document/186046801/Analyzing-Contact-Sheets>

Arbus' subject appears playful – performing and posing for the camera in all but one of the images

⁷³ Arbus, D. (1958). Audience with Projection Booth, N.Y.C., 1958. Viewed 17 March 2020. Available at: <https://onlineonly.christies.com/s/photographs-diane-arbus/audience-projection-booth-n-y-c-1958-17/238>

⁷⁴ Arbus, D. (1971). An Empty Movie Theater, N.Y.C., 1971. Viewed 17 March 2020. Available at: <https://onlineonly.christies.com/s/photographs-diane-arbus/empty-movie-theater-n-y-c-1971-19/240>

⁷⁵ See Friedlander, L. New York City, 1966. Viewed 4 April 2020. Available at: <https://huxleyparlour.com/wp-content/uploads/2018/03/New-York-City-1966-by-LEE-FRIEDLANDER-BHC2978.jpg>

⁷⁶ Seen in Anton 2015.

⁷⁷ See Friedlander, L. (1967) 14. Lee Friedlander, Aloha, Washington, 1967. Viewed 4 April 2020. Available at: <https://static01.nyt.com/images/2017/07/03/blogs/03-lens-screens-slide-AZOP/03-lens-screens-slide-AZOP-superJumbo.jpg?quality=75&auto=webp&disable=upscale>

⁷⁸ Seen in Anton, 2015.

⁷⁹ See the first TV image from John Logie Baird's early 'Televisor' demonstrations. Available at: <https://www.independent.co.uk/tech/see-the-first-tv-image-from-john-logie-baird-s-early-televisor-demonstrations-a6834416.html>

⁸⁰ See <https://www.mariamavropoulou.com/tears-spit-cum>

⁸¹ See examples of Mochizuki Masao's work here. Available at: <https://www.michaelhoppengallery.com/news/159/>

⁸² See Jason Shulman's Photographs of Films, available at: <https://www.jasonshulmanstudio.com/photographsoffilms/necessitatibus-aspernatur-fuga-et>

⁸³ The photographs included in *This World and Others Like It* are never captioned. Instead they are named/labelled by the GPS coordinates from which the photograph was taken. On the matter that this series includes both photographs made from the physical (this world) and the virtual (and others like it), Nikonowicz suggests that "if they all share the same kind of title, they resist the urge to be read as two different kinds of images" (cited in Shah, 2019).

⁸⁴ Ubisoft Montreal (2014). *Far Cry 4* [Blu-ray]. PlayStation 4. Montreal: Ubisoft.

⁸⁵ It should be noted that a similar effect could be achieved in camera using a slow shutter speed, although the blur would not be a smooth transition between the opening and closing of the shutter. A ghostly repetition of the background would most likely be seen as the frames (in this case 30fps on a console or 60fps on a PC) are exposed on to the negative or film sensor. In this case the vehicle cabin would also be blurred.

⁸⁶ Those familiar with British television may recognise the popular soap opera *Coronation Street*.

⁸⁷ Harry Gruyaert, *TV Shots*, First edition 2007. Available here: <https://www.setantabooks.com/products/tv-shots>

⁸⁸ See Jon Rafman's ongoing series *Nine Eyes*, available at: <https://9-eyes.com>

⁸⁹ Google Street View does have a Historical Street View mode which works as an online archive. Although as with all archives that exists solely as a digital archive – Its existence relies on the servers they live in and the original images will often degrade over time through compression.

⁹⁰ Eva and Franco Mattes, *Portraits (2006-07)*, available at: <https://0100101110101101.org/portraits/>

⁹¹ Available at: <https://www.eronrauch.com/a-land-to-die-in>

⁹² Gareth Damian Martin deliberately uses high ISO black and white film which produces a grainier image. It's interesting that this same analogue process can be simulated in most videogame camera modes from the outset. It's quite common to find film noir-like, high contrast settings as well as options to include simulated film grain/noise.

⁹³ Available at: <http://www.roball.co.uk>

⁹⁴ Pascal Greco, *Places*. Available at: <https://www.pascalgreco.com/places>

⁹⁵ SCE London Studio (2008). *PlayStation Home* [Online – beta only]. PlayStation 3. California: Sony Interactive Entertainment.

