The

Shadow Machine:

Photographic practice as the performance of democratic objects.

Auckland University of Technology

Design and Creative Technologies: Colab

Stephen Rood

2022

Lodgement Statement

A thesis submitted to Auckland University of Technology
in fulfilment of the requirements for the degree of
Doctor of Philosophy.

Abstract

The aim of this project is to contribute to the realm of contemporary photographic practice by presenting an ontology that disputes both the image and the human as its central protagonists. Photography is almost by default regarded as the context of how humans experience photographic images with the majority of contemporary investigations into modes of photographic practice positioning the photographic image as central.

This practice-led research project explores an approach that goes beyond post-digital and post-photographic areas of discussion. Photography is addressed here as a practice of materials, or as Patrick Maynard puts it, a "technological way of doing things" (2000, p. 7). This enables the objects of photography to be regarded through the lens of flat ontologies that disputes the prioritisation of conventional hierarchies. By de-emphasising its representational capabilities, and reconfiguring its objects, photography is proposed as a performance of objects.

This research draws on an investigation into the theoretical realms of new materialism, speculative realism, non-representation and performativity to inform the generation of practical photographic artworks. These have in turn advised the theoretical investigation.

Through the exploration of the possibility of an imageless photography, this project seeks to develop a notion of photographic practice. It offers an interpretation of photographic practice that reconfigures its objects to pose them as the sites of knowledges in motion.

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Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

Stephen Rood

Acknowledgements

My gratitude to my supervisors Professor Frances Joseph
and Dr James Charlton, also to Dr Charles Walker.
Many thanks to AUT for its continued support.

My gratitude to Han Furnee for his support.
My deepest thanks and gratitude to Anita Levering,
for her patience, love and support.

CHAPTER 1 - INTRODUCTION

1.1 Chapter Introduction

Photography is changing. The history of the evolution of photography is the story of a multitude of interconnected technical, historical, social, cultural, material, economic and philosophical trajectories. Now, as photography has become automated as digitisation has become ubiquitous, the overwhelming majority of images are made by machines for other machines, with minimal human interaction (Hand, 2012; Kember, 2012; Rubinstein, 2018). Images can be described as programmable objects mediated on vast automated networks (Beller, 2016). Photographic practice is an inevitable extension of what Eivind Røssaak terms the "algorithmic image" (2011, p. 187). The photographic act no longer belongs to the photographer alone but is an ongoing collaborative process distributed across digitised and decentralised networks (Rubinstein & Sluis, 2008). The human can no longer be considered the central and only figure in both the world and in the photographic universe (Flusser, 2011a). The artist Trevor Paglen claims that we need to unlearn how to see like humans as, he claims, our "meat-eyes are far too inefficient to see what's going on anyway" (Paglen, 2014, p. 3). As photography increasingly becomes an integrated imaging system, the practices of photography will reflect this evolution.

The majority of contemporary investigations into modes of photographic practice position the photographic image as central. Photography is almost by default regarded as the context of how humans experience photographic images. As humans become increasingly incidental to photographic processes, this project explores the displacement of human perception as a central viewpoint of photographic practice. Photography is addressed as a broad set of interrelated practices with the indexical capabilities of

photography regarded as but one aspect in its wide range of social and technological possibilities. This research aims to contribute to the realm of contemporary photographic practice through the development of an ontology that disputes both the image and the human as its central actors.

This thesis investigates and argues against the dominance of the image in photography, exploring what a photographic practice that no longer prioritises the image and the human as its central protagonists might look like. Fundamental to this inquiry is the contention that photographic practice can no longer be defined by the production of image and its representational capabilities alone. Thus the project is strategically positioned against the predominant narrative and challenges widely held assumptions regarding the centrality of the image in photographic practice, highlighting a blind spot and providing an opportunity for this project to expand what our understandings of photographic practice might be.

Photographic discourse is primarily concerned with the image and its contents, typically accepting the centrality of the image without dispute. The phenomenological interpretation of photography as argued by André Bazin (1960) and Roland Barthes (1981) remains fundamental to a common understanding of photography. Other more current theories, such as the post-photographic view of networked photography (Beller, 2016; Hand, 2012; Rubinstein, 2018) and the non-human photography of Zylinska (2017), also continue to prioritise the image. These approaches tend to assume image creation and its content as the central tenet of photographic practice. Although none of them dispute the possibility of a wider set of photographic practices, they do not explicitly explore the possibility of an imageless photography nor a photographic practice in which the centrality of the photographic image might be de-emphasised. While few, if any, theories champion the idea that photography is limited to image production, the majority assume this as a given.

While calling for a wider interpretation of photographic practice, the thesis does not seek to engage directly in a critique of this prevailing discourse, but rather asks what photographic practice might be if this was not the case? Three theorists who offer a materialist, or expanded, account of photography are relevant to the project and have been examined to support the argument that underpins the thesis. They are Maynard, in terms of photography as technology, Flusser, in terms of photography as apparatus, and Laruelle, in terms of photography as philosophical performance.

To facilitate this self-referential investigation of photography, the project itself has been approached from a material, meta perspective. This is one that allows for abstract and unorthodox alliances by not prioritising conventional material constructions. The thesis presents itself as an actualisation of these concepts across the practical and written components: it 'performs' its three main themes – material, democratic and performative – through praxis, practice and theory put into practice.

This material, meta-photographical approach is reflexively explored through the practical work. The meta-photographical approach uses photographic methods to examine the technologies, materials and theories that concern the creation of photographic imagery. It seeks to engage with photography, through photography (Gützel, 2014, p. 56). The artworks present the hermeneutic exploration of ideas in practice. This concept of hermeneutic exploration applied to the creation of artworks has been considered in relation to Snow's 1969 work *Authorization* (p. 48) and Velázquez's painting *Las Meninas* (p. 49), works that are explicit in revealing the processes of their own creation. This concept is also examined in terms of concrete art and concrete photography (p. 55), which demonstrate a mode of photographic practice that emphasises its technological production over visual content. This approach to the creation of artworks is characterised by an attempt to avoid figurative depiction. Thus the practical

works are created not as expressions of personal, subjective narratives but sites (assemblages) of interweaving concepts orchestrated by the artist, without preconceived notions beyond an open exploration of the concepts at hand. As the thesis engages with photography as a diverse realm of practices (as opposed to the content of images), it adopts a material, meta-photographical approach, where the practice (medium) interrogates itself at the exclusion (de-emphasis) of any self-expressive tendencies. This approach is enacted across both the written and the practical work.

This thesis seeks to reimagine photographic practice. It is an inquiry into the nature of photographic practice, rather than the nature of the image or its representational capabilities. The aim is not to define what photographic practice is, but, contrarily, to venture to wonder what it might be. Speculating on its possible forms will contribute to the width and depth of the possibilities of photographic practice and is instrumental to its ongoing futures. The research seeks to contribute to the realm of contemporary photographic practice through the evolution of understandings and developing notions for the practices of photography.

As this research project has been conducted to evolve understandings of photographic practice, the strategy to achieve this has been to develop and create concepts for practical photographic works that are explored in physical form. Although there is an emphasis on practice, these practical inquiries have been supported by critical theoretical investigation presented in this thesis. Through a process of reflective inquiry, the findings of the theoretical investigation are related to practical concepts in dialogue. Critical investigation and practical exploration are woven together, with the creation of practical artworks informed by theoretical investigation and theoretical investigation informed by practical explorations. This thesis presents the investigation of theoretical concepts and addresses their synthesis through practical works discussed in the final section of each chapter.

Throughout the thesis the phrase “photographic practice” has been used in place of the term “photography”. The term “photography” is often used to describe both photographic imagery and activities associated with its production. As the intention of this project is to create a broader understanding of photography, photographic practice is regarded here as a wider range of interrelated material practices that are not limited to the production of the static photographic image. This project locates itself within the cultures and traditions of photography, photographers and its broad range of associated activities. Photographic practice describes a notion of photography that incorporates the dynamic and interrelated practices that are associated with the activities of photography.

Use of the word “object” in the thesis title relates to the object as self-contained, as maintained by object-oriented philosophies. Graham Harman describes this approach as the rejection of the assumption of two separate entities – human subject and non-human object (2020, p. x) – and that these may not contaminate each other. In this sense objects have autonomy and are not reliant on human subjective perception to exist independently. In this study, other than instances of commonplace use of the word, “object” leans toward the usage that Levi Bryant describes as he “attempts to think the being of objects unshackled from the gaze of humans in their being for-themselves” (2011, p. 19).

This project does not seek to encapsulate a non-human perspective for photographic practice. Nor has the intention been to explore or to define non-human photography specifically. Rather, the strategy that has been adopted is one that accepts a flat ontological view, which rejects any hierarchical forms of existence, as argued by authors such as Bryant (2011, pp. 245–246). This view is one that emphasises eliminating hierarchies of objects, so that all objects,

including humans and the image, are considered ontologically equivalent. This project explores a position that prioritises neither human nor non-human actors as the sole practitioners of photographic practice.

This study has been undertaken to evolve concepts for the practice of photography. It does not seek to establish a notion of photographic practice that operates specifically within the current predominant visible form of digitally networked photography, or in the social realm of contemporary popular photography. Rather, its location is within the broader context of the interconnected technical, historical, social, cultural, material, economic and philosophical domains in which photography exists. For these purposes, a networked version of photography is resisted in favour of one that locates photographic practice as a conceptual undertaking. It endeavours to be non-hierarchical concerning media, and so does not prioritise medium. If anything, it gives precedence to notions of photographic practice that are in keeping with the historical genealogy of photography, such as the camera obscura, the magic lantern and the phantasmagoria.

The chapters of the thesis form a path that travels from the establishment of the context and position of the thesis, through to the exploration of the issues and development of themes. These are synthesised into findings that are explored through the discussion of the practical works created. A conclusion ties these findings together and closes the project. The foundation of the project is provided in section 1.2, *What Is Photography?*, which establishes the background and underlying theoretical positioning of the project. Section 1.3, *Methods*, covers the research methods and processes adopted for the project, introduces the project as practice-led and describes its content in greater detail. The three chapters, *2. The Material of Photography*, *3. Democratic Photographic Objects* and *4. Performed Photography*, follow a structure comprising sections of discovery, synthesis and exploration. The chapters each contain the exploration of

theoretical concepts that are then folded together to form findings that are then explored in the context of photographic practice. The chapters conclude with sections that take the synthesised concepts and discuss their exploration through practical artworks created by the researcher in the course of the research. These practical artworks are viewable within this chapter as videos embedded within an interactive PDF, using Adobe Reader®. The body of artworks from which they have been selected is intended to be viewed concurrently with the written thesis and is viewable on the website *www.shadowmachine.net.* It also appears in note form in the Appendix. The conclusion summarises the findings of the project and discusses their implications.

This project centres around claims and substantiates three main positions in relation to photographic practice. In exploring these areas iteratively through theory and practice, they are synthesised to provide ground for an expanded notion of photographic practice. The three areas identified are "material", "democratic" and "performative". These positions are examined through a range of theoretical perspectives from a selection of authors that have been integral to the inquiry. The research is not built around a particular or single philosophical or theoretical perspective, but rather it draws a number of strands together to inform the theoretical position of the thesis.

"Material" positions photography as a material practice, a practice that need not regard the image as its central component. This position draws from concepts argued by Patrick Maynard in his book *The Engine of Visualization* (2000). Here he draws our attention to the premise that photography is a technological process whose product is an image and that this might be challenged. The exploration of materiality of photographic practice is informed by the information theories of Claude Shannon (1948) and Vilém Flusser. In his 1983 book *Towards a Philosophy of Photography*,

Flusser describes the concept of the photographic apparatus as being not the camera itself, but the social, cultural, technical and political contexts that support its production (2000).

"Democratic" poses a way of thinking about the objects of photographic practice where the image is no longer its central actor. Photographic practice viewed through this lens of flat ontologies, as argued by Manuel DeLanda (2002) and Levi Bryant in *The Democracy of Objects* (2011), allows the possibility to reconfigure photography by regarding its objects as equal. As such, this can be used as a method for the creation of concepts for photographic practice.

Photography as "performance" is offered as a mode to view how photographic objects enact their relations. Nigel Thrift's *Non-Representational Theory* (2008) is explored to present photographic knowledge as held in the repetitive, iterative actions of the performances that constitute its practice. This presents photographic practice as the sites of knowledge in motion. François Laruelle's non-philosophies as argued in *The Concept of Non-Photography (*2011) and *Photo-Fiction, a Non-Standard Aesthetics* (2012), are explored as modes for portraying this democratic, performed notion of photographic practice. Photographic practice presents itself as an intricate network of assemblages that are continually being performed or enacted.

The three concepts – material, democratic and performative – emerge to inform the hypothesis of the thesis, that is, photographic practice as the performance of democratic photographic objects. Responding to the aims of the project, they pose a set of concepts for the creation of practical photographic works and for the continued exploration and expansion of photographic practice.

Photography, as it has been understood for over 150 years, is changing radically, and we are continually coming to terms with its new forms. It has gone from being a device for the recording of the world, to a visual communication system. The multitude of uses of the camera on a mobile phone provide a personal demonstration of how it is increasingly being used to communicate between objects and technological systems, as well as for creating visual representations. Photography can no longer defined by the production of image and its representational capabilities alone, or regarded as solely a relationship between subject and image, but can also be understood as relationships between objects. The notion of photography has always been one of the flux of interconnecting social practices and developing technologies. With the continuing evolution of technologies and discourse, opportunities for new understandings for photographic practice emerge. This research project speculates on its potential forms and seeks to contribute to the possibilities of photographic practice and imagine possible futures.

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1.2 What is Photography?

On one hand, it would appear obvious: photography describes images created by the photographic process. Photographs are everywhere, every day, there can be no dispute of the crucial role they play in everyday life. On the other hand, photography is a vast and complex imaging system. Photography is an ever-expanding field of associated practices that includes relationships between, amongst others, technical, historical, social, cultural, material, economic and philosophical aspects. Photography's relationships to the concepts of indexicality, representation, material, other media and to itself are continually called into question. Its reoccurring dissolution, crises and reinvention brought on by the complexities of these evolving relationships are reoccurring themes in photography (Batchen 2002; Gunning, 2004; Lister, 2004; Maynard, 1989; Tagg, 1988).

This section outlines the foundation of this project and establishes the background and the underlying theoretical positioning of the thesis that challenges the centrality of the photographic image. It explores understandings that need to be considered before departing on this exploration of photography. Consideration is given to the conventions of photography, not to establish an essence or fix its ontology, but rather to describe a field of forces in which photography operates. To establish the underlying foundation, a brief introduction to the historical context of photography's invention and development is made. Issues of materiality are introduced with photography posed as systems of practices. The effects of the digitalisation of photographic practice that compound the displacement of both the human and the image as central to photographic practice are explored. This displacement is introduced as the dilemma that photographic practice currently faces, to which this study responds. The expanded field

of photography is then examined and positioned as the location for the contribution of this study. Without creating an exhaustive account of photography, this section seeks to establish circumstances for the study, and to establish the rationale and the intentions of this investigation.

What is Photography?

Photography is drawing with light. The word photograph is a conjunction of the Greek words *photo* and *graphy*, meaning "mark produced by light". What we commonly understand as photography is a broad range of technologies and practices associated with the creation of traces left through the agency of light on a portable surface. Although primarily a technological procedure, it is the product of the process, the photographic image, that is commonly emphasised as the object of photographic enquiry. The term "photography" tends to describe the production and distribution of the photograph. The medium of photography is the processes or techniques of the orchestration and communication of a light imprint. The photograph functions as a medium through which something is conveyed to a receiver.

Initially, photography was an accumulation of technologies that responded to a desire for the automation of drawing. William Henry Fox Talbot (1800–1877) cites his frustration at his inability to draw well as the prompt to invent what he called "photogenic drawing". Unlike Nicéphore Niépce (1765–1833) and Louis Daguerre (1787–1851), who had also created images drawn by light at that time, Talbot's use of a negative to positive process inadvertently facilitated the possibility of its unlimited reproduction. Talbot's process produced negative images that required the process to be repeated to make it appear as a positive image, or to create multiple copies. The technology intended to automate drawing thus led to the automation of image-making itself.

Talbot believed that he was introducing a new art form into the world. But rather than an addition to the traditional art forms of the time, he proposed the invention of a new art – "photogenic drawing". This, he claimed, allowed nature to draw itself, without any aid whatsoever from the artist's pencil. In his book *The Pencil of Nature* (first published in 1844), Talbot explores the characteristics of photography that he believed would be of benefit to art, science and commerce. He went to great lengths to describe what was specific about photography, how it differed from existing media. Talbot sought to differentiate his new art form from the work of the Frenchmen Niépce and Daguerre, establishing it as specifically British. He also sought to position photogenic drawing as a distinct departure from traditional forms of image-making and to establish an evolution of drawing, as mechanised and automated.