⁹⁶ Roc Herms himself appears in one of the few real life photographs from this project. He uses a shutter release cable to control the real life camera, in conjunction with the PlayStation 3 control pad to control the virtual camera. See <https://www.rocherms.com/wp-content/uploads/roc-herms-postcards-from-home-livingroom-1280x758.jpg>

⁹⁷ An argument could be made that videogames that have either fallen out of popularity, that exist on older generation gaming platforms or are seemingly dead are sometimes reborn and reimagined in the modern day. Although today these tend to be a nostalgic trip into a retro yesteryear, there exists an enthusiastic PC modding community that update and modify aging game worlds – bringing next generation graphical improvements or completely altering the game entirely. Like Berenice Abbott's *Changing New York* (which documents huge architectural changes that happened to New York City in the 1930's), virtual photography can play an important part in documenting how game worlds have evolved over time. It should be noted that although *PlayStation Home* may never officially be brought back to life, there is currently (as of 2020) a dedicated team trying to bring the

world back online. Parts of *PlayStation Home* can be accessed offline through reverse engineering the game. See <https://www.resetera.com/threads/help-us-preserve-playstation-home-project-destination-home-preservation-project.164797/>

⁹⁸ See Harradence, M. (2018) Kratos can now take selfies in God of War with Photo Mode [Online]. Videogamer. Available at: <https://www.videogamer.com/news/kratos-can-now-take-selfies-in-god-of-war-with-photo-mode> [Accessed 5 June 2020]

⁹⁹ See <https://robbiecooper.com/portfolio/alter-ego>

Bibliography

Abbott, B. (1980). Photography at the Crossroads. In: Trachtenberg A, ed. *Classic Essays on Photography*. New Haven, Conn.: Leete's Island Books. Pp. 179 – 184.

Ahmad, W. (2017). *It May Be Art, But In-Game Images Aren't 'Photography'* [Online]. FStoppers. Available at: <https://fstoppers.com/originals/it-may-be-art-game-images-arent-photography-170382> [Accessed 2 October 2019]

Allern, T., 2002. Myth and the Metaxy, and the Myth of 'Metaxis'. In: Rasmussen, B., Østern, A., eds. *Playing Betwixt and Between: The IDEA Dialogues 2001*. Bergen: Idea Publications. Pp. 77 – 85. [Viewed 12 December 2019]. Available from: https://www.researchgate.net/profile/Tor-Helge-Allern/publication/273454200_Myth_and_Metaxy_and_the_Myth_of_Metaxis/links/5508157d0cf27e990e08eb4c/Myth-and-Metaxy-and-the-Myth-of-Metaxis.pdf

Anton, S. (2015). *Lee Friedlander: The Little Screens*. London: Afterall.

Apolon. (2017). *'Legend Of Zelda: Breath Of The Wild' Camera Guide: Tips To Use The Camera Like A Pro*. [Online]. Player.One. Available at: <https://www.player.one/legend-zelda-breath-wild-camera-guide-tips-use-camera-pro-587014> Accessed 13 January 2020].

Aether Studio. (2015). *Harry Gruyaert – TV Shots Series*. [Online]. Vimeo. Available at: <https://vimeo.com/151751921> [Accessed 2 June 2020].

Arbus, D. (1971). An Empty Movie Theater, N.Y.C., 1971. Viewed 17 March 2020. Available at: <https://onlineonly.christies.com/s/photographs-diane-arbus/empty-movie-theater-n-y-c-1971-19/240>

Arbus, D. (1958). Audience with Projection Booth, N.Y.C., 1958. Viewed 17 March 2020. Available at: <https://onlineonly.christies.com/s/photographs-diane-arbus/audience-projection-booth-n-y-c-1958-17/238>

Arbus, D. (1956). Carroll Baker on Screen in "Baby Doll" with Passing Silhouette, N.Y.C., 1956. Viewed 17 March 2020. Available at: <https://onlineonly.christies.com/s/photographs-diane-arbus/carroll-baker-screen-baby-doll-passing-silhouette-n-y-c-1956-20/241>

Arbus, D. (1962). Child with a toy hand grenade in Central Park, N.Y.C., 1962. Viewed 16 March 2020. Available at: <https://www.metmuseum.org/art/collection/search/284712>

Arbus, D. (2003). *Diane Arbus Revelations*. London: Jonathan Cape.