Talbot introduced photogenic drawing as a new art into the context of an art world that held to a rigid system of classifications and imposed clear guidelines on the categories of art and their relation to one another. From the 1660s, the art world was structured by the French Académie Royale, which enforced a clear hierarchy of art forms and practice. This structure privileged genres of art in descending priority of history painting, portraiture, landscape, genre scenes and, at the lowest, still life. These restrictions provided guidelines not only for the kind of subject matter, but also for the appropriate treatment. This hierarchy gave prominence to art that made an intellectual effort to "render visible the universal essence of things", over that which was simply the "mechanical copying of particular appearances" (Bass, 2008, p.36). This placed painting, particularly those works with historical or mythological themes, as the highest form of art in the hierarchy, and photography's role in this inflexible structure remained uncertain.

At its introduction, photography was considered as an addition to the tools utilised by artists to rationalise sight. Mechanical aids to assist the visual artist were well established with the camera obscura, camera lucida and optics in common usage, mostly to assist drawing and painting. Peter Galassi argues for photography as part of the Western pictorial tradition, as an evolution in art, not a revolution (1981, p. 12). Galassi disputed that photography radically disrupted the history of painting. However, photography was both an evolution and a revolution. It was part of the pictorial tradition, adhering to its visual conventions by providing representational realistic means of presenting the world. But it also created a disruption of established pictorial conventions with the introduction of mechanical reproducibility and its complications. By claiming that the technology enabled nature to represent itself, Talbot made no distinction between these two representational and reproductive capabilities.

Although the term "photography" was already in popular usage by the time *The Pencil of Nature* was issued, Talbot proposed the use of the term "photogenic drawing" to describe the method of creating impressions of botanic and other forms, such as lace, on light sensitive paper, and also creating positive prints from negative images. While Niépce used the term "heliography" to describe his work, and Daguerre used "Daguerreotypes", Talbot used the terms "Talbotype", "calotype" and "photogenic drawing" from 1837 onwards. Talbot's friend Sir John Herschel, is known to have designated the term "photography" independently from Talbot, and to have suggested its usage to Talbot in the interests of scientific precision (Batchen, 1993).

Talbot sought acceptance for photography as an art by positioning it within the pictorial tradition of drawing, rather than in the rigid realm of painting. He argued that photography, through his form of photogenic drawing, was an extension of drawing. Nature herself had been given a pencil and was able to produce realistically accurate imagery that was

beyond human capabilities. The title of his book-length description of photography, *The Pencil of Nature*, clearly refers to drawing rather than writing. Photography's closest analogy was to drawing. Photography was not yet reproducible, so accounts of the new art relied on written words to describe to readers the novel properties of these new images (Naef, 1991). Drawing at the time had become highly mechanical. The system of linear perspective developed from the time of the Renaissance provided the standard for precise picture creation. Advances in mathematics and precision drawing instruments made perspectival accuracy commonplace. As the camera rendered perfect perspective, photography offered the mechanisation of the task of drawing, unencumbered by human inexactness. Photogenic drawing was proposed as a new form of drawing and, simultaneously, as a pictorial strategy that replaced drawing.

In *The Pencil of Nature*, Talbot presents himself as the discoverer of the new art. He presents "the principles and practice of Photogenic Drawing" (1989, p. 1) and defines his discovery account as the "history of the art" (1989, p. 11). Emphasising its possible contribution and unique characteristics compared to other media, the book presents a collection of a wide range of applications for his new art that were beneficial to art and science. Photogenic drawing is explored in its ability to fill such diverse roles as "historical document, inventory, facsimile and artists' aid; and as a means of narrating history, of portraiture, book illustration and making enlarged or reduced copies of works of art", among other things (Roberts, 2004). The book's intention was to establish photogenic drawing as the beginnings of a new art and to do so through the demonstration of practical applications of photography. *The Pencil of Nature* presented printed photographs, making it the first photographically illustrated publication and also demonstrating the potential of mass reproducibility, which was to become a defining characteristic of the medium.

For Talbot, photogenic drawing proposed the mechanisation of art. The exclusion of the artist's hand demonstrated a shift from the human hand towards mechanical automation of nature's pencil. Although photogenic drawing was produced through "optical and chemical means alone" (1989, p. 1), it was also relinquishing agency; "this building I believe to be the first that was ever yet known to have drawn its own picture" (1989, p. 44). By removing the human agency from the act of reproduction, photography was able to challenge notions of subjectivity. This was in direct contrast to the norms of the art world of the time, which valued human interpretation as being characteristic of higher forms of art. *The Pencil of Nature* posed a challenge to the conventions of the art world, undermining its emphasis on personal artistry, and threatening to replace it with automated replication.

Since Talbot's time, photography has evolved into the wide range of practices and understandings that it is today. It is tempting to view Talbot's work as the specific invention of photography, as the reproductive aspect of his work resonates with the current climate of digital image reproducibility. There have been numerous iterations of photographic practice, but not all have endured as these have. Talbot's invention was one of many possible photographies, both documented and undocumented. Photography is, and always has been, a wide field of divergent practices. Sarah Kember responds to the "proliferating and diversifying" state of photography's nature, by describing it as one of an "ontology of becoming, not of Being" (2008). Change, evolution and diversification are its nature.

Photography has continued to evolve from one state into another and has never had a form of singular or stable identity. John Tagg describes photography as having no identity; a technology defined by the varying forces that enable it (1988, p. 118). Geoffrey Batchen argues that photography has no unified history or power of its own, and that it is contingent on the cultural currents that support it; "a flickering across a

field of institutional spaces" (1994, p. 3). Photography can therefore be seen as responding to the circumstances of its production and encounter, and can thus be observed by studying the dynamic field in which it operates, rather than by addressing it directly.

These issues of automation, agency, index and replication, set in motion by Talbot's work, have laid the course for photography. They also underpin this investigation. But rather than dwell on the representational characteristics of photography, this study will adopt a position that views photography as systems of practices. It will explore photography as a fluid environment of associated practices, and examine the material operations of the apparatuses of photography. While acknowledging the representational capabilities of photographic practices, this study does not engage directly with discourse around these issues. Instead, it follows a path that explores photography as a material practice, and as such, this displaces emphasis on these questions concerning referentiality, signs or symbols. Photography will be regarded as primarily a combination of technological functions.

The advent of digital technologies has provided a profound challenge for both photography and the photograph. Digital technologies have engulfed photographic practice with the ubiquitous digital image now the principal contemporary expression of the photographic. Non-digital, often analogue, practices emerge as counter positions to juxtapose and highlight digital's current predominant position in contemporary visual culture. Digital as technological and cultural force preside over photography but does not necessarily represent its ultimate form.

The emergence of digital technologies provided new experiences and opportunities that have altered the fabric of photography, in its recording, production and distribution. Photography as it was known at that time was ending and a new era was beginning. "Photography as

we have known it," Fred Ritchin wrote, "is both ending and enlarging" (2009, p. 15). Although the history of photography is one of recurring technological reconfigurations, the arrival of digital technologies prompted an undoubtedly huge transformation. New technologies heralded in a new era and with it, optimism. Photography "as a separate entity might well be on the verge of disappearing forever, even as the photographic as a rich vocabulary of conventions and references lives on in ever-expanding splendour" (Batchen, 2002, p. 109). Bernard Stiegler underlined historical relevance, describing what he calls the discrete image (digital), as opening "the possibility of new knowledges of the image" (2002, p. 157).

Digital photography has had the effect of moving the photographic away from traditional concepts such as perspective and optics that have their roots in the renaissance, towards being computational and programmable. Digital technologies disrupt the semiotic interpretation of the image by breaking its connection with its signifier. Friedrich Kittler describes the digital image as the final "war of technology and natural science against a textual concept of reality" (2010, p. 227). Bolter and Grusin's theory that new media basically remediates older media (2000) applies, while digital images continue to look like photographs, they are visualised realisations of computational data that are configured to resemble analogue photographs. Rather than replacing the photograph, the digital has transformed it, although its indexicality has been fundamentally undermined and it now operates within a stream of cultural data. Digital photographs thrive as a desirable form of visual stimulation, but the meanings associated with them result from interrelated cultural, technological and ideological processes, of which the indexical is but one aspect (Lister, 2004, p. 311).

One of the most common themes associated with the effect of digital technologies on photography has been the ubiquitous and prolific image, as Martin Hand puts it, "photographies – as images and ideas, as devices and

techniques, and as practices – into every corner of contemporary society and culture" (2012, p. 1). The idea that the image has become all invasive to contemporary culture is a recurring theme. A relevant example is the artist Erik Kessels' 2011 installation of a room filled with prints of every picture uploaded to Flickr in one 24-hour period. Exhaustion, overwhelming, deluge, proliferation and fatigue are terms frequently associated with contemporary photographic culture.

Although digital offers a new realm of technologies and context for photography, it does not fundamentally alter the technical procedural process. The processes that Talbot introduced, those of fixing a trace on a medium and subsequently replicating to create multiplication, are common to most forms of photography as we know it today. Photography was itself a product of the industrial processes where mechanical engines superseded horses, and mass production replaced craftsmanship. Digital technologies exaggerate these processes and, in so doing, highlight the issues around index and image reproduction that have always existed. The photograph was already mass-produced prior to the era of Walter Benjamin's "mechanical reproduction", but digital adds to the dimension of the variation and alteration of code. There is no original and copy, only versions (Hand, 2012, p. 69).

As western culture is characterised by distributed, embedded, networked and intelligent computing, the photograph as a digital object places it as a node on a digital network. The photograph has become intertwined and inseparable from a global data-sphere and is reliant on technological, economic, social, political and cultural forces to enable its production and consumption. This computational interconnectivity has in effect connected every digital image, turning every photograph on the network into, as Victor Burgin puts it, "a potential frame in a boundless film" (2011, p. 144). The photograph becomes fluid and part of a dynamic flow

of informational exchange, with minimal possibility of a fixed or static interpretation. Any meaning is possible, in relation to the circumstances and context of its encounter.

The contemporary photographic universe is undeniably a computational one. The image can be regarded as a program, a process expressed as, with, in and through software. The consequences of this state create issues that cause us to question where or when data becomes considered photographic content. And to question if such distinctions are considered necessary.

Photography itself has been seen as an alliance between its subject and the image for the last 170 years. Now that the relationship is facilitated by mathematical code, it is no longer optical media (Kittler, 2010), but "a return to the symbolic in the form of signal codification" (Galloway, 2012). When the photograph becomes computational and programmable, it becomes variable, unsettling its long-established indexical nature. Eivind Røssaak describes the "algorithmic image" (2011); the image is now a programmable object, one that may be expressed as, with, in or through software (Palmer, 2015). William Uricchio has described this as "The Algorithmic Turn", recognising that this fundamentally challenges our way of seeing the world "dependent on algorithmic interventions between the viewing subject and the object viewed" (2011).

Yanai Toister argues that the algorithmic is inherent to photography, and that "there is no such thing as 'non-algorithmic image synthesis'". He goes on to claim that "accepting the configuration of the photograph in terms of visual content alone is becoming increasingly problematic" (Toister, 2016, p. 231). The machines used for photographic processing have their roots in text manipulation rather than image processing. Photographic images are made visible by algorithms that make binary data look like an image we expect to see, one that we view on a computational device. But the image as data can

be interpreted in any number of data outputs, such as sound, text, a string of numbers. The interpretations may occur with or without human intervention, questioning the role of the photographer in its production. This leads to the question of which interpretations should be considered photographic.

The emphasis of photographic image is moving from one of a human optical perspective towards one of computational machine vision. In many cases it is not even humans that make, select, process or distribute images (Rubinstein & Sluis, 2013b). John Tagg argues that the days of the camera as an "analogue of the eye, and so the mind" are over (2009). As Jonathan Crary puts it, "the historically important functions of the human eye are being supplanted by practices in which visual images no longer have any reference to the position of an observer in a 'real,' optically perceived world" (1992, p. 2). Human vision is no longer the centre of the photographic universe; there is an increasing dematerialisation of the observer altogether.

The context in which this study is set is one where the human and the image are being displaced as the central characters of photographic practices. The effects of digital technologies have highlighted the displacement of the position of the human that is part of a wider reaction against anthropocentrism. The dematerialisation of the image that occurs as a result of ubiquitous networked digital photography is not restricted to the image but applies to photographic practice as a whole, and requires a reconfiguration of how we may regard it as a medium. This signals a significant departure for conventional photographic practices and allows for a path of exploration new forms of photographic practice where the photographic image is just a part of a network of possible connections and assemblages.

Photography's transition to digital brought its dissolution into the diversity of the realm of digital media. As digital media cannot be considered a singular or unified medium, any singular description of photography within it is not possible. Photography becomes open-ended and inter-medial. Photography as a distinctive practice expands into the larger categories of contemporary art-making with distinction of medium no longer relevant.

Photography that is no longer constrained to its conventional medium and image allows for its continuing transformation into practice as a conceptual pursuit. Fred Ritchen argues the digitisation of photography caused a new paradigm that he calls "hyper-photography", where photography becomes a conceptual medium as it exceeds the bounds of the paper rectangle (2009, p. 144). As photography resists medium as a set of technological conventions, Rosalind Krauss has described it as "postmedium", post-conceptual, a "theoretical object" (1999, p. 292). In what becomes meta-photographical, the question *What is photography?* becomes its own self-referencing subject matter.

Rosalind Krauss recognised art's "post-medium condition". In her seminal essay Sculpture in the Expanded Field (1979) she challenged and adapted Clement Greenberg's ideas on medium specificity, disputing his reductionist concept of the medium. Greenberg's notion of medium specificity, which sought the very essence of a medium, becomes less relevant as the notion of medium dissipates and is in flux. Krauss graphically frames the field of sculpture within a box shape, where discrete relations are compressed within parameters, linked with dotted lines. Both Greenberg's quest for purity and Krauss's attempt at containment suppose media as fixed entities. Questioning the concept of medium leads us in the opposite direction. Postmodern practice became a demonstration of the fluidity of media that no longer organises around definitions or perceptions of medium. Rather than purity, contemporary art becomes characterised by ambiguity, diversity, confusion, and the erosion of distinctions between media.

George Baker endeavoured to construct a theoretical model for photography in his essay Photography's Expanded Field (2005). He explores photography through the lens of Krauss's Sculpture in the Expanded Field, and draws this argument directly from the model used by his mentor to describe postmodern photography. Photography for Baker is in crisis, "foreclosed, cashiered, abandoned – outmoded technologically and displaced aesthetically" (2005, p. 122). He proposes a transformed model for photography in contemporary art, articulated in sharp opposition to the idea of medium. For him the medium is no longer relevant: "[W]e need now to resist the lure of the traditional medium and object in contemporary art, just as much as we need to work against the blindness and amnesia folded into our present, so-called 'post-medium condition'" (p. 138). In his view, photography could better be defined partly by what it is not. In the essay, he literally references Krauss's famous text, reinterpreting diagrams and sentences, continuing its diagrammatical, structuralist approach. Baker paraphrases Krauss, replacing the word "sculpture" with the word "photography". "[*Photography*] is no longer the privileged middle term between two things that it isn't. [*Photography*] is rather only one term on the periphery of a field in which there are other, differently structured possibilities" (p. 136). Photography's field expanded to become a part of a larger category, contemporary art, where the particular distinctions of medium is no longer the critical issue.

Challenging the notions of the medium encouraged a reassessment that resulted in media expanding to meet and overlap, to create new configurations and relations to one another. Expanding notions of the photographic do not require the rejection of the material, however. Although a medium-specific approach has been contested, this is not to say that this is not a valid or meaningful approach to innovative photographic practice, but that it sits within "a set of conventions derived from (but not identical with) the material conditions of a given technical support" (Krauss, 1999, p. 296).

The photographic medium can be viewed as a conglomeration of associated practices that entails material among numerous other forms. Of which the image is but one component. Photography cannot be identified as a separate discrete object but rather part of a greater media environment. As the media field expands, so do possibilities for photography in its potential for previously inconceivable relations to one another, and in taking on entirely new forms. By reimagining the relationships between the practices of photography, this research seeks to contribute to the continued expansion of the field of photographic practices. This reconsideration of photography will, in turn, allow for opportunities for new groupings and for abstract and unorthodox alliances to occur.