Arbus, D. (1956). Kiss from "Baby Doll", 1956. Viewed 17 March 2020. Available at: <https://onlineonly.christies.com/s/photographs-diane-arbus/kiss-baby-doll-1956-23/244>

Baker-Croft, R. (2019). Untitled image from Red Dead Redemption 2. Unpublished.

- Ball, R. (2020). Postcards From Lockdown. Viewed 28 November 2020. Available at: <http://www.roball.co.uk>
- Barthes, R. (2000). *Camera Lucida: Reflections on Photography*. London: Vintage
- Batchen, G. (1999). *Burning With Desire*. Cambridge, Mass.: MIT Press.
- Baudrillard, J. (2019). *Simulacra and Simulation*. Ann Arbor: University of Michigan Press.
- Bittanti, M. (2011). *The art of screenshot-ing: Joshua Taylor, videogame photographer*. [Online]. Wired.it. Available at: <https://blog.wired.it/misterbit/2011/12/24/the-art-of-screenshot-ing-joshua-taylor-videogame-photographer.html> [Accessed 12 November 2019]
- Bittanti, M. (2018). *Interview: Gareth Damian Martin: The Aesthetics Of Analogue Game Photography*. [Online]. GameScenes. Available at: <https://www.gamescenes.org/2018/04/interview-gareth-damian-martin-the-aesthetics-of-analogue-game-photography.html> [Accessed 7 April 2020].
- Berduu. (2020) 5 July. Twitter. Available at: <https://twitter.com/Berduu/status/1279840746934358017> [Accessed 6 August 2020].
- Berduu. (2020) 27 July. Instagram. Available at: <https://library.leeds.ac.uk/referencing-examples/9/leeds-harvard/1043/instagram> [Accessed 12 August 2020].
- Book, B. (2003). *Travelling Through Cyberspace: Tourism and Photography in Virtual Worlds* [Online]. Available at: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.462.1276&rep=rep1&type=pdf> [Accessed 14 October 2019]
- Bolter, J. and Grusin, R. (2000). *Remediation: Understanding New Media*. Cambridge, Mass.: MIT Press.
- Bourgeois-Vignon, A. (2016). *TV Shots: The Olympics*. [Online] Magnum Photos. Available at: <https://www.magnumphotos.com/arts-culture/sport-arts-culture/harry-gruyaert-tv-shots-the-olympics/> [Accessed 20 March 2020].
- Bradbury, R. (2008). *Fahrenheit 451*. London: HarperCollins
- Brooks, C. (2014). You Only Live Forever. [Viewed 19 March 2020]. Available from: <http://www.caseybrooks.com/photography#/you-only-live-forever/>
- Butler, A. (2015-present). Down and Out in Los Santos. [Viewed 2 October 2019]. Available from: <http://www.alanbutler.info/down-and-out-in-los-santos-2016>

Cartier-Bresson, H. (2014). *Henri Cartier-Bresson: The Decisive Moment*. Göttingen: Steidl.

Case, A. (2011). *We are all cyborgs now*. [Online]. Available at: <https://www.youtube.com/watch?v=z1KJAXM3xYA> [Accessed 12 December 2019]

Casper, J. (2011). *A Series of Unfortunate Events*. [Online]. LensCulture. Available at: <https://www.lensculture.com/articles/michael-wolf-a-series-of-unfortunate-events> [Accessed 23 March 2020].

Campany, D. (2020). *On Photographs*. London: Thames and Hudson.

Clarke, A. In Lu, D. *Clarke's Three Laws*. [Online]. New Scientist. Available at: <https://www.newscientist.com/term/clarkes-three-laws/> [Accessed 22 January 2020].