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1.3 Methods

This project aims to contribute to the field of contemporary photographic practice through the exploration of new notions of photographic practice. The research involves a practice-led exploration that weaves both critical investigation and practical exploration together, developing and presenting concepts that extend our understandings of what photographic practice might be. This section addresses the methods and processes used to conduct this research. First, the methodological framing of the research is discussed and key terms and understandings that underpin the project are defined and clarified. This is followed by a discussion of the research methods that have been utilised in the project. The relationships between theoretical concepts and practical experimentation have been critical to the project's methodological approach. The development of key themes and the ways that they have been analysed and eventually synthesised is discussed. Finally, there is an account of how the presentation of the findings have been arranged and presented.

This research project has been conducted primarily to evolve understandings of photographic practice. Rather than attempting to achieve this by generating photographic content in the form of photographic imagery, the research has instead been undertaken through an examination of the material activities of photography. William J. Mitchell describes pictures that refer to other pictures, or to themselves, as "metapictures" (1994, p. 35). This project adopts a meta-photographical approach in that it uses photographic methods to examine the technologies, materials and theories that concern the creation of photographic imagery. It attempts to look at photography, through photography (Gützel, 2014, p. 56). The subject matter of the investigation and the body of artworks that has been produced in its course, are the technologies, concepts and practices

of photography itself. The photographic image as the central object of photography is de-emphasised in favour of a notion of photography as a wide range of interrelated material practices. As the term “photography” is often used to describe photographic imagery, the term “photographic practice” has been adopted throughout this project to describe this broader understanding of photography.

The practice of photography is one that occurs in a context of continually evolving technological, social and cultural conditions. This research contributes to the discourse of photography through an investigation of photographic practices. The project has been undertaken by a photographic practitioner, and its intended audience is other photographic practitioners. The critical exploration of relevant theoretical areas has been engaged to inform the development of photographic concepts and approaches. This project orientates itself in relation to the cultures and traditions of photography, photographers and its broad range of associated activities, and extends out to explore current contexts and new possibilities for practice.

As the focus of the project centres around photographic practice, a practice-led methodology is core to the project. This approach places an emphasis on action. Concepts are explored through an iterative cycle of research-led practice, practice-led research and theoretical investigations. The practical work forms an integral part of an ongoing reflexive conversation between theoretical observations and contextual considerations (conducted through extensive literature review), technological development and creative exploration. The objective is to create a flow of knowledge and insights that inform each other. A practice-led research approach frames practice as a bearer of knowledge: “Practice tends to embody knowledge. Research tends to articulate knowledge. The knowledge creation cycle generates new knowledge through theorizing and reflection both”

(Friedman, 2000, p. 56). Through research, reflection, creativity and practice, this mode of research aims to develop and present new knowledge or understandings whose forms are not necessarily text-based.

Linda Candy (2006) draws our attention to the distinction between practice-based and practice-led research. Practice-led is concerned with the nature of practice, whereas practice-based is concerned with the outcome of practice being the contribution to knowledge. Although a body of original artworks has been produced, this project seeks to establish and explore concepts in relation to photographic practice. Rather than the artefacts produced, the focus of the research is on the new understandings about the possibilities of practice. This thesis, with both critical and practical components, acts as a synthesis and the mode of transfer for these understandings developed as a result of the research process.

Practice-led research emphasises reflective inquiry. The production of a body of artworks has been undertaken to explore conceptual understandings uncovered in theoretical investigation, conducted through an extensive review of literature. In a similar fashion, the theoretical investigation has been informed through reflection on these artworks. Donald Schön describes reflective practice as knowledge developed during practice, through "reflection in action" (1983). Whereas retrospective analysis of practice after it has taken place is "reflection on action" (Fitzgerald, 1994). Reflective practice is one that is engaged in self-reflective inquiry during and after practice, both highlighting reflexive interpretation. Critical reflection of theoretical concepts through literature review and practical experimentation in the form of the generation of practical artworks has provided a basis for the development of the themes articulated and investigated in this thesis. The development of themes has occurred by creating connections between theoretical and practical work (both my own and that of other practitioners) through thematic analysis. Thematic analysis is a qualitative research

method where significant concepts are identified through reduction and analysis, and synthesised towards the formation of themes (Given, 2008). The themes can be "drawn from a theoretical idea that the researcher brings to the research" or emerge independently from the investigation itself (Joffe, 2012). In a deductive approach, the formation of themes is directly influenced by theories sourced from outside the investigation, or from a hypothesis, and where confirmation, additional support or evidence that provides counter-arguments is sought. In an inductive approach, or so-called bottom-up approach, the investigation itself is the source for the formation of themes. Both deductive and inductive approaches are processes of discovery to determine patterns through critical inquiry. These two approaches are not considered contradictory and have been used in combination in this research.

The evolution and relationships of the themes investigated in this project have been developed in a reflexive cycle that oscillates between critical analysis of theoretical concepts and practical experimentation. Smith and Dean offer a model of an "iterative cyclical web", which describes the processes of a practice-led inquiry involving an interweaving of "academic research", "research-led practice" and "practice-led research" (2009). This emphasises synthesis through interpretative processes of investigation. A feature of the cyclic method described by Smith and Dean and utilised in this inquiry, is the dynamic interrelationship of concepts and ideas between practice and theory (Candy, 2006). Garner and Scott (2013) describe this as working on one level to understand another, testing a hypothesis against further investigation. Here, academic research involves the critical analysis of relevant ideas, concepts and theories. This has included contextual investigation through literature review into the realm of photographic practice, its practitioners, relevant works, its histories as well as broader media theories. This review is developed across Chapters 2 to 4, as part of the investigation, identification and articulation of key theoretical

concepts. These concepts also provide the rationalisation and foundation for the practical experimentation in both the research-led and practice-led research processes. Where the academic research leads practice, concepts and ideas identified in the theoretical research are interpreted in the production of artworks. In the practice-led approach, creative exploration and interpretations of the relevant ideas, concepts and theories act as the site of reflection both in and on action. Analysis and synthesises of concepts occur as a fluid, interconnected dialogue. The iterative cycle of practice-led research is one of dismantling and consolidation that leads to the emergence of new patterns, themes, concepts and understandings (Gray & Malins, 2004). Within this project, the emphasis has been on exploring relationships between concepts in both written and practical forms, without prioritising one over the other. Theoretical investigation provides the substantiation for the concepts examined, while practice has provided the site for the exploration and creation of possibilities towards the project's aims. The goal has been the identification of an emerging, relevant theoretical approach that provides the groundwork and stimulation for the continued generation of practical works.

In preparation for the discussion and identification of themes in the research, a hypothesis and background were established. The investigation is guided by a hypothesis that questions the centrality of the photographic image within the current contemporary context of photographic practice. This has been posed as a tentative response to the research question, and was informed by initial research that identified an increasing displacement of conventional photographic images and the centrality of the human in the processes of contemporary photographic practice.

A review of current understandings of photography begins the theoretical investigation of the project with an examination of photographic practice by posing the question, *What is Photography*? In response to this question,

some background is provided, including a brief historical review. The effect of the digitisation of photography and eventual displacement of the photographic image from an individual to a networked one is examined. Contemporary photographic practice is identified as an expanded field with the impossibility of fixing it down to any specific media or practice. This section forms the basis and provides the context for the rest of the thesis.

The subsequent chapters each follow a structure of discovery, synthesis and exploration. The exploration of theoretical positions are folded together to form findings that are then explored in the context of photographic practice. The initial sections of these chapters are explorations of theoretical understandings that form the basis and are the discovery, development and examination of the key conceptual themes relevant to the aims of the project. These established understandings are then discussed in terms of photographic practice and synthesised into coherent concepts that can be examined in relation to photographic practice, including an examination of existing artworks in the light of these developed concepts, showing them in action. This provides the theoretical analysis of the themes that emerged from the contextual inquiry and have fed into the iterative research cycle that both informs, and is in turn informed by, practical explorations. The chapters conclude with sections that take the synthesised concepts and discuss their exploration in practical artworks by the researcher. The practical works are presented in the context of the discovery and discussion of the theoretical concepts under investigation. The practical artworks discussed have been selected from a larger body of work that has been produced in the course of the iterative cycles of this research.

Chapter 2, *A Material Photography*, poses photography as a material practice. Photography that no longer has its emphasis on figurative representation is released to become one part of a broader realm of interrelated material activities of photographic practice. Chapter 3,

A Democratic Photography, views photographic practice through the lens of flat ontologies, allowing the possibility to reconfigure photography by regarding its objects as equal. The next chapter – *4. Performed Photography* – offers a point of view of photography as performance that presents its practice as sites of knowledge in motion.

The process of synthesis adopts a reflexive hermeneutical approach. The chapters lead on from and build on one another following an inductive–deductive loop. In this approach, understanding and coming to understanding form an incremental loop – in some descriptions, a spiral – towards a greater understanding of the whole (Paterson & Higgs, 2005). The varying areas of investigations of the project are woven together to create interrelated concepts for exploration in photographic practice.

The production of practical works has functioned as the site for experimentation and exploration of theoretical and photographic concepts. These concepts have stemmed from the theoretical investigation as well as evolving as part of a reflective practice. Concepts under investigation have been explored in physical form in an interplay of intuitive practice and inductive learning through experience. The body of artworks are intended to be viewed concurrently with the written thesis. The practice is located within the hermeneutic cycle of the project as a whole and also within itself. Understandings are shared in circular movements between the parts and the whole, and between practical and theoretical activities.

Reflexivity has occurred in a process that moves between the understandings emerging through the making of the practical works and the theoretical investigations that have run in tandem, serving to inform and propel the investigation forward as a whole. The processes of reflection on the practical works both "in", as Schön describes (1983), and "on" (Fitzgerald, 1994) action have been undertaken during the development,

production and post-production analysis stages of the practical works. Aspects of resulting understandings created through this process of reflection on the practical works have been incorporated into the sections of the thesis that contain discussion of artworks created by the author.

Although practice and theory interrelate and share common aims, they are not the same activity. Both forms of endeavour have their own particular characteristics, offering varying modes for the exploration and interpretation of concepts. Each mode of investigation takes a different approach towards interpreting concepts, the theoretical as abstract, and the practical as physical manifestations.

Practice provides a dynamic location for the speculative exploration and experimentation of the concepts under investigation. Reflexivity has been fundamental in the creation of the artworks. Intuition, uncertainty and ambiguity have been embraced to produce works that amalgamate previously seemingly unconnected ideas into new concepts. The creativity associated with the creation of practical artworks is also applied through interpretative reflection. The practical work presents the concepts under investigation as an active performative exploration of evolving themes and concepts.

The theoretical work contains the processes of discovery, synthesis and exploration of abstracted concepts. The theory adopts an analytical and methodical approach with the purpose of establishing understandings and building them towards a coherent and cohesive position of the thesis. As well as exploring and developing theoretical concepts, the process serves to contextualise the theory and to place the practical work in context both theoretically and in relation to practice.

Both activities utilise speculative inquiry towards evolving concepts, but contrast in that theory is abstract and practical is physical or material. Neither approach can therefore have an ultimate, unequivocal meaning of the interpretation of concepts being explored. The investigated concepts are not identical between theoretical and practical but are an interplay between them. This allows for dynamic, multiple readings and changing views of the subject, as opposed to a singular resolved meaning. This hermeneutic approach presents the relationship between text, context and reader as a continuing conversation. Differing interpretations are brought together through dialogue to create shared understandings.

The theoretical investigation and discussion of practical works are presented in the written thesis as the unfolding of concepts in an interwoven narrative. Although concepts did not necessarily evolve in that sequence, the thesis is ordered in such a way to provide a coherent argument. Theoretical discussion therefore precedes the discussion of the practical works in order to create a context of understanding for the reader. The aim has not been to provide a seamless integration between practice and theory nor to indicate any particular hierarchy between the two. The relationship between the theoretical and practical is fluid, one informing the other, informing the other.

Initially, to provide guidance for the creative direction for the project, an underlying theme was chosen. The notion of photography as a "shadow manipulating machine" was established as a speculative hypothesis and has underpinned the creative and theoretical decision-making in the process of the research. This is reflected in the title of this thesis: *The Shadow Machine.* Rather than regarding photography as writing with light, as the term *photo-graphy* suggests, photography from the point of view of shadow has been used to inform the design decisions of the practical experiments in particular. This refers specifically to Henry Talbot's paper On the Art of Fixing of Shadow (1839), and the shadow as a recurring theme in historical

evolution of visual and optical media with a particular relevance for photographic practice. The exploration of the shadow provides a visual motif and forms the thematic basis of the practical production of the body of artworks. Initially this was posed as a theoretical concept for the theoretical component of the research. In the reflexive cycle of the research process, it was decided that shadow should remain as a design concept to assist the development of creative artworks, rather than function as a theoretical pillar in the research.

The final output of the project is the presentation of a written thesis and a body of practical work. The theoretical investigation is presented in this written thesis. The practical work is presented as digital files. These consist of videos (MP4s), still images (JPGs), and documents (PDFs). The body of artworks are presented as a whole in an Appendix to the selected works that have been discussed in the thesis. A website has been created to navigate the body of artworks and to provide additional practical information. This is hosted for viewing on the internet at *www.shadowmachine.net.*

This body of artworks produced in the course of this thesis is viewable in the Appendix of this thesis, as both an overview and as notes. *Body of Artworks – Visual Overview,* presents a visual overview, with thumbnail images and titles of the works provided. These pages provide a visual reference for the reader. The works are presented in horizontal rows organised in loose thematic groupings. *Body of Artworks – Notes*, provides documentation of each project with its name, material, duration (if video), date of creation, thumbnail image and a short description. The selected artworks that are discussed in detail in this thesis are presented as videos within the interactive PDF; all artworks, including the selected artwork that have been discussed in detail, are available for viewing online at *www.shadowmachine.net.*

The body of artworks is included in the Appendix to illustrate the reflective process that is part of the iterative cycle of this research-led practice project. Although not linear, this process results in the creation of the body of artworks that both thematically relate and depart from each other. In *Appendix: Body of Artworks – Visual Overview*, rather than presenting the works linearly, they are shown in horizontal rows organised in loose thematic groupings. These groupings of artworks that relate to each other more closely than to others, indicating how the themes that they address may have been approached from differing understandings, approaches, media and perspectives. In their combination, the iterative cycle of concepts may be more evident. For example, the row that begins with the artwork *036 Dodge* is related to the artworks *048 Doka, 038 Sol* and *054 Spot.* These all explore concepts of the photographic darkroom as a site and processes of photographic knowledge. This exploration forms the basis of the discussion in section 4.4, *036 Dodge*. The artworks on the row interrelate, forming a set. But this is not the only set to which they may belong. While most of the rows are grouped thematically, the themes remain unidentified so as not to restrict their range of interpretations.

The understandings generated, explored and expanded through creative practice both inform, and are informed by, theoretical exploration. The artworks provide the site of conceptual investigation through reflexive practice. Ian Bogost advocates "doing" philosophy through practice. He uses the term "carpentry" to describe the "practice of constructing artifacts as a philosophical practice" (2012, p. 92). For him, practice is research. Here, the outcomes are concepts developed through creative, reflective exploration, with knowledge being embedded in the practice. Critical reflection has occurred in the processes of the practice, which is then considered in the discussion of selected projects.

The selection of the artworks discussed is based on their pertinence to the themes developed and the project as a whole. In keeping with the practice-led approach, these practical projects provide explorative, interpretive spaces, refractions on the concepts identified in this research. They are not intended to be demonstrations or illustrations of the concepts at hand. Four projects have been selected and discussed, and have been chosen for their relation to the main themes of the project. These themes are identified as "material", "democratic" and "performative" notions of photography. With two projects exploring the "performative" theme. The discussion includes a description of each work, how it relates to each of those themes, and what insights it brings to the thesis. While the artworks explore the themes that are informed by the theoretical investigation in the thesis they were not necessarily created exclusively in response to those specific themes. Other additional associated concepts are discussed when they have offered new perspectives that support the further aims of the project. Here, the intention has been to reflect on the artworks and their relationships to the themes in a manner that allows interpretations that expand comprehension of them and subsequently of photographic practice in itself.

For the purposes of this project, the practical artworks are all assumed to be installations. They provide physical interpretations of the concepts as performances. The works displayed here as video or moving image have existed for the duration of the performance, even if that was a digital one. For the practical purposes of documentation, the videos assume the role of witness to the event through the medium of video. In place of the reader not being able to be present at the time of their execution, these representations are provided. The last artwork discussed in this chapter, *085 Imaginary Photographic Objects*, takes the form of a (PDF) booklet that poses photographic concepts as a set of written instructions.

Video was chosen as the mode to interpret and present the other concepts, in contrast to still photographic images. Although the artworks are regarded here as photographic, they exist in the time and space dimensions of performance that are explored in this thesis. As argued in section 4.2, *A Performed Photography,* there is no such thing as a still image. To capture and display the performative aspects of the photographic concepts, video provides an accurate visual description of the physical occurrence. These are photographic works that exist on a timeline. For this reason, the works are of various durations, ranging from thirty-seconds to five minutes. The works present a cut in time that is associated with photographic practice, but, in this context, the duration of exposure is a prolonged one. In this sense, they present "performed photography": as Philip Auslander describes, "[t]he space of the document ... thus becomes the only space in which the performance occurs" (2006, p. 2). Rather than attempting to present concepts through static imagery, photographic practice as performance presents its knowledge as both stored, and transmitted, in action.

The written thesis has enabled the exploration of the concepts, theories, technologies and contexts related to the research aims of the project. It has posed questions and outlined an approach in response to the research aims. It has dealt with the theory, histories, philosophical issues, and interpretations of literary and artistic works related to the research objectives. The role of the written text is to establish the theoretical framework for the concepts that are explored in the practical artworks. There is no intention that the thesis be an account or explanation of the practical work, but rather an exploration and report on the concepts that have informed their development and eventual creation. The practical works have been the site where specific and relevant concepts investigated in the thesis have been synthesised and presented in physical form. The practical works are not deliberate illustrations of the concepts explored. They embody an interpretation of the synthesised findings of the research, both

the theoretical and practical. The theoretical and practical exist in dialogue with each other, consolidating to provide a comprehensive and coherent response to the research question, and an original contribution to the field of photographic practice.

This chapter has been concerned with establishing the subject matter and the methodological approach undertaken to achieve this project's aim of expanding understandings of what photographic practice might be. The section, *1.2 What is Photography?* has established the circumstances for the study, rationale and the purpose of the investigation. Exploring a material, meta-photographical approach, photography is presented as a diverse realm of practices rather than one that can be defined by the production of the image and its representational capabilities alone. This *Methods* section has established the methodological framing of the research with discussion of the research methods and examination of the ongoing relationships between theoretical concepts and practical experimentation that have been utilised in this investigation. The strategic approach undertaken in this research positions itself against the assumption of the centrality of the photographic image within photographic practice. This chapter sets the foundation for the following examination of relevant theoretical issues and the exploration of practical responses and to create the circumstances that make this investigation possible.

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CHAPTER 2 – THE MATERIAL OF PHOTOGRAPHY

2.1 Chapter Introduction

Photography has entered into a new phase in its history. Photography no longer centres around the representational image or the traditional roles of human perception or subjectivity. Rather it has become defined by its network of interconnecting relationships between "points and entities that have no fixed and stable identities, but produce meaning by association, through dissemination, processing and sharing via online systems" (Rubinstein, 2018, p. 6). While aspects of photography wrestle to hold on to their traditional definitions, grasping on to conventional forms of photography is becoming increasingly difficult, if not impossible. The imperative and opportunities for the continued reinvention of photography remain vital. Photography can no longer be described as a discreet medium but one that crosses media and technologies. Geoffrey Batchen argues that the "boundary between photography and other media like painting, sculpture, or performance has become increasingly porous. It would seem that each medium has absorbed the other, leaving the photographic residing everywhere, but nowhere in particular" (2002, p. 109). Contemporary photography is characterised by connected interactions, mediated by camera devices and online services.

These changes have, for the most, been brought about by consequences of digitisation of photography, which has seen the shift from photography as mechanical reproduction to one of digital variation. The resulting proliferation and dispersal of images attributed to digitisation exaggerates the characteristic of its very invention of the reproduction and circulation of photographic images, which has always been part of photography. The predominant current visible form of social networked photography has

its roots in the popular *carte de visite,* as patented André-Adolphe Eugène Disdéri in 1854. Since then, in what Martin Hand terms "ubiquitous photography" (2012), photography has been characterised by its everywhere, ever-present, nature. Photography's pervasiveness is more significant than merely the abundance of photographs. Photography is expanding exponentially; not only are there increasingly more photographs, but more photographies as well.

Photography has always been ongoing arrangements of associated photographic technologies, practices and discourses. As photography is entwined with evolving socio-technical systems, new meanings and challenges continually emerge with each variation. The way we understand the sustained social and technical developments plays a crucial role in our understanding of photography. An examination of photography that seeks to expand its practice needs to be one that goes beyond its representational practices to address it as a broad set of material practices. Assessments of photography inevitably address both the material and the visual, rather than one or the other. Photography's representational practices are sited in the material and social contexts, and are not necessarily restricted to the photographic image. As such, photographies may be best understood as material practices.

> Only in this way will we come to understand how ideologies are produced in real representational practices, in material apparatuses; how these representations are disseminated, consumed, elaborated, modified and sustained; how they are meaningful; how they affect and are affected by other productive activities within the same social complex. And all this is to be done by studying actual material entities and processes, entirely without the need for pregiven mental or spiritual phenomena. This, then, would be the beginnings of a materialist account. (Tagg, 1988, p. 211)

The aim of this chapter is to explore the materiality of photography and the premise that the image is no longer central to photographic practice. There are two sections that document the uncovering and investigation of these themes. This is followed by a discussion of an artwork created by the author that has been created informed by these understandings.

Section 2.2, *Technology*, seeks to establish photography from a material, technological perspective. A technological account of photography allows for an investigation of photography that is not limited to the production of images, but can be regarded as a broader set of material practices.

This concept is expanded upon in section 2.3, *Material*. This section explores a materialist approach to media analysis derived from the information theories of Claude Shannon and applied to visual media by Friedrich Kittler. The consequences of considering photography as an informational system are examined; in particular Vilém Flusser's concept of photography as the apparatus is used to describe the evolution of the photographic image from depiction to information. The chapter concludes with a discussion of an artwork created in the course of this research and informed by these explorations.

This chapter engages with photography as an expanding field of material practices. Understanding photography as socio-technical practice in constant flux releases us from thinking about the photographic image in particular and enables us to turn our attention to the exploration of photography as a dynamic interaction of photogenic objects and practices.

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2.2 Technology

The invention of photography was the invention of the photograph. Photography has its roots in the optical devices of camera obscura, camera lucida, optical lenses and their combination with photosensitive materials to produce an alteration or marking of a surface through a reaction to light. The image as projected light had existed for a long time previously, in the form of the camera obscura and optical devices for receiving images and magic lanterns for transmitting them. The pioneers of photography did not invent the image as such, they produced technology to capture and fix an impression of it. The success of photographic pioneers Niépce, Daguerre and Talbot was to assemble combinations of technologies that enabled the physical alteration of a state of material as a trace or chemical impression on exposure to light. As Friedrich Kittler notes, "the only thing non-existent before the development of photography was a technique for storing … the image" (2010, p. 118).

This section questions the dominance of the photographic image as the assumed ultimate product of the photographic process. Drawing on the work of Patrick Maynard, it explores photography primarily as technology, to view it as part of a wider set of practices. This is contrasted with a phenomenological approach that has been the prevalent mode of addressing photography. This is followed by discussion of the effects of digital technologies that accentuate the practice of photography as a technological one. The section concludes with an exploration of how this position can be adopted as a means for the production of creative photographic artworks.

A technological account of photography will allow for photographies that are not limited to producing pictures specifically for display. Regarding photography as a media technology will uncover the associated process of

photographic practices that, although acknowledging the extensive discourse around representation and semiotics of the image, does not hold them centre. Considering photography in this way is not an attempt to essentialise it, but an opportunity to reassess core components. New and previously neglected combinations of technologies will offer overlooked trajectories and contribute to the ongoing transformation of photographic practice.

To explore and understand photography, then, it is necessary to understand the technological and media environments in which it circulates. There is little doubt of the necessity and role of the discussion of photography's social, cultural, technological and indexical properties. This is not to say that the aims will be served by prioritising technology specifically, or by adopting a technological determinist stance, where it shapes and dominates its cultural habitat directly. Photography has never been one medium, but many ongoing configurations. The material aspects of photography will be emphasised in contrast to a discursive discussion of the dilemmas of the image and issues concerning its indexicality. Photography can be regarded both as image-making technology and as part of a longer history of broader forms of visualisation. An expanded model of photography does not require inflexible rejection or unchallenged acceptance of its properties, but it will explore broader and wider interpretations of possible permutations. A balance between the varieties and forces of what may or may not be considered photography does not reject any particular qualities of photography but allows for a broader range of interpretations.

Patrick Maynard provides a basis for this point of view by drawing our attention to the simple premise that photography is a technological process whose product is an image and that this might be questioned. In his celebrated book *The Engine of Visualization: Thinking through Photography* (2000), photography is explored as a technology in itself. He argues that the majority of contemporary discussion around photography concerns its

product – the image – rather than its production and use. "Photography itself is taken as a productive process for producing photographs", and "all writing about photography in our own times tends to begin with the emergent nature of the product rather than with its production and use" (p. 10). Maynard puts forward photography as a family of technologies and, as such, a means of amplifying our natural capacities or powers (Costello & Phillips, 2009).

> If those photographic technologies are to be considered part of what we mean by "photography," then there is photography that does not consist in making photographs – at least not as we ordinarily understand those terms. That photography may be a technological way of doing things might suggest that even in the more familiar or "traditional" case of making photos, photography could also be understood in terms of doing things. (Maynard, 2000, p. 7)

In contrast to a technological approach, a phenomenological one prioritises human experience. Roland Barthes used a linguistic framework to examine culture through the application of semiotics. This method of examination has its roots in the work of Charles Sanders Peirce (1839–1914), who created semiotics as a discipline of the study of signs and their meanings, using the symbol/index/icon triad as the tool of analysis. In *Camera Lucida,* Barthes examines the relationship between the symbolic meaning of the photograph and a personal interpretative reaction or reading of it (1981). However, through his discussion he maintains that photography is irreducible to formalised language. He produces a phenomenological reflection on concepts of subjectivity and meaning in the context of a personal dedication to his mother's memory. Barthes makes little reference to photographic technology, and when he "wants to learn what Photography is 'in itself'" (p. 3), he refers to the signification made possible through the photograph. First published in 1981, *Camera Lucida* was pivotal in establishing photography as a theoretical undertaking. From that period onwards, discussion around photography primarily was one of the significance of the image.

As Geoffrey Batchen argues, "[i]n order to see what the photograph is 'of' we must first suppress our consciousness of what the photo 'is' in material terms" (1997). Not only have the terms "photograph" and "photography" often been used interchangeably to describe the image, the photographic image itself often appears to be invisible. What we see are photographs, the photograph and what it depicts. We see the photograph as an object, but often fail to recognise it as such. The distinction between the notions of "photography" and "photograph" have not always been straightforward. Descriptions of experiential encounters with the photographic image are numerous, with examples such as André Bazin's The Ontology of the Photographic Image (1960) and Roland Barthes' *Camera Lucida* (1981). These descriptions are informed by a phenomenological viewpoint, as argued by Maurice Merleau-Ponty, who in *Phenomenology of Perception* (2002) claims it is "a matter of describing, not of explaining or analysing" (p. ix). In *Camera Lucida*, Barthes maintains "[t]he photograph is literally an emanation of the referent" (1981, p. 80), but what he is referring to is light emanating, rather than the referent itself. The photograph is also often described in terms of a trace, with Bazin asserting "[n]ot at all the image of an object or being, but more exactly its trace" (1971, p. 343), or with Susan Sontag describing "a photograph is not only an image … an interpretation of the real; it is also a trace, something directly stenciled off the real, like a footprint or a death mask" (2001, p. 120).

Photography's relationship to the subject that it depicts is a complex one and one where the human experience of the image need not necessarily be central. According to Kendall Walton, "[p]hotographs are transparent. We see the world through them"; he argues this interpretation as literal: "[W]e see, quite literally, our dead relatives themselves when we look at photographs of them" (1984). Roger Scruton questions whether photography is capable of representing anything: the image has causal relationship to its subject and our interest is in the subject (Costello &

Phillips, 2009). He points to the inadequacy of representing an idea through a photograph: "A photograph of a representation is no more a representation than a picture of a man is a man" (1981, p. 595). Joel Snyder and Neil Walsh Allen present two models of photography. The "visual" model emphasises the supposed similarity between the camera and human vision, which shows us "what we would have seen if we had been there ourselves". The "mechanical" model stresses the connection between the contents of a photograph and what was in front of the camera as "a reliable index of what was" (1975, p. 149). The photograph has a relationship with its subject, and this phenomenological aspect that is particular to it. This paradox of being able to view both the subject and object simultaneously allows us to easily equate the two, but it cannot be assumed that the photograph necessarily always relates to "what was".

Maynard seeks to demystify the relationship between the photograph and its visual contents, stating "[p]hotography is understood in terms of photos, and photos are invariably understood relationally as being *of* things" (2000, p. 15). He views photographic technologies as particular in their capacity to combine depictions and imagining capabilities to enhance human perception and imagination. Drawing a connection between photography and other "marking" technologies, he describes photography as a kind of "technology for visual display: that is, surface-marking with visual intent" (2000, p. 34). Although, drawing on Walton, Maynard dislodges the photographic image from its supposed referent, he refrains from severing the photographic image altogether. From him, photography is characterised by its detective and depictive capabilities. However, as photographic practice has recently expanded beyond these capacities to become complex networked imaging systems, the role of these capabilities has come into question. Contemporary states of photographic technologies that consider photography as algorithmic enable generative and imageless forms of photographic practices that in many cases no longer necessarily require either detection or depiction capacities.

The emergence of digital technologies has accentuated the practice of photography as a technological one. Although the digital image appears visually similar to analogue, its construction as a file of numerical values is prone to manipulation, replication and transmission over networks. Considered a paradigm shift, digital photography requires a different approach to the image, where it becomes an unstable surface where meanings are produced less through "indexicality or representation but through the aggregation and topologies of data" (Rubinstein & Sluis, 2013a). The digital image is computational and programmable. Under these circumstances, photography's "truth claim", as Tom Gunning describes it, becomes unsustainable (2004). Katrina Sluis argues "the photograph is now a type of 'algorithmic image'; a term we use in order to indicate that the image has to be considered as a kind of program, a process expressed *as, with*, *in* or *through* software" (Rubinstein & Sluis, 2013b, p. 29). The image as data can take any form of digital configuration, regardless of its visibility to the human eye. As digital images are predominantly created and read by machines, often independently of human intervention, issues of detection and depiction are not always a requirement in the transactions associated with digital processes. As will be explored in the next chapter, the destabilisation of the image to which digital technologies contribute causes contemporary photography to no longer necessarily be the depiction of a photochemical trace but, instead, an algorithm.

Much writing about photography tends to concern itself with the nature and concerns of the product rather than with its production. Photography itself is taken as a process for the production of photographs. This was not always the case. The pioneers of photography emphasised the technological process over image. Talbot's emphasis on agency is notable. His first book, *The Pencil of Nature*, proudly claims that nature is able to depict herself; elsewhere he describes how he had allowed "[n]ature [to] substitute her own inimitable pencil" (Talbot, 1981). Daguerre also described the daguerreotype

as “the imprint of nature”. The implication was that the photographic process was in some sense automatic and in some aspects occurred independently of human agency. For Talbot it was the automated and mechanised nature of the process that gave the photographic process this authority.

The tensions that exist between photography being a mechanised vision machine or an art form was a prominent issue for early photography. Early photography embraced pictorialism with imagery that emulated painting, in a McLuhanesque sense that the content of any medium is always another medium (1994). Alfred Stieglitz’s photographic periodical *Camera Work* (1903–1917) championed the recognition of photography as a medium of visual expression. The aim of the publication was to establish photography as fine art. Pictorial photography’s quest to be accepted as an art form sought to minimise the mechanical and technological aspect and emphasise its ability for creative expression.

In his essay The Work of Art in the Age of Mechanical Reproduction (1935), Walter Benjamin also signals the discrepancy between the technology of photography and the photographic imagery that it produces. While he treats photography as a mode of mechanisation, this essay is concerned with the social impact of the generative abilities of technology. The loss of the photographic aura that occurred as a result of the reproduction signals the possible separation of the photographic image from being fused with photography as the technology of capture and depiction. The implication is that if the reproduction of the image progressively depletes its fidelity, then unlimited and instantaneous reproduction may well detach it altogether.