Cooper, R. (2007). Image from *Alter Ego*. Viewed 19 February 2020. Available at: <https://www.brainpickings.org/2011/12/14/alter-ego-robbie-cooper/>

Dibbell, J. (2007). *Alter Ego: Avatars and their Creators*. London: Thames and Hudson.

Falconer, L. (2011). *Metaxis: the transition between worlds and the consequences for education*. [Online]. University of the West of England. Available at: <https://uwe-repository.worktribe.com/output/957720/metaxis-the-transition-between-worlds-and-the-consequences-for-education> [Accessed 22 April 2020].

Dunne, C. (2016). *Hiroshi Sugimoto's Otherworldly Photographs of Movie Theaters*. [Online]. Hypoallergenic. Available at: <https://hyperallergic.com/323313/hiroshi-sugimotos-otherworldly-photographs-of-movie-theaters/> [Accessed 15 December 2020].

Dworzak, T. (2016). A Goldeen in front of posters supporting migrants. Paris, France. August, 2016. [Viewed: 19 January 2020]. Available from: <https://www.magnumphotos.com/arts-culture/society-arts-culture/thomas-dworzak-the-dark-world-of-pokemon-go/>

Dyer, G. (2012). *How Google Street View is inspiring new photography* [Online]. The Guardian. Available at: <https://www.theguardian.com/artanddesign/2012/jul/14/google-street-view-new-photography> [Accessed 18 March 2020].

Evans, A. (2017). *How Polyphony Digital Creates GT Sport "Photo Scapes" With Sony Alpha Cameras*. [Online]. gtplanet. Available at: <https://www.gtplanet.net/polyphony-digital-creates-gt-sport-photo-scapes-sony-alpha-cameras/> [Accessed 15 May 2020].

Evans, W. (1963). In Anton, S. (2015). *Lee Friedlander: The Little Screens*. London: Afterall.

Falconer, L. (2011). *Metaxis: the transition between worlds and the consequences for education*. [Online]. University of the West of England. Available at: <https://uwe-repository.worktribe.com/output/957720/metaxis-the-transition-between-worlds-and-the-consequences-for-education>

repository.worktribe.com/output/957720/metaxis-the-transition-between-worlds-and-the-consequences-for-education [Accessed 22 April 2020].

Fantacci, G. (2018). *Going Beyond Video Game's Surface: Punctum And In-Game Photography* [Online]. Digra 2018. Available at: <https://easychair.org/smart-program/DIGRA2018/2018-07-25.html> [Accessed 1 November 2020].

Fontcuberta, J. In Herms, R. (2015). *Postcards from Home*. Spain: Terranova.

Friedlander, L. (1967) 14. Lee Friedlander, Aloha, Washington, 1967. Viewed 4 April 2020. Available at: <https://static01.nyt.com/images/2017/07/03/blogs/03-lens-screens-slide-AZOP/03-lens-screens-slide-AZOP-superJumbo.jpg?quality=75&auto=webp&disable=upscale>

Friedlander, L. New York City, 1966. Viewed 4 April 2020. Available at: <https://huxleyparlour.com/wp-content/uploads/2018/03/New-York-City-1966-by-LEE-FRIEDLANDER-BHC2978.jpg>

Fraenkel Gallery. [no date]. *The Little Screens*. [Online]. Available at: <https://fraenkelgallery.com/exhibitions/the-little-screens> [Accessed 12 January 2020].

Fraenkel Gallery. [2016]. Hiroshi Sugimoto: Theaters. [Online]. Available at: <https://fraenkelgallery.com/exhibitions/theaters> [Accessed 11 February 2020].

Giddings, S. (2013). *Drawing without light*. [Online]. Available at: <https://uwe-repository.worktribe.com/preview/927904/drawing%20without%20light.pdf> [Accessed 19 March 2020].

Gerling, W., (2018). Photography in the Digital. *photographies* [online]. 11:2-3, 149-167. [Viewed 11 October 2019]. Available from: DOI: 10.1080/17540763.2018.1445013.