If photography is to be regarded as a technology in itself, how might this approach be revealed in the creation of a photographic work? The technology of photography can be harnessed for the creation of practical

works as the exploration of its own technological capabilities. An exploration of photography as technology can serve as a site of the tensions between mechanisation of vision and creation as artistic expression, as articulated by Benjamin (1935). By placing objects directly onto the surface of a light-sensitive material, the photograms of Christian Schad, Man Ray and Moholy-Nagy drew attention to technological innovation, forgoing the camera altogether – although this was a revisitation of the technological explorations and techniques of William Henry Fox Talbot's pioneering work of "photogenic drawings". The promise of the machine was linked to creative production. Moholy-Nagy was optimistic about utilising the new technological innovations of the time to develop new modes of expression. He embraced the mechanisation of the era as a democratising development towards the empowerment of people. "This reality of our century is technology: the invention, construction, and maintenance of machines. To be a user of machines is to be of the spirit of this century. It has replaced the transcendental spiritualism of past eras" (Moholy-Nagy, S., 1969, p. 19). The development of new technologies was reflected in the emergence of new fields of creativity, and he was particularly interested in how apparatuses (instruments) used for reproductive production that serves human construction might be used for productive creation (Moholy-Nagy, 1985). This approach to productive creation was one that had an interest in mechanical reproduction that enabled a generative process to the practical production of artwork.

Photography as technology can be explicit, revealing the processes of its own creation. In Michael Snow's 1969 work *Authorization*, he repeatedly photographs himself (with camera) in a mirror, taping each progressive instant image Polaroid print to the mirror between exposures. There are five Polaroids taped to the mirror, each displaying the previous exposure. This work provides a quintessential example of self-referential meta-photography. Both the photographer and camera are made visible in the reflection

of a mirror, illustrating a self-reflective quality evocative of Velazquez's painting *Las Meninas* (1656). The image documents the recording of the photographer and the camera and what they saw in the creation of the image. The mechanics of a photographic process are clearly demonstrated in this work, where the mode of image production and the content of the image are fused.

However, as the technology of photography appears in this artwork as content, this raises a question: what if this approach was not restricted to the photographic process as its subject matter? This work points inwardly towards its own creative processes, suggesting that it might be opened up to a wider range of interpretations. In contrast to the static recording of a technological process that this work displays, the photograms of Moholy-Nagy demonstrate a technological approach to the creation of artworks that expands the realm of expressive possibilities for the work, with the ambiguity or uncertainty of who is expressing what providing the intrigue that separates it from Snow's. This artwork is unambiguous in that it refers to photographic technological processes, but its interpretation of this process is a narrow one. Maynard's concept of photography as a technology suggests that expanding what counts as technology will allow for broader creative interpretations and possibilities.

Photography has never been one medium; there are many photographies. Photography is a set of relations between technical, historical, social, cultural, material, economic, philosophical practices. Maynard's "branching family of technologies, with different uses, whose common stem is simply the physical marking of surfaces through the agency of light and other radiations" (2000, p. 3) is no longer plausible, as photography has since expanded. It must be understood, simultaneously, as a social practice, a networked technology, a material object, and an image (Sandbye, 2016, p. 99). Considering photography primarily as a technology places it in a more

general sense and within a wider field of relationships. By no longer focusing on its representational capabilities, it is no longer possible to regard any particular aspect on its own as necessarily privileged and dominant, or to prioritise one form over another.

In the vast and diverse continuum of technological processes that is photographic practice, one notable constant has been its product as an image on a surface. The current form is a technology for producing visual displays. The image as a flat surface has persisted as the default output of the photographic process. There is an assumption that photography must produce an image and that it should depict something. Some do not. If we are to consider photographic practice as a wider field of relationships then all aspects of photography are available for revision. As notions of the medium evolve and change over time, it follows that this aspect of photography will also be liable for renegotiation.

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2.3 Material

Our understandings of photography are grounded on our understanding of its technological and material processes. Physically, a photograph is characterised as a surface marked by light, or the physical marking of surfaces through the agency of light and similar radiations (Maynard, 2000, p. 3); and so, it is a medium. Photographic images are a direct result of material process, but our interpretations of them rely on our ability to desist from separating the apparent technology from the content of the representation: "We see through them", as Kendall Walton describes it (1984, p. 252). To create understandings around photography, we shift the focus away from the technical aspects of representation to the practice itself. Instead of analysing photographs as products, we can investigate photography before, during and after it manufactures its representative artefacts, photographs.

Just as there are many photographies, there are many ways in which to regard and understand them. In place of discussion of photography's depictive capabilities, photography is examined here through the lens of its materiality. Themes concerning materiality are examined in this section as a strategy for exploring photography as amalgamations of material, cultural, technological and social forms.

Materialism is a theoretical paradigm that maintains that all things are connected to physical processes and matter. Although the concept of matter is historically difficult to define and concepts continue to evolve, the idea is that all entities and processes, including human beings, "are composed of – or are reducible to – matter, material forces or physical process" (Stack, 1998). This also includes human thought, as it can be traced to physical processes: "[T]houghts are no less physical than objects, thinking no less

physical than acting" (Brown, 2010, p. 162). Charles Wolfe maintains that everything that exists is material, or "the product of interaction between or relations between material entities and a second form, that is not always separate, that focuses on 'relations between mind and brain'" (Wolfe, 2016, p. 10). Materialism holds that everything that exists is material. This contrasts with idealism, which privileges mind and consciousness and considers matter and its interactions as secondary to these.

Materialism has developed historically from a wide range of cultural, religious and philosophical origins too great to go into depth here (Wolfe, 2016). Instead, a brief survey of some of the key founding ideas concerned with its development is included. For the purposes of examining contemporary photographic practice, some notions of contemporary materialism are considered here, identifying ideas and conceptual pathways that have been critical in framing this research.

Although Karl Marx did not use the term, historical materialism is the term used by others to describe his conception of history that privileges the material over ideas. A Marxist view seeks to establish general rules that drive the development of human history, as a more scientific approach to history would not see disconnected events but recognise the forces that govern change. The main assertion of historical materialism is that it is the development of the forces of production that drive human development. "This conception of history depends on our ability to expound the real process of production, starting out from the material production of life itself" (Marx, 1932). It is the combination of technologies and the social relations that enable production that fundamentally determines the manner in which society is organised and develops. Historical materialism seeks the origins of developments in the ways in which human society produces what it requires to function.

Walter Benjamin's (1892–1940) writings on photography were deeply influenced by Marxist methods of historical analysis. Benjamin was primarily interested in the evolving relationship between media and capitalist modernity, in what he considered a crisis of experience. His work responded to anxieties about the effects of new and emerging media and its commodification. He acknowledged and explored connections between the increasingly mechanised economic landscape of industrialisation and its impact on culture. Benjamin argued that this impact was best illustrated through the exploration of the effects of modernity on art.

Michel Foucault (1926–1984), the French philosopher and historian, is well known for his concepts of discourse, genealogy, archaeology, archive and discontinuity which form critical elements in the field of media studies. He argued for an "archaeological" approach to the history of thought, where archaeological methods could actually be viewed as a means for investigating conditions of existence. Foucault maintained that his archaeological method was a way of analysing cultural objects that departed from the hermeneutic tradition of analysing meanings of texts through layers of interpretation. This method emphasised the tangible over the interpretative. The texts and the archive present themselves as symptoms of cultural interrelationships that occur at the level of materiality (2002, p. 134).

Friedrich Kittler is one of the pioneers of the material approach to media analysis. Kittler sought to extend Foucault's materialist ideas towards the creation of a method to analyse media technologies that uncover the forces that enable and maintain them. This meant treating media, which includes books, as physical apparatuses that facilitate "data storage, transmission, and calculation in technological media" (1990, p. 369). Like Foucault, this approach did not necessarily dwell on the meaning of any message that the medium might carry, but rather how the medium itself allows information to take place and how that may inform meaning. In what has been described

as a "distinctly anti-humanist stance" (Gane & Hansen-Magnusson, 2006), for Kittler, meaning was of little consequence in the processes of analysing technical media. Recognising the increasing impact of media at the time, he argues that "the dominant information technologies of the day control all understanding and its illusions" (Kittler, 1999, p. xl).

To expand the ideas of Foucault's discourse analysis to the analysis of emergent media, Kittler combined a number of Foucault's concepts with the information theories of Claude Shannon and the media analysis of Marshall McLuhan. With this unique combination of ideas, Kittler posed a scientific approach for the field of media studies. His insight was to displace meaning or representation in favour of assessing the physical distribution of signals. As text and the archive became electronic and digital, the opportunity arose for culture to become measurable, calculable and quantifiable. As information and communication converge, information is "transformed into matter and matter into information" (Kittler, 1997, p. 126).

Canadian philosopher and communication theorist Marshall McLuhan (1911–1980) considered all media as environments and as spaces of transformation, rather than systems for the transportation of information. His particular form of media materialism was of particular interest to Kittler, as it offered media theories that proposed the structures and systems of media as being symptomatic of the conditions of society in which they occurred. These ideas on media materiality helped Kittler extend and balance the ideas of Foucault and Shannon by proposing a human social and cultural aspect to the analysis of media.

Whereas McLuhan's work was applied to understanding media, Kittler sought to understand the cultural impact of technologies. Kittler's approach is considered part of the German materialist tradition that emphasises logical and technical structures of media, while McLuhan's work is

inclined towards social and discursive effects of media. Kittler avoided distinctions such as meaning, interpretation or representation, as these were susceptible to the discrepancies of human perception. As Shannon's theory of information argues, the medium or channel of communication consists of mathematical signals that are produced, transmitted and held in physical material structures. As such, information cannot be directly understood or interpreted by human perception. As McLuhan considers media as the extension of man, Kittler maintains that a significant aspect of communication occurs beyond the perceptive abilities of man.

> What remains of people is what media can store and communicate. What counts are not the messages or the content with which they equip so-called souls for the duration of a technological era, but rather (and in strict accordance with McLuhan) their circuits, the very schematism of perceptibility.
> (Kittler, 1999, pp. xl–xli)

Kittler is understandably accused of being techno-determinist. The opening sentence of his book *Gramophone, Film, Typewriter* declares, "[m]edia determine our situation" (1999, p. xxxix). There are obvious parallels with techno-determinist McLuhan, with media clearly stated as the extension of man. Rather than seeing technology as central to human activity, Kittler's analysis includes the impact of technological systems that are introduced irrespective of their human designs. Media technologies do not so much determine or lead humans, but are a part of interrelated systems. To label Kittler as such is to risk, as Axel Fliethmann puts it, "an attempt to cover up one's own bias by exposing that of another" (2011, p. 15).

Perhaps one of the clearest examples of these concepts of materiality explored in the photographic realm is that of concrete photography. This provides a cohesive example of the consequences of viewing photography as technology in itself, and in so doing demonstrating a material approach to

photography image creation. Significantly, concrete photography offers a mode of photographic practice that emphasises its technological aspects over visual content.

Originating in the 1960s, concrete photography is theory and practice that is characterised by an attempt to avoid any depiction of external objects. It is a form of self-referencing photography where the process of the creation of the image becomes the subject and the resulting photograph is presented as an object. Concrete photography – and its extension, generative photography – is of interest because it emphasises logical and technical structures of media production. Based on a systematic approach to image-making, it is characterised by algorithmic and programmatic creation that is conceptually linked to computer art.

Gottfried Jäger one of the central figures of concrete photography (and generative photography), classifies the genre in his authoritative book on the subject, *Concrete Photography/Konkrete Fotografie* (Jäger et al., 2005): "The photo was henceforth no longer merely a medium and a sign for something else, something external. It had become an object, an object of a purely perceptual nature." He describes that, unlike realism or documentary, concrete photography does not depict the visible, and, likewise, it does not represent the non-visible. It instead establishes visibility.

The term "concrete photography" is derived from Theo van Doesburg's concept of "art concrete" in his 1930 *Manifesto of Art Concrete*, where he claims, "[a] pictorial element has no other significance than 'itself' and therefore the picture has no other significance than 'itself'". The first photographic images that are recognised as examples of concrete photography were vortographs made by the English photographer Alvin Langdon Coburn in 1917.

Concrete Photography took van Doesburg's manifesto literally, and its reductive nature was well suited to the manifesto's decree that the "painting technique must be mechanic" (1930). Concrete photography developed into generative photography, where the photographic process became not a reproductive but a productive "generative" system, creating "non-representational, systematic-constructive photographic imagery" (Jäger et al., 1986). With the process of the work exposed, the process becomes the work.

Gottfried Jäger emphasises concrete photographic processes as productive systems rather than reproductive, with a few exceptions, revolving around the eventual generation of a photographic image. Concrete and generative photographic practices adhere to the spirit of van Doesburg's concept of concrete art, being "exact, anti-impressionistic" and "not hav[ing] any meaning beyond 'itself'". The manifesto urges the exclusion of "lyricism, drama, symbolism, and so on" (1930). The images depict traces of their own creation; they do not depict external factors but represent a visualisation of internal conditions of their own production. Jäger states that "[t]hese are pictorial traces, traces of the photographic", and that the results are "photor*eferential*, not photo*graphical*, but of a photo*logical* and photo*reflexive* kind" (2018, p. 152). This claim dislodges symbolism from the image, but the question remains: is this is possible at all? Jäger is encouraging us to view the concrete photographs as transparent, in the Kendall Walton sense (1984), suggesting that because of their meta-photographic content we overlook any representational issues.

Whether concrete photography is successful in avoiding symbolism is not as relevant here. What is more closely related to this study is the question: why limit these explorations to photographic imagery alone? Jäger presents generative photography as a continuation of the trend beginning in the 1920's of constructivism and elementarism, as defined by van Doesburg, László Moholy-Nagy and others (1989, p. 23). While Moholy-Nagy's

explorations extended photograms into time and space, concrete and generative photography remained firmly image-based, whether the resulting imagery was photo*referential* or photo*reflexive*, suggesting that images are inherently symbolic. Although Jäger did conduct investigations into the possibilities of developing photographic installations in space (Jäger, 1986), he was urgent about avoiding symbolism, and sought to offer a direct response to "subjective photography", the prevalent trend in West German photography at that time (1989, p. 22). It would then make sense to question the use of photographic imagery itself and seek other options that might bypass this issue. Although concrete photography explores a material photography and questions the centrality of human expression by its use of automated systems, it remains primarily bound to the production of photographic imagery and so remains symbolic.

Generative photography was an exploration of relationships between man and machine. Comparison and clear relation to computer art evolved as the work appeared mathematical, programmed and generated on apparatus systems. It endorsed systematic creation but yet sought to counter the mechanistic by embracing elements of chance. Jäger explains generative photography as a coming together of the three trends: "experimental photography", "apparatus art" and "exact aesthetics" (Jäger, 1986). His colleague Rolf Krauss also sees it as mechanical and serial, and also identifies the idea of chance in the process:

> The photograph can be considered an expression of the relationship between apparatus and artist and between the rational and emotional needs which the photographer tries to unite in himself and use to achieve effect. The generative tendencies in photography bridge gaps not by making the apparatus absolute, but by giving it a significant role in this interplay as a "creative factor".
> (Jäger et al., 1986, pp. 20–21)

In a sense, generative photography was both a play with photographic apparatuses, endorsing mechanistic fabrication of photographic imagery, and, at the same time, an attempt to humanise photography by including elements of chance. Jäger was influenced by Max Bense, one of the founders of information aesthetics – as the numerical measurement of aesthetics value. Bense developed the term "generative aesthetics" in the 1960s, linking art to computation. Exploring ideas of Claude Shannon, as expressed in *A Mathematical Theory of Communication* (1948), Bense developed theoretical concepts for the application of computational algorithms to the creation of visual works. He proposes useful schemes of generating arrangements by "producing order from a mixture of order and disorder" (Bense, 1971, pp. 57–60). The contrast of systematic creation laced with disorder and chance both champions and undermines the apparatuses of photography. In so doing, generative photography plays with and against the apparatuses of photography simultaneously.

Concrete and generative photography provide valuable understandings of photography as approached from a material perspective, and in that they illustrate a way in which images may be considered as part of a wider photographic system. Jäger's work demonstrates a mode of practice that engages with images generated by an apparatus, within the apparatus.

Photography as the site of human-machine relations is explored in depth by Vilém Flusser (1920–1991), the Czech-born philosopher and media theorist. Flusser applied a material approach to photography, exploring the apparatuses of photography and the cultural context in which they exist. He is important because he does not dwell on the indexical of the image, but poses a way of thinking about photography as operating within a context of apparatuses.