Gruyaert, H. (1972) Television broadcast. Great Britain & France. TV Shots. 1972. [Viewed 6 November 2019]. Available at: <https://www.magnumphotos.com/arts-culture/art/harry-gruyaert-tv-shots/>

Harradence, M. (2018) Kratos can now take selfies in God of War with Photo Mode [Online]. Videogamer. Available at: <https://www.videogamer.com/news/kratos-can-now-take-selfies-in-god-of-war-with-photo-mode> [Accessed 5 June 2020]

Harris, D. (2020). Sonofaglitch. Available at: <https://www.flickr.com/photos/155981369@N02/50771989202/in/album-72157717594899087/>. Viewed 28 December 2020.

Haverkamp, Anselm. "The Memory of Pictures: Roland Barthes and Augustine on Photography." *Comparative Literature* 45, no. 3 (1993): 258-79.

Havlin, L. (2016). The Dark World of Pokémon Go! [Online]. Magnum Photos. Available at: [https://www.magnumphotos.com/arts-culture/society-arts-culture/thomas-dworzak-the-](https://www.magnumphotos.com/arts-culture/society-arts-culture/thomas-dworzak-the-dark-world-of-pokemon-go/)

[dark-world-of-pokemon-go/](https://www.magnumphotos.com/arts-culture/society-arts-culture/thomas-dworzak-the-dark-world-of-pokemon-go/) [Accessed 13 February 2020].

Havlin, L. (2020). *TV Shots: Harry Gruyaert*. [Online]. Magnum Photos. Available at: <https://www.magnumphotos.com/arts-culture/art/harry-gruyaert-tv-shots> [Accessed 10 April 2020].

Herms, R. (2015). *Postcards from Home*. Spain: Terranova.

Herms, R. (2015). Untitled image from *Postcards from Home*. Viewed 12 April 2020. Available at: <https://www.lensculture.com/projects/25069-postcards-from-home>

Hurn, D. and Jay, B. (1997). *On Being a Photographer*. Portland, Oregon: Lenswork Publishing

Jurgenson, N. (2019). *The Social Photo: On Photography and Social Media*. London: Verso.

Kobeissi, J. (2020). Professional Photoshoot in ANIMAL CROSSING: NEW HORIZONS. [Online]. YouTube. Available at: <https://www.youtube.com/watch?v=uealnKlfahs&t=215s> [Accessed 4 April 2020].

Kupfer, P. (2019). In Nikonowicz, D. *This World and Others Like It*. Amsterdam: FW Books.

Lacina, D. (2019). How the Photo Mode Became a Homogenized Feature of Commodified Games. [Online]. Vice. Available at: <https://www.vice.com/en/article/pkeyk9/how-the-photo-mode-became-a-homogenized-feature-of-commodified-games> [Accessed 5 January 2020].

Lacina, D. (2018). *We Made Our Own Myths in 2017's Photo Modes* [Online]. Vice. Available at: <https://www.vice.com/en/article/gvwvd3/photo-mode-2017-mario-odyssey-assassins-creed> [Accessed 28 March 2020].

Martin, G. D. (2018). The Continuous City. Available at: <http://socks-studio.com/2019/10/13/gareth-damian-martin-postcards-from-the-continuous-city-2018/> Viewed 3 April 2020.

Meyerowitz, J. (2006). *Aftermath: World Trade Center Archive*. New York: Phaidon Press Limited.

Michael Wolf Photography. 2012. *Foam For You – Peeping*. [Online]. Available at: <http://photomichaelwolf.com/#fils-about-michael-wolff> [Accessed 19 March 2020].

Molloy, D. and Kelion, L. 2020. *Fortnite Movie Nite: Christopher Nolan's hit films screen in-game* [Online]. Available at: <https://www.bbc.co.uk/news/technology-53176946> [Accessed 3 July 2020]

Möring, S. and de Mutiis, M. 2019. Camera Ludica: Reflections on Photography in Video Games. In: Fuchs, M., and Thoss, J, eds. *Intermedia Games – Games Inter Media: Video Games and Intermediality*. London: Bloomsbury. Taken from the unpublished manuscript.