His writing on photography in the 1970s and 80s explored how technologies impact the ways in which the world is seen. In his formative work *Towards a Philosophy of Photography* (first published in 1983), he declares, "[t]he invention of photography is just as decisive a historical turning point as was the invention of linear writing" (2000, p. 17), and investigates it as a "dominant cultural technique through which reality is constituted and understood" (Becker, 2012, p. 251).

Flusser reduces photography to what he considers to be four basic concepts – image, apparatus, program and information – and claims these must be the cornerstones of any philosophy of photography. These produce his definition of a photograph: "It is an image created and distributed by photographic apparatus according to a program" (2000, p. 76). Flusser proposes that photography is not just images but apparatuses, which range in scale from the microscopic to as large as society itself (2000, p. 21).

Flusser saw photography as a cultural turning point in human civilisation, an impact similar to the invention of writing. While he considered writing as linear and one-dimensional, for him photography was a paradigm shift to a non-linear world view, one mediated through what he called the "technical image". Photography was a means for bridging the cultures of "objects" and that of "pure information" (2000, p. 134). The emergence of information cultures was to replace text and change the way we experience, perceive and value the world and ourselves fundamentally (Flusser, 2011a, p. 5). Similarly, to Walter Benjamin, Flusser saw the examination of photography as a site for creating understandings around emergent technologies and cultures.

Flusser refers to the photographic image as "technical image" to distinguish it from, and contrast it to, traditional images such as painting. Whereas he considers traditional images as abstractions, technical images owe their existence to technical apparatuses. Since photography is in fact a technology

that is the product of a combination of scientific processes, then, as a product of that process, photographic images can also be considered elements of that scientific process, or the "indirect products of scientific texts" (2000, p. 14). Traditional images are depictions that arise from the observations of objects, while technical images, Flusser claims, are computations of concepts that arise from "a peculiar hallucinatory power …" (2011a, p. 10).

Flusser argues that societies can be understood as immense apparatuses, with their own program of operation, a system of relations between various institutional, physical and administrative mechanisms and knowledge structures. Flusser makes the connection to the photographic camera literally as a physical apparatus. Both camera and society, as he sees it, are comparable and corresponding apparatuses. Equating these two, Flusser defines an apparatus as "a toy which simulates thought" (2000, p. 83); elsewhere he describes an apparatus as a machine that elaborates information and calculates probabilities. The photographer and camera work with a program that allows them to make pictures, within a society that is governed by administrational apparatuses. Unlike workers of the industrial age, "photographers are inside their apparatus and bound up with it … a new kind of function in which human beings are neither the constant nor the variable but in which human beings and apparatus merge into a unity" (2000, p. 27). For Flusser, photography thus provides a prototype, an appropriate starting point for analysis and a way to view other apparatuses. The camera acts as a metaphor, as analysing and understanding the camera will create understandings of apparatuses in general.

Photographers become the executors of the program of the camera and so are the functionaries of an apparatus. Any image produced by a photographer is a part of the program of the apparatus and will be in keeping with the parameters of the program. "The apparatus does as the photographer desires, but the photographer can only desire what the

apparatus can do" (Flusser, 2011a, p. 20). The photographer operates cameras and photographs not so much as discrete objects, but as relays in the processes or networks of apparatuses. In this way, the camera as a programmable apparatus, paradoxically, programs the photographers (functionaries) who use it.

Flusser addresses concerns of the conflicts between human and apparatus by encouraging resistance. He argues that to pursue the possibility of freedom in a world dominated by apparatuses is relevant for both photography and society in general. It is photography's mission to discover ways to reflect the apparatuses' programs and expose this struggle between the human and apparatuses in the realm of photography. While he claims that the "intention of the photographer is a function of the apparatus" (2011a, p. 20), it is the photographer's responsibility not to be a function of the camera. He promotes "envisioners" who can play both with and against the apparatus. These are producers who "turn an automatic apparatus against its own condition of being automatic" (2011a, p. 19). He encourages envisioners to create from the inside of the apparatus (2011a, p. 36), to make "concrete sense of the abstract and absurd universe into which we are falling" (2011a, p. 37). He concludes the chapter titled Why a Philosophy of Photography Is Necessary with:

> The task of a philosophy of photography is to reflect upon this possibility of freedom – and thus its significance – in a world dominated by apparatuses; to reflect upon the way in which, despite everything, it is possible for human beings to give significance to their lives in face of the chance necessity of death. Such a philosophy is necessary because it is the only form of revolution left open to us. (Flusser, 2000, p. 82)

Flusser argues for the possibility of freedom and revolution from within the apparatus, but any efforts to do so remain limited to actions within the apparatus. The photographer's practice is contained within the program

of the camera. The photographer can only act within the program and even when the photographer thinks he or she is acting in opposition, he or she can only act within the program. How might the photographer then seek to practice in such a way that exceeds the limitations set the program of the camera, when the Flusser universe is "a chance realization of a number of possibilities contained within camera programs" (2000, p. 69). As all photographic endeavours are contained within apparatuses, photography in Flusser's interpretation is unable to disentangle itself from its own apparatuses, as no photographer "can entirely get to the bottom of what a correctly programmed camera is up to. It is a black box" (2000, p. 27). Nevertheless, Flusser suggests a small number of methods of playing against the camera, which involve "smuggling human intentions into the program … that force the camera to create the unpredictable" (2000, p. 80). Flusser does, however, suggest a method to reflect on the possibility of freedom, which involves resisting the apparatus by concentrating on information; "one can show contempt for the camera and its creations and turn one's interest away from the thing in general in order to concentrate on information" (2000, p. 80). This claim indicates that he is dismissing the photographic conventions of camera and the image and regarding photography as information, and this will provide another possible mode to resist the apparatus and signal a way forward for photography.

Even though Flusser displaces representational thinking of the photographic image, the image plays a central role in his photographic realm. The understanding of his photographic world is built on images as the site of the mediations between the world and human beings. In this photographic universe, the world is a function of the photograph. For him, the photograph is tied to text, which, like text, provides a space for interpretation (2000, p. 8) on their surfaces. Even when describing the emerging digitisation of photographic culture, photography remains the photograph; "photos will become images appearing on electromagnetic

screens" (1986, p. 329). The photographic images are transformed from being "significant surfaces" (2000, p.8), to becoming "mosaics assembled from particles" (2011a, p.6). Although Flusser is able to dislodge indexicality of the image by locating it within the apparatus, it is still the photographic image that remains integral to creating understandings of the world.

However, with the emergence of digital technologies, this attachment to photography being solely recognisable as a photographic image is undermined. Flusser envisions the photo's transition to information as it becomes immaterial. As photographs emigrate from their material support into the electromagnetic field they abandon their chemistry (1986, p. 331); they will enter into a culture that he describes as "pure, immaterial information" (1986, p. 329). As the context of photography becomes this, its operations become less dependent on the role of the image as a rhetorical device to become a part of a network of information. Even so, in this immaterial photography, Flusser is reluctant to release the image: "The new photo is thus an example of the emerging culture of immaterial information" (1986, p. 331). This new photo is symptomatic of the emerging culture of immaterial information. As an impact of digital technologies the photography is no longer dependent on a material base and can be construed as transmissible information. Flusser uses the term "immaterial", but rather photographs are "dematerialised" in that they are separated from their physical form as photographic print. Digital media is not necessarily "immaterial".

This new context for photography that Flusser describes not only has the possibility to enable dematerialised information but also provides a possible site for the resistance to the apparatus that he encourages. Flusser describes his optimism of "a technically feasible utopia" (1986, p. 331), where "[t]he individual will become free to elaborate pure information in dialogue with all the others" (1986, p. 331). However, a society that enables this culture of

"pure, immaterial information" is as much a system of physical mechanisms and knowledge structures as any previous structure that enables the earlier notions of the photographic. The context for informational culture is, in itself, an apparatus. Flusser claims that "photographers are inside their apparatus and bound up with it. ... a new kind of function in which human beings and apparatus merge into a unity" (2000, p. 27). But this unity is an addition to the apparatus rather than its rupture. Any photographic act of resistance that is undertaken occurs within an apparatus; material or dematerialised is encapsulated within the apparatuses. The apparatus remains its context, and engaging with photography means engaging with the apparatus, irrespective of its material or dematerialised state.

Flusser's call to resist the apparatus remains as relevant as it has ever been. The task of photographic philosophy, as Flusser notes, is to reflect on the apparent struggle between apparatus and human. While his optimism about the pure culture of information may be less relevant in this day, his strategy for "envisioner" photographers to attain freedom from the confines is to resist its predominant forms. That, nevertheless, occurs within an apparatus. Although photography's transition to information does not mean a dissolution of the apparatus, Flusser's invitation for resistance to the apparatus is critical to an ongoing progressive photographic practice and continues to be urgent now as it was when he authored these ideas.

Flusser's work is significant as his programmatic view of the apparatuses of photography resonates with contemporary conditions of photographic practice. Placing photography in a context of the apparatus recognises the ongoing dynamic of the relationships of human and mechanism. His work spans the progression of a materialist approach to photography through to one coming to terms with the emerging information culture of the time. He explores the transition of the photograph as being released from its material towards its seemingly inevitable dematerialisation. This dematerialisation

of the photographic image provides the opportunity to rethink the nature of the photographic image and has consequences for the reimagining of photography itself.

Flusser provides a materialist approach to the analysis of photography that lays a path for photography that abandons its conventional material basis to one that adopts modes preferred by the apparatuses in which it operates. In this process he argues for the displacement of the photographic image from its representational aspects to where the image is informational. He uses photography as a location to explore the ideologies of the apparatus. Fundamentally, he equates photography and society. Photography is presented as a microcosm of the apparatuses of the world. In doing so, his work offers possible understandings of photography that indicate forward paths.

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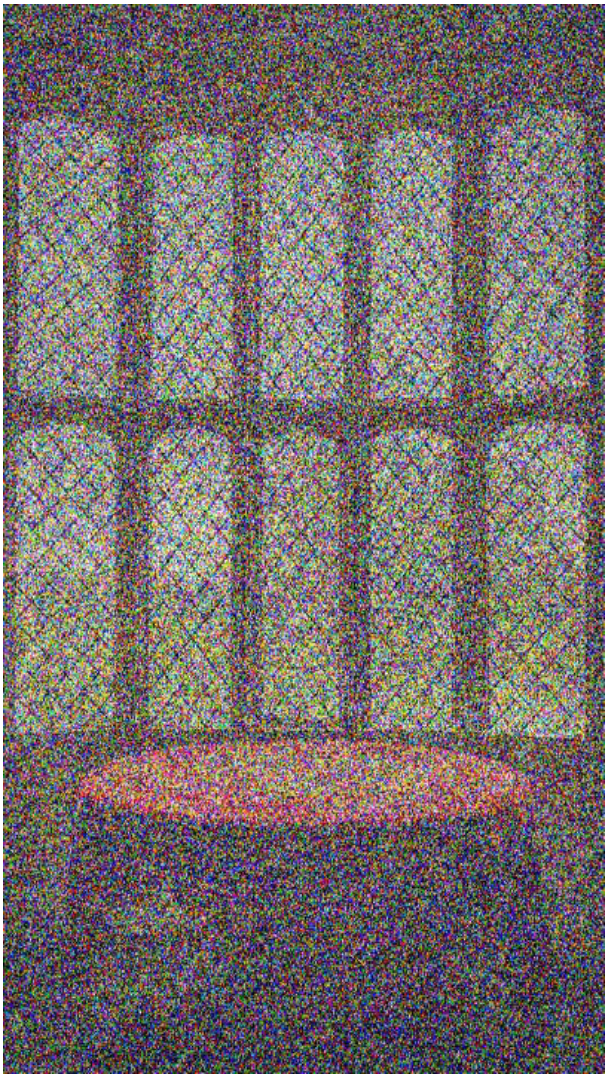
2.4 075 Grain



Rood, S. (2018). *075 Grain* [Video, 1:00 minute]

Click to play

View video online

A still image is presented digitally on an LED screen. It is a photograph of the latticed window, taken on a visit to Lacock Abbey, the historical home of photographic pioneer William Henry Fox Talbot. Known as The Oriel Window, it is the same window that Talbot photographed in 1835 to create one of the earliest known photographs. In the course of the animation, the image becomes no longer recognisable, as the pixels of the image are accentuated and abstracted by digitally increasing their size, quantising

their shape, and exaggerating their colour intensity. This has been done by applying elements of code, called expressions, to visual effects in the video editing software Adobe® After Effects®. With each frame redraw, a new set of grain is generated and interpreted through the software, which produces a new set of pixels. As time progresses, the algorithm changes and consecutively alters the parameters of the abstraction. Incrementally, the value of grain averaging is increased, making the pixels progressively larger until, at the end, there are two pixels represented. What is presented is an interpretation of the digital grain that carries the image. The sound is directly related to parameters of the algorithm processing the image. The audio frequencies are synthesised by converting calculated pixel values into sound waves.

This artwork investigates the materiality of the image. The digital image and its presentation on the screen are explored. It explores what the visual material of the digital image is, how might we regard it directly and what is being performed in our interactions with it. Through a process of reduction, the technical visual elements that go towards the creation of the image are inspected closely. They are abstracted in both time and dimension to bring attention to the image's material performativity. The question asked with this project is, once we no longer require it to hold a representational image, what is the material of the digital image and how might it act?

Geoffrey Batchen argues that acknowledging the material of the photograph plays an important part in gaining an understanding of it. "In order to see what the photograph is 'of' we must first suppress our consciousness of what the photograph 'is' in material terms" (1997, p. 2). But it is not just looking at the material of the photograph that will help our understanding of it; looking at the materiality of the photographic processes and practices themselves will help us to gain understandings of both. This could be done by any number of research methods, but here it is realised

through creative reinterpretation of the technical processes of photography itself. This work explores the materiality of the technical aspects of the image as subject matter of the photography. This assists in gaining an understanding of the technical process rather than the photographic image or any visibly recognisable content it may contain.

This work focuses on the behaviour of pixels, which carry visual photographic information. If we address the photographic image in material terms, from the digital point of view, there is no difference between a text, an image, and noise. On a digital screen, the digital image is constituted by the optical merging of the smallest screen elements, the coloured pixels. If we magnify a small section of a screen as if we were inspecting it at close range, zoomed in or amplified, these become apparent. In a view that is informed by Marshall McLuhan's, "medium is the message", the material construction of the medium is accentuated and any messaging is disregarded. Rather than information "transformed into matter and matter into information" (Kittler, 1997, p. 126), here it is the visual behaviour of the information that is of interest. In this sense, the visual photographic process taking place is regarded as an independent object, regardless of human attempts of its comprehension. This concept was also informed by Theo van Doesburg's "concrete art". In his 1930 *Concrete Art Manifesto*, van Doesburg claims, "[a] pictorial element has no other significance than 'itself' and therefore the picture has no other significance than 'itself'" (1930, p. 413).

Ultimately, one cannot separate the medium of photography and photographs from their materiality, just as one cannot separate objects from the context in which they are encountered. The colour pixel elements represent other pixel elements. The image as information is not laid bare, the image data information is not exposed in some way, but it has been graphically reinterpreted. This is not a reduction of photographic practice to a material essence, but rather an observation of its materiality with

intention. The pixels are representations, not in a figurative mode but in a digital sense where the pixels themselves are the visual display of image data. Uncovering another level of activity, the goings-on of the image mediation are *displayed*, or, in this case, creative over-dramatisation is applied to draw attention to its dynamic nature.

This work explores the image as an algorithm. As the photographic image as a data object has become the predominant contemporary form in all of its aspects – creation, processing, distribution and encounter. The digital image is computational and programmable. Katrina Sluis argues, "the photograph is now a type of 'algorithmic image'; a term we use in order to indicate that the image has to be considered as a kind of program, a process expressed as, with, in or through software" (Rubinstein & Sluis, 2013b, p. 29). Photography has a direct relationship to the algorithmic. Just as binaries of light and shadow are represented in photographs, photography, as Sarah Kember argues, "since its inception records the presence and absence of data" (2012, p. 199). Photography in this sense is "mathematics made visible" (Batchen, 2002, p. 169). Photographic images are made visible by algorithms, making binary data appear like an image we expect to see. In this work, the photographic image's traditional representational functionality is inverted back towards representing its own operations. We see the active algorithms of the calculations of the image grain being reformulated as colour pixels. Algorithms are invisible to the human eye – as John Tagg states, "there is nothing to be seen" (2009, p. 24). Here, another layer of calculation has been applied to illustrate the algorithmic processes as ones visible to the human eye. By highlighting its computations, the photographic image as a data object is uncovered.