Morse, R. (1949). Little boy watching TV on set in store window. [Viewed 11 November 2019]. Available from: <https://www.gettyimages.ie/photos/ralph-morse-television?phrase=ralph%20morse%20television&sort=best#>

Murray, J. (1997). *Hamlet on the Holodeck: The Future of Narrative in Cyberspace*. Cambridge, Mass.: MIT Press.

Nikonowicz, D. (no date). *Drew Nikonowicz Photography*. [Online]. Nikonowicz. Available at: <http://www.nikonowicz.com/index.php/project/this-world-and-others-like-it/2/> [Accessed 9 September 2020].

Nonas, R. (2018). In Gruyaert, H. *Edges*. London: Thames and Hudson.

Paillé, B. (2014). CROSSROAD OF REALITIES [Online]. Behance. Available at: <https://www.behance.net/gallery/15802679/CROSSROAD-OF-REALITIES> [Accessed 7 May 2020].

Phaidon Press Limited. (2006). *Aftermath: World Trade Center Press Release*. London: Phaidon Press Limited.

Plato (2005). *The Symposium*. Translated by C. Gill and D. Lee. London: Penguin.

Polyphony Digital Inc. (2020). *Our Goals: Message*. [Online]. Polyphony Digital. Available at: <https://www.polyphony.co.jp/message/> [Accessed 3 September 2020].

Poremba, C. (2007). Point and Shoot: Remediating Photography. *Games and Culture*. 2: 1 [Viewed 20 October 2019]. Available from: DOI:10.1177/1555412006295397

Prime, K. (2020). *How to take Cinematic Screenshots in Destiny 2*. [Online]. YouTube. Available at: <https://www.youtube.com/watch?v=-dFPDviQonk> [Accessed 11 June 2020].

Purdom, C. (2016). A PEOPLE'S HISTORY OF PLAYSTATION HOME. [Online]. Kill Screen. Available at: <https://killscreen.com/previously/articles/a-peoples-history-of-playstation-home/> [Accessed 19 October 2020].

Rauch, E. (2007). *A Land To Die In (2005-2007)*. Available at: <https://www.eronrauch.com/a-land-to-die-in> [Accessed 19 March 2020].

Rauch, E. (2015). *Hybrid Light: A Few Thoughts on the Future of Virtual Photography* [Online]. VideoGameTourism. Available at: <https://videogametourism.at/content/hybrid-light-few-thoughts-future-virtual-photography> [Accessed 12 January 2020].

Rauch, E. (2012). *Virtual Light: Exploring In-Game Photography And Photo History* [Online]. VideoGameTourism. Available at: <https://videogametourism.at/content/virtual-light-exploring-game-photography-and-photo-history> [Accessed 12 January 2020].

Ray, M. (1920, printed c. 1967). *Dust Breeding*. [Viewed 15 June 2020]. Available from: <https://www.metmuseum.org/art/collection/search/271420>

Ries, M. (2015). *TeleGen: Art and Television*. Munich: Hirmer Verlag.

Rhodes, J. (2013). *What Is the Metaxy? Diotima and Voegelin* [Online]. VoegelinView. Available at: <https://voegelinview.com/what-is-the-metaxy-diotima-and-voegelin/> [Accessed 4 October 2019].

Rosenheim, J. In DeCarlo, T. (2004). *A Fresh Look at Diane Arbus* [Online]. Smithsonian Magazine. Available at: <https://www.smithsonianmag.com/arts-culture/a-fresh-look-at-diane-arbus-99861134/> [Accessed 6 August 2020].

Screen Walks. (2020). *Screen Walk with Alan Butler*. [Online]. YouTube. Available at: <https://www.youtube.com/watch?v=YGANxb9oWG4&t=3340s>. [Accessed 5 May 2020].

Screen Walks. (2020). *Screen Walk with Roc Herms*. [Online]. YouTube. Available at: <https://www.youtube.com/watch?v=T8ytKjkh1o> [Accessed 21 June 2020].

Sexton, S. (2019) 'Yoshi's Island 2', in Sexton, S. *If All the World and Love Were Young*. London: Penguin, p. 8

Shah, S. (2019). *Drew Nikonowicz: This World and Others Like It*. [Online]. ASX. Available at: <https://americansuburbx.com/2019/07/drew-nikonowicz-this-world-and-others-like-it.html> [Accessed 6 September 2020].