The photographic images portrayed on a digital screen are in fact dis-*played*. Looking at an image, we are continually confronted with a new event of the redraw of image data (Groys, 2008). Photographs are not still

images but the repetitive actualisations of the code that presents binary data to look like an image we expect to see. Algorithms operate in time, as a set of instructions or calculations. The digital image as algorithm is one that appears static but is actually animated reconstructions of code. Wendy Hui Kyong Chun explores computer code as fetish, linking performativity and fetishism. For Chun, code is a process rather than a stable thing, an executable "resource", rather than a static "source" (2011, p. 193). This computational iterability makes the digital image a repetition and, in its use, at the same time, a new and unique event. "If code is performative, it is because of the community (human and otherwise) that enables such utterances to be repeated and executed, that one joins through such citation" (Chun, 2011, p. 193). The artwork addresses this performativity of the digital image by exaggerating its iterability. The tempo, scales and rates of change of the image redraw are incrementally reduced, dramatically. These progressive alterations to the parameters of the algorithm draw attention to the animated nature of the algorithmic image. The algorithmic image presented here consists of the iterative performances of its data, exposed to reveal the workings of its display, exposing the performance of its own activation.

The artwork explores the materiality of the image. In the course of the investigation it became evident that there is no clear separation between the image's visual content and the noise of the medium. The noise is the subject matter. In the communication theories of Shannon and Weaver, they took into account "in particular the effect of noise in the channel" (Shannon, 1948). They sought a low signal-to-noise ratio to minimise unwanted sources of noise, and used noise as a reference point for its reduction and ultimate clarity of signal. Noise is something we happen not to be interested in right now. It is inherent in the material of the image and if we are to engage with the digital image democratically, from a flat ontological standpoint, then it need not be overlooked. Contrarily, it may be embraced and emphasised.

John Cage explored the materiality of sound by famously asking an audience to sit and be present to ambient noise in his *4'33"* composition. Nam June Paik explored the materiality of film in his *Zen for Film* (1965), where clear film stock is run through a projector. These are artworks where what was once considered "noise", has become content. What is and what is not noise is not always apparent. "'Noise' was merely a temporary arrangement in a system, not a substance in itself. Everything could be noise, and noise could be a message as well" (Parikka, 2011, p. 261).

Photography's noises are an integral part of its constitution. When we reprioritise the image's requirement for figurative representation, photography is released to explore new formations. As François Laruelle declares, "[p]hotography must be delivered from its philosophical interpretations" (2011, p. 17). What remains is a broader field where the material performativity of the medium becomes manifest.

This chapter has explored the premise that no longer is the image necessarily the central component of photographic practice. A technological account of photography allows for an investigation of photography that is not limited to the production of images but can be regarded as a broader set of material practices. Photography's representational practices are located in the material and social contexts and are not necessarily restricted to the photographic image. As such, photography may be best understood as material practices.

Photography has been explored from a material, technological perspective. The emphasis has been to establish the view that photography is first and foremost a technological process and to identify what photography is in material terms. This is contrasted against photography's symbolic indexical functions and its phenomenological experience, as typified by the accounts of Roland Barthes' *Camera Lucida* (1981). Rather than regarding photography

as primarily a process for the production of photographs, this section poses a notion of photography as a greater set of possibilities for practice.

Photography is then examined through a lens of materiality. In the materialist approach to media analysis developed from the information theories of Claude Shannon, and later applied to visual media by Friedrich Kittler, photography can be regarded as materialised information, making it measurable and mathematically quantifiable. Vilém Flusser's concept of photography as the apparatus is explored as a means for bridging the cultures of physical objects and that of information. Flusser's theories furnish an illustration of photography's evolution that has chartered the transformation of the photographic image from surface to algorithm. These concepts have been explored in the artwork *075 Grain*.

Regarding photographic practice through the lens of materiality presents it as a "technological way of doing things" (Maynard, 2000, p. 7). As a consequence, the photographic image need not necessarily be considered the central actor in photographic practice. Rather, the photography in its representational mode is but one part of the realm of interrelated material activities called photographic practice.

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CHAPTER 3 – DEMOCRATIC PHOTOGRAPHIC OBJECTS

3.1 Chapter Introduction

The majority of contemporary investigations into modes of photographic practice position the photographic image as central. Photography is almost by default regarded in the context of how humans experience photographic images. But photographic practice need not be defined only in terms of the image. While images are increasingly created with, distributed through, and encountered upon computational platforms, this project has sought to explore issues concerning contemporary practice irrespective of these predominant trends. As humans become increasingly incidental to photographic processes (Hand, 2012; Kember, 2012; Zylinska, 2015; Rubinstein, 2018), this project explores the displacement of human perception as a central viewpoint of photographic practice. Rather, photography is addressed as a broad set of interrelated practices.

The previous chapter has sought to established photography as a material practice. Rather than regarding photography solely as the visual content of the image, it has examined photography from a material, technological perspective. Exploring photographic practice through the lens of materiality interprets photographic practice as materialised information, measurable and mathematically quantifiable as an informational system. The consequence of this transition of the photographic image from surface to algorithm is that the image as its central element has been displaced. But also, more fundamentally, the human as its central component has also been displaced. In a photographic world in which the human is no longer regarded as central, a strategy for understanding photographic practice is necessary.

This chapter explores this displacement of the human, and the image, as the central protagonists of photographic practice and seeks to provide a theoretical and practical response. Both humans and non-humans are engaged in the automation of vision, as a majority of images are now made by machines for other machines. The photographic act no longer belongs singularly to the photographer but is an ongoing collaborative process between both human and non-human actors distributed across digitised and decentralised networks. The photograph as active data operating as digital information is intrinsically indistinguishable from any other form of digital information, so an understanding of photography in this realm requires the examination of the mathematics of information. Here, the ambiguities and consequences of a non-human-centred world are examined and what that might mean for information, and for photographic practice. Philosophies associated with the Anthropocene and the non-human turn offer new perspectives on the relationships between humans, machines and nature. A review of speculative realist and object-oriented ontology philosophies, which focus their attention on how objects are understood and experienced in relation to the human and non-human, form part of this inquiry. The reassessment of photographic practice through the view of flat ontologies is signalled as offering opportunities to reconsider photography by reconfiguring its components and to broaden the conceptual range of photography. The chapter concludes with a discussion of an artwork created in the course of this research and informed by these issues.

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3.2 Displaced

> Photography however, stands on a threshold of a new era, populated not by representations, but by networks, webs and grids, and defined not by the subjectivity of the observer but by the relationships between interconnected points and entities that have no fixed and stable identities, but produce meaning by association, through dissemination, processing and sharing via online systems. (Rubinstein, 2018, p. 6)

While both humans and non-humans are engaged in the mechanisation of vision, the majority of images are now made by machines for other machines, with minimal human interaction. The displacement of the image and the human as the central protagonists of photographic practice challenges but also creates opportunities for new understandings of photographic practice.

Photography while seemingly everywhere and at all times, also acts as a critical agent in the ongoing mediations of western cultures. It acts as a critical component as it mediates social, cultural, technological and economical interactions and the maintenance of those relationships. Western culture is now a photographic information culture characterised by ubiquitous photography (Rubinstein & Sluis, 2008, p. 9). It is the torrent rather than the profusion of photographic images that epitomises contemporary photography practice. Predominantly networked software-driven forms of photography are distributed through integrations of digital processes of generation and distribution that provide the bulk of current photographic activity. Photography was once a human with a camera. It is now a camera with humans.

The emergence of machine-to-machine seeing has undergone rapid growth and has mostly gone unnoticed. No longer requiring human intervention or involvement, these invisible images operate as data within imaging systems, automatically generated information from sensors that is processed algorithmically. Often, no image is required. These machine vision operations surround us and permeate our lives, often unnoticed. The list includes and is not limited to: CCTV for security; body scanners and facial recognition at airports; analysis of grain quality for agriculture; automated inspection of product and packaging quality assurance in manufacturing; barcodes for consumption; image-based medical data (90 percent); autonomous vehicle operation, and so on. Every bottle of beer is photographed:

> In a fill-level inspection system at a brewery, each bottle of beer passes through an inspection sensor, which triggers a vision system to flash a strobe light and take a picture of the bottle. After acquiring the image and storing it in memory, vision software processes or analyzes it and issues a pass-fail response based on the fill level of the bottle. If the system detects an improperly filled bottle – a fail – it signals a diverter to reject the bottle. An operator can view rejected bottles and ongoing process statistics on a display. (Cognex Corporation, 2016, p. 3)

The photographic image in machine vision acts as a data object on computational networks. The industrialisation of vision, as predicted by Paul Virilio in *The Vision Machine* published in 1994, is realised: "Now that they are preparing the way for the *automation of perception*, for the innovation of artificial vision, delegating the analysis of objective reality to a machine" (1994, p. 59). As part of a mechanistic imaging system the requirement for the image to resemble the real is overridden by the suitability for the goals of the computational task at hand. Vision in this case is automated and embedded in computations of digital data, whose rendering as a recognisable image is often not a requirement. The photographic image is computational and, thus, programmable. What is now considered the "algorithmic image"

(Uricchio, 2011) is a set of instructions for its computation, regardless whether that be visible to humans or not. The photographic process is less a medium for inter-human communication, but one that facilitates human-to-machine, or machine-to-machine, communications through flows of images as computational data.

The automatisation of imaging brings with it concerns about the displacement of the human subject and the role of the human in the scenario of the image. The shifting of photographic processes from human-based, physical mechanical production to digital's distributed networks displaces the position of the observer. As Mitchell states, a "worldwide network of digital imaging systems is swiftly, silently constituting itself as the decentered subject's reconfigured eye" (W. J. Mitchell, 1994, pp. 276–277).

Jonathan Crary's book *Techniques of the Observer* provides a genealogy of perception, where he argues that functions of the human eye are being taken over by practices that are no longer necessarily related to the human optically perceived world (1992, p. 2). Crary tracks the shifting emphasis of the observer through historical analysis of perception or subjective vision. He argues that western traditions of observation have their basis in the camera obscura. The camera obscura defines the observer as individualised, "isolated, enclosed, and autonomous within its dark confines" (p. 39), a site for both the observation of empirical phenomena and for self-reflection. Within the camera obscura, the human observes the optical phenomenon transpiring as a spectator, with the projection of the image occurring irrespective of the observer's presence. The human and the apparatus of the camera obscura are separate, in that there is an impossibility of the human assuming the exact viewpoint of the camera obscura as this would inhibit the light's path.

Analogies between the camera obscura and the eye have been explored by Leonardo da Vinci (Veltman, 1986, p. 9), Giovanni Battista della Porta (Durbin, 1989, p. 74), and Rene Descartes, who famously in his *La dioptrique* (1637) advises his readers to conduct a demonstration involving "taking the dead eye of a newly dead person (or, failing that, the eye of an ox or some other large animal)" and using the extracted eye as the lens in the pinhole of a camera obscura (Crary, 1992, p. 47).

Later in the nineteenth century new modes of visual representation and perception emerged that broke with the centralised and fixed stance of the observer. The art movement of Impressionism offered a new mode of visual representation that reflected vision that was not "realistic" in nature. The use of unusual angles and framing, capturing of movement, depictions of a moment and emphasis on light evidence a relationship to the emergence of photography at the time. The first independent exhibition of Impressionist work was held in 1874 in the studio of Nadar, the legendary French photographer.

The perspectival point of view that had been developed with the aid of the camera obscura and optics in the Renaissance presented a single-eye, monocular version of vision. But in the early nineteenth century, optical instruments such as the thaumatrope, phenakistiscope, praxinoscope, zoetrope and particularly the stereoscope provided new optical experiences. These devices that generated subjective visual phenomena placed perception as an active role for the observer. They demonstrated optical experiences regardless of any image that might be portrayed through them, as they drew attention to the physical and psychological interactions between the human and the optical device. Human vision was no longer constrained to what was considered "real".

The photographic camera was fundamentally different from the camera obscura. Although the photographic camera has technological similarities to the camera obscura with its singular point of view, photography had separated and released the observer from the camera obscura. The human was no longer bound to view the optical phenomenon of the image created with a camera obscura from within its darkness. The photographic camera externalised its functions into a portable apparatus, one free of the constraints of the camera obscura and also with the potential to operate independently of the human observer.

As the image has become universally an algorithm operating as currency on a network, the photographic image has changed form. Photography acts as points on a network of imaging systems that has become predominantly detached from human eyes. Many of the processes and uses of photography are invisible as seamless integration into personal usage or as covert usage as mechanised operations. Both humans and non-humans appear to be engaged in the mechanisation of vision.

> Where is the spectator for a new form of machine-based vision that is designed for internal "algorithmic consumption"? The answer, of course, is that it is the machine itself that is its own "spectator," technician, and manager – a radical reflexivity that signals the eclipse of the passive external consuming viewer. (Tomas, 2013, p. 220)

Dziga Vertov's famous experimental film *The Man with a Movie Camera* (1929) explores an early version of mechanised vision. The film creates a vision of a city in the 1920s Soviet Union through the journey of one day, from morning to night. The film presents citizens interacting with the machinery of modern life in a highly dynamic way, using a wide range of innovative camera and editing techniques. The role of the camera and the cameraman are clearly explicit as characters within the film, as it presents the film's own production as content. The subject matter of the film explores

relationships of culture and emerging technological developments of the time, including film itself. The film provides an early example of a self-reflective mode in cinema. Vertov is announcing the blurring of boundaries between human and machine, illustrated by his use of the Camera/Eye analogy as a recurring theme within the film. *The Man with a Movie Camera* explores new relationships between representation and reality, as well as between human and machine.

John Tagg's essay Mindless Photography (2009) explores how emerging digital surveillance and imaging technologies are expanding photography beyond the realms of human vision. Tagg provides two examples of imaging where he indicates that visioning technologies are superseding Crary's modes of perception and heading towards "systematic disembodiment" (p. 25). The first example is automatic number plate recognition and processing technologies to monitor and administer a traffic congestion charge in London, introduced in 2003. The second example concerns the surveillance of space. Data captured by a radio telescope in June 2005 of a solar dust cloud is composited to generate a visualisation of, essentially, a non-visual phenomenon, one that took place a distance of around 420 light years from the Earth in 1585 (p. 21). Tagg describes these two examples as being symptomatic of the changing relationship between photography and the human. The traffic control system involves cameras, records, files and computers, but does not require a visual presentation that necessitates human involvement. The radio telescope image presents an image created through an automated process that visualises quantities of radiation rather than light. As the human is not located as the central protagonist or consumer of this imagery, photography's assumed position as "a site of human meanings" (p. 24) is questioned and fundamentally undermined. Tagg is troubled that the connection between the embodied human subject and the technical apparatus has been severed: "There is nothing being imaged that can touch the inner surface of the eye. There is nothing to be seen" (p. 24).

For him, photography that has lost its function as visual representation is devoid of the human and is, thus, mindless. In this essay, Tagg identifies the beginnings of significant developments occurring in photographic practice, but he is not enthralled by the direction in which it is heading.

Similarly to Vertov, the films of German filmmaker Harun Farocki (1944–2014) explore human and machine relations and the role of film in industrial society. Whereas Vertov's work adopted an optimistic, futuristic stance, Farocki's version of machine vision was darker. Farocki proposed that machine vision and algorithms had facilitated new systems of control through images. What he termed the "operational image" was a new species of images capable of functioning automatically and independently of human intervention. Farocki's installation and film *Eye/Machine* (2001) shows grainy, black and white video images from cameras mounted on missiles homing in on their targets in the Gulf War. The imagery originally functioned in the guidance systems of the missile, but also acts as documentation of the target's destruction. Here, the human is a passive observer in the vision machine's invisible processes of image interpretation, algorithmic decision-making and ultimate execution of its mission. Farocki states, "I called such pictures, made neither to entertain nor to inform, 'operative images.' These are images that do not represent an object, but rather are part of an operation" (2004). *Eye/Machine* exhibits the relationship between operational images produced for humans and autonomous imagery that is produced by and for machines controlled by algorithms. The film acknowledges a new regime of imaging systems that has little requirement for human intervention, images that are seeing for themselves and that might be able to exist without human agency (Tomas, 2013, p. 235).

American artist and geographer, Trevor Paglen (1974–) continues Farocki's ideas, exploring the less visible aspects of machine vision. Like Farocki, he also asserts imagery as being part of imaging systems and explores the

implications of images made by machines for other machines. Paglen is interested in what he considers the surveillance state of the twenty-first century, and particularly what might be called the "materiality of state secrecy". He describes the invisibility of machine vision that is not immediately accessible to humans as the exercise of power. His photographic works document clandestine military installations, top-secret government sites and classified spacecraft in Earth's orbit – sites that use automated imagery and algorithmic processing for the surveillance of humans. Seeking to challenge military, police and market operations, he creates imagery about invisible secrecy. His work brings attention to the fact that it is no longer just humans looking at imagery, but it is images now looking at us. And in an act of human defiance, he photographs them back (Paglen, 2019). To understand and to counter the power of machine vision, Paglen suggests that we need to unlearn how to see like humans, as, he claims, our "meat-eyes are far too inefficient to see what's going on anyway" (Paglen, 2014, p.13).