Shields, R. (2003). *The Virtual*. London: Routledge.

Shamsian, J. (2016). Some Samsung phones have a 'beauty mode' that 'fixes' your face in selfies [Online] Insider. Available at: <https://www.insider.com/samsung-phones-default-beauty-mode-camera-airbrush-2016-6> [Accessed 11 July 2020]

Sontag, S. (2008). *On Photography*. London: Penguin.

Sontag, S. (2003). *Regarding the Pain of Others*. London: Penguin.

Soth, A. (no date). *Postcards from Home*. [Online]. Roc Herms. Available at:

<https://www.rocherms.com/projects/postcards-from-home/?lang=en> [Accessed 5 August 2020].

Strand, C. (2018). *The Discrete Channel with Noise: Algorithmic Painting; Destination*. [Viewed 6 June 2020]. Available from: <https://www.clarestrand.co.uk/works/?id=361>

Sugimoto, H. (begun 1978). *Theaters*. Viewed 11 December 2020. Available at: <https://www.sugimotohiroshi.com/new-page-7>

Sugimoto, H. In Dunne, C. (2016). *Hiroshi Sugimoto's Otherworldly Photographs of Movie Theaters*. [Online]. Hypoallergenic. Available at: <https://hyperallergic.com/323313/hiroshi-sugimotos-otherworldly-photographs-of-movie-theaters/> [Accessed 15 December 2020].

Talley, T. (2015). *DEAD END THRILLS TALKS SCREENSHOTS AND ART*. [Online]. Kill Screen. Available at: <https://killscreen.com/previously/articles/dead-end-thrills-talks-screenshots-and-art/> [Accessed 22 August 2020].

Thomas, D. and Haussmann, G. (2005). *Cinematic Camera as Video Game Cliché*. Available at: <http://www.digra.org/wp-content/uploads/digital-library/06278.52285.pdf> [Accessed 10 May 2020].

TourEiffel.Paris (no date). *Using the image of the Eiffel Tower: Filming and Shots*. [Online]. TourEiffel.Paris. Available at: <https://www.toureiffel.paris/en/business/use-image-of-eiffel-tower> [Accessed 20 February 2020].

Turkle, S. (2017). *Alone Together: Why We Expect More From Technology and Less From Each Other*. New York: Basic Books.

Vertov, D. (1923). In *DZIGA VERTOV: THE MAN WITH THE MOVIE CAMERA AND OTHER NEWLY-RESTORED WORKS* [Online]. Gartenberg Media. Available at: <https://www.gartenbergmedia.com/dvd-distribution-and-sales/international-silent-classics/the-man-with-the-movie-camera> [Accessed 12 November 2020].

Warner, M. (2019). *Winners announced: Paris Photo-Aperture Foundation Photobook Awards 2019* [Online]. British Journal of Photography Online. Available at: <https://www.bjp-online.com/2019/11/paris-photo-aperture-foundation-photobook-awards-2019/> [Accessed 4 March 2020]

Williams, M. (no date). *26 Gasoline Stations in GTAV*. [Online] M. Earl Williams. Available at: https://www.mearlwilliams.com/gasoline_stations#1 [Accessed 20 April 2020].

Wolf, M. (2009-2010). *A Series of Unfortunate Events*. [Viewed 10 November 2019]. Available from: <http://photomichaelwolf.com/#asoue/1>

Yamauchi, Kazunori (2004). *In Gran Turismo 4 Photo mode exposed*. [Online]. GamesRadar. Available at: <https://www.gamesradar.com/uk/gran-turismo-4-photo->

[mode-exposed/](#) [Accessed 8 March 2020].

Zhang, I. (2018). In-game photography. *The British Journal of Photography*. Vol. 165, issue. 7877 [Viewed 14 April 2020]. Available from <https://search.proquest.com/docview/2197725534/fulltextPDF/1A56D748D2CC4D54PQ/1?accountid=9869>