The image and human are no longer the central and only figure in both the world and the photographic universe. The photographic act no longer belongs to the photographer alone but is an ongoing collaborative process between both human and non-human actors distributed across digitised and decentralised networks. Just as the photographic camera once released the observer from within the camera obscura, photography as algorithms within a networked imaging system promotes a version of the photographic that is not limited to the human eye. The ubiquitous and autonomous nature of the predominant photographic practice does not replace common usage but expands the photographic realm. Similarly, this displacement of the centrality of the human does not replace the human but designates a shifting role for the human in relation to photographic practice. The displacement of the human as central provides an opportunity to reimagine photographic practice, not just within the digital realm but also indicating that fundamental transformations are taking place in the relationships between the human and the photographic.

3.3 Dematerialised

As the development of photographic technologies of automatisation and mechanisation increases, the more ambiguous the role of the human in the photographic process becomes. The goal of automatisation and mechanisation is to extend human capabilities, and thus the degree to which it is successful in reducing human involvement is a sign of its success. Photography, from its very conception as Fox Talbot's *Pencil of Nature*, is a mechanised, automated imaging system developed to free the human hand from the drawing of nature and provide the means by which nature is able to draw itself. Usually, photographers need cameras and cameras need photographers to create images. The photographic imaging system has always been one that involves both human and non-human elements in combination, with the boundaries between them becoming unclear.

This section explores concepts that address a world where the human is no longer its central actor. The ambiguities and consequences of a non-human-centred world and what that means for information are examined. Although photography is not addressed specifically, this section provides an overview of pertinent concepts that will inform a notion of photography as relationships of objects. The concept of photography as material information is expanded towards an exploration of informational theories. As a response to the impossibility of the separation of the binaries of information/communication and human/non-human, a survey of speculative realist and object-oriented ontology philosophies has been undertaken. These philosophies focus attention on how objects are understood and experienced in relation to the human and non-human. Exhaustive, indepth philosophical discussion of the intricacies and implications of these theories is not attempted here, but key ideas are considered in order to establish the framework for the following section, *3.4 Objects*, where these ideas are addressed more specifically in terms of photography.

Photography's automation has evolved from McLuhan's extensions of man as the lens as the eye and the photograph as memory, to its current algorithmic version where photography is an extension of a globalised networked mind. As such, the human is increasingly becoming displaced from being the central photographic protagonist to a participant, or node, on the network. There is, however, an inevitability that the mechanisations of photography would question the photographer's central status due to the impossibility of photography being uniquely, or completely, human.

Photography as automated and mechanised is numerical, computational and, essentially, information. The nature of computing is also evident in the binary nature of the smallest unit of photographic technology, either grain in analogue or pixel in digital, which both have numerical values. Photography as algorithmic impacts almost all aspects of photography as imaging systems in its production, distribution and consumption. As Geoffrey Batchen describes, "photography today is all about the reproduction and consumption, flow and exchange, maintenance and disruption, of data" (2002, p. 179) – photography as active data. In this domain, photography operates as digital information intrinsically indistinguishable from other types of information.

With photography regarded in this way as information, creating understandings of photography in this realm requires an examination of the mathematics of information – information as the organisation of matter that may be understood both mathematically and physically. This approach, which Kittler termed "information materialism", deals with the ways in which information and its communication merge into one dynamic system: "Information has been transformed into matter and matter into information" (Kittler, 1997, p. 126). Communication theories developed from the 1940s provide some effective models for understanding media.

According to Kittler, rather than the socially conditioned meaning and representation, communication as the physical distribution and channelling of electronic signals is the basis of media.

Michael Saler points out that before the Second World War the term "computers" referred to humans engaged in mathematical calculations (Saler, 2012). The Second World War saw the introduction of the first modern electronic computing machines. Alan Turing's famous Enigma machine not only helped win the Second World War, but also heralded the beginning of the computer age. His assertion that machines can think was grounded in the idea of intelligence being described through calculation rather than human consideration. The Turing Test became the standard for separating the thinking human from the thinking machine. Electronic information could operate independently of and be unchanged by the media in which it was produced, stored and communicated. "Thanks to electricity, communication could now take place regardless of impediments such as distance or embodiment" (Peters, 2012, p. 5). For the purposes of optimising calculation, Turing had disestablished the connection between human thinking and the human body.

In his paper A Mathematical Theory of Communication (1948), Claude Shannon argues to reduce communication to mathematical problems. Shannon approaches communication as an engineering problem, the goal to reduce information to signals that could be transmitted and interpreted effectively and without unambiguity. Shannon's information theory provides a quantitative and systematic description that regards information as a mathematical function of probabilities. Irrespective of the qualitative aspects of the information, it has no materiality, dimension or connection with the content: "[I]nformation must not be confused with meaning" (1948, p. 8). Information is to be regarded as a formula, a mathematical expression with no necessary bodily substance or presence.

Regarding information as a mathematical equation assumes an ability for it to function independently of context. The prevailing thought at the time considered human consciousness as informational patterns that might be materialised and dematerialised at will. The American literary critic N. Katherine Hayles questioned many of the assumptions of cybernetics and early information theory that information can be abstracted from its context. Hayles argues that information has lost its body (1999, p. 4) – as she puts it, the separation of information from materiality, as a perpetuation of the Cartesian mind and body distinction. According to Hayles, information operates in relation to its material conditions and practices, and there is dynamic interaction between the apparently disembodied information and the material substances that store and communicate it. Information must exist in some sort of medium. Hayles sought to re-emphasise the materiality of the human body in processing abstracted information, claiming, "bodies can never be made of information alone, no matter which side of the computer screen they are on" (1999, p. 246). Humans or post-humans, for Hayles, are information-processing machines, with information as "a kind of immaterial fluid that circulates effortlessly around the globe while still retaining the solidity of a reified concept" (p. 246).

Similar to Hayles, Friedrich Kittler also disputed the separation of information from the material systems that support it. Whereas Hayles seeks to draw information back towards the body, Kittler challenges the position that the human subject is central to the analysis of media. In Kittler's approach, there is no emphasis on the human body, as the separation between human and technology is indistinct: "The age of media … renders indistinguishable what is human and what is machine …" (Kittler, 1999, p. 146). In an approach considered media materialism, he prioritises the physical apparatus of media technologies. Kittler combines the information theories of Claude Shannon with the media analysis of Marshall McLuhan, in an approach that emphasises physical artefacts, structures and systems rather than the messages and meaning that they may communicate.

Kittler seeks methods to analyse emerging media culture in a way that responds to their technological circumstance as affordances in the ways that culture/knowledge is becoming created, stored and transmitted. Kittler asserts, "media determine our situation" (1999, p. xxxix), and so warrant analysis. He disputes the idea that media technologies are solely produced and constrained by social forces. As media technologies not only transport but process information, they increasingly influence cultures beyond human intervention and can operate independently from it. Technology's ability to significantly influence the circumstances of human existence reconfigures the balance of the relationship. This influence extends to compromise the capacity of humans to be independently critical of technology. Kittler argues that technological systems therefore replace the human as the centre of media analysis; "one should attempt to abandon the usual practice of conceiving of power as a function of so-called society, and, conversely, attempt to construct sociology from the chip's architectures" (Kittler, 1997, p. 162). For Kittler, "[m]achines are not just simple copies of human abilities" (2010, p. 119).

Kittler's approach acknowledges technology's ability to transform human experience. His investigation of the historical evolution of apparatuses and structures of technological media disputes the human as the central actor. Instead he considers the human as an element of the interconnecting and information objects and systems. For Kittler, the objective of the analysis of technological media is to document the circumstances of their evolution and to determine what they make possible in circumstances that are increasingly independent of human agency.

The ambiguities of human and non-human are explored by French philosopher Bruno Latour (1947–), who is known for his work exploring the dichotomy of the discursive and the material in construction of knowledge. In his book *We Have Never Been Modern* (2012), he presents

the disconnection between the dualities of nature and culture as no longer plausible: "Nature and Society are not two distinct poles, but one and the same production of successive states of societies-natures, of collectives" (2012, p. 139). He claims that history can no longer be confined to a human perspective but must now include a history of nature as well. Latour is also associated with actor–network theory, which views social and natural realms as shifting networks of interactions that prioritise neither human nor non-human actors (Latour, 2005). Latour argues that the production of scientific knowledge can be understood through the examination of the complex relationships amongst humans and a hugely diverse and wide range of entities.

What has been termed the "nonhuman turn" by Richard Grusin (2015) is a wide range of theoretical positions that are interested in reducing the emphasis of a human perspective in favour of the concern for non-human entities. Non-human is understood in terms of "animals, affectivity, bodies, organic and geophysical systems, materiality, or technologies" (Grusin, 2015, p. vii). It explores ways of humans being in the world through seeking to develop new perspectives on the relationships between humans and machines and nature. By decentring the human, the sentience or agency of the non-human world becomes apparent and is acknowledged. Non-human's relationship to objects and nature is, in essence, reduced to a relationship with matter, which includes humans. Unlike post-humanism, the non-human turn does not strive to privilege or transform humans to something beyond human, but sees both human and non-human as coequal collaborants. Jane Bennett describes her ideas about the connection between humans and things as "vital materialism"; to her the non-human turn can be understood as a "continuation of earlier attempts to depict a world populated not by active subjects and passive objects but by lively and essentially interactive materials, by bodies human and nonhuman" (Bennett, 2015, p. 224).

It is noteworthy that it is humans who are declaring the agency of non-human entities. A key issue with the non-human turn is that while its intentions are noble, the decentring of the human is an act of the human itself. As Mikhail Epstein points out, "[s]elf-decentering is another manifestation of what it is to be human" (Epstein, 2017). "Non-human" is a term that occurs within the realm of humanities, rather than the sciences.

In what has been termed "new materialism", the innate vitality of matter of which both human and non-human are composed is acknowledged. As a resistance to anthropocentrism, new materialism regards what we consider human agency to have resonance in the non-human, as a response to the self-absorbed human domination of the world. Jane Bennett's influential book in this field, *Vibrant Matter* (2010), established her as the leading thinker of vital materialism. Bennett argues that the human can no longer be regarded as central or the most important element of existence, and that agency is not limited to human beings. For her, things possess dynamic forces. She argues for a liveliness that is intrinsic to the materiality of the thing, formerly known as an object (2010, p. xvi). She defines "vitality" as the "capacity of things – edibles, commodities, storms, metals – not only to impede or block the will and designs of humans but also to act as quasi-agents or forces with trajectories, propensities, or tendencies of their own" (2010, p. viii). Bennett poses the concept of "thing-power", where non-human matter or things can exhibit living force, or "aliveness", created through relationships with humans. "Thing-power gestures toward the strange ability of ordinary, man-made items to exceed their status as objects and to manifest traces of independence or aliveness, constituting the outside of our own experience" (2010, p. xvi). Thing-power manifests itself in configurations of human and non-human, or "assemblages", the notion adopted from Deleuze and Guattari. Agency is generated in the collaboration of human and non-human or "working group" (2010, p. xvii). Bennett's work reassesses the traditional relationships between things and humans, and argues that agency is not exclusive to the realm of the human.

A new materialist view resists a dualism of human and nature. Similar to what Donna Haraway has called "naturecultures" (2003), which does not privilege either nature or culture, humans are no longer considered separate, active subjects exerting forces on passive objects. They are part of the ongoing process of materials. Latour refers to this as an ecology of elements. Humans are not distinct from things, as the human body and the mind consist of interactive materials, in varying states of being, "[a]ctive processes of materialization of which embodied humans are an integral part, rather than the monotonous repetitions of dead matter from which human subjects are apart (Coole & Frost, 2010, p. 8). Humans are matter.

If the dualisms – such as information and communication, nature and society, human and non-human – can no longer be upheld, what might this then allow for photographic practice? As separations between information and its material conditions and practices are blurred, then this would also determine that division between image and non-image is also unsustainable. What might a photographic practice then be that does not privilege human or non-human actors, but also does not exclude one or the other? What might a photographic practice be that reconfigures relationships between image and non-image? As a response, the theoretical approaches of speculative realism and object-oriented ontology will be examined here as they offer a mode to navigate these questions and deal directly with these issues. While acknowledging human agency, they resist anthropocentrism and explore human and non-human as interconnecting objects and systems. This will offer a strategy to understand what photographic practice might be in a world in which the human is no longer regarded as the central protagonist and how photography might be used to explore it.

Speculative realism and object-oriented ontology are philosophies that focus their attention on how objects are understood and experienced in relation to the human and non-human. Mostly influenced by the German

philosopher Martin Heidegger, this school of thought rejects an emphasis on a human-centred approach towards one that is concerned with objects. A central figure in the field is Graham Harman, who through his work with Heidegger's concept of "tool-analysis" from *Being and Time* (published in 1927), sought to dispute human, phenomenological relations with objects as critical to their existence. Objects have autonomy and are not reliant on human perception to exist independently. For Harman, "[t]he world is not the world as manifest to humans; to think a reality beyond our thinking is not nonsense, but obligatory" (2011b, p. 26).

Object-oriented ontology (OOO) argues that all objects, material and immaterial, human and non-human, even the real and imaginary, need to be regarded equally. Humans are no longer the centre of interest, but elements not privileged more or less than any other thing. Things are placed centre, but OOO contends that nothing has particular status; "everything exists equally – plumbers, cotton, bonobos, DVD players, and sandstone, for example" (Bogost, 2012, p. 6).

In what is termed by Manuel DeLanda as "flat ontology", the object is considered the basic ontological unit of existence. All objects carry the same non-hierarchical, ontological status. According to Harman, all things, whether physical or fictional, are equally objects. Latour calls this "irreduction", where the object is the fundamental component of existence: "Nothing can be reduced to anything else, nothing can be deduced from anything else, everything may be allied to everything else" (1993, p. 163). However, all things are objects and all objects equally exist; they do not necessarily exist equally, insofar as their ability to act on other objects (Bryant, Srnicek, & Harman, 2011, p. 5). OOO also maintains that objects exist independently from human perception, representations, judgements or subjectivity, and from each other. All object relations between human and non-human objects exist on an equal ontological standing.

To regard objects as both equal and independent, OOO takes issue with the connection between thought and being. In a correlationist's view, attributed to the philosophies of Immanuel Kant, it is argued that the mind determines reality. Humans and the world are inseparable, one never existing without the other, and anything outside of this is unknowable. An understanding of the world cannot be separated from the human mind and objects cannot exist without human ideas, thoughts and words. In his 2008 book *After Finitude*, Quentin Meillassoux describes correlation as "the idea according to which we only ever have access to the correlation between thinking and being, and never to either term considered apart from the other" (p. 5). A speculative realist approach critiques the assumption of a rigid connection between thought and being, and a human-centric, phenomenological view of the world is disputed. Objects exist independently of human perception, as the object can never be comprehended in its entirety. Things could be other than what we think they are.

Graham Harman describes that all objects are "withdrawn" from access. This describes the limitations of human perception that prevent humans from knowing or understanding an object in its entirety. Objects and humans are not wholly present to each other, and remain elusive and distant. Knowledge of an object, no matter how thorough, is never complete as the object is in itself. Our knowledge of the object is, simply, not the object. The object can never be equated with, or reduced to, our knowledge of it. Steven Shaviro discusses withdrawal, claiming that it is "nothing more (but nothing less) than the 'what-is-it-likeness,' or private interior, of a thing that is also outwardly public and available" (Shaviro, 2015, p. 28).

Harman holds that an object, either real or unreal, is a "unified thing despite its multitude of features" (Harman, 2011c, p. 7). Described as "undermining", things are not a collection of their smaller pieces; nor are they the collection of their qualities or properties, termed "overmining". A

thing is neither the pieces of which it is constituted nor the effects it has on exterior things (Harman, 2011b). Things are both more and less than the sum of their parts (Witmore, 2014).

The actor–network approach, which is also called "material-semiotic", offers a mode to consider how objects relate and interact with each other. In this approach, everything in the social and natural worlds are regarded as heterogeneous objects in a network of relations (Law, 2009). Objects have neither a substance nor an essence, but have specific and individual sets of relations with other things, which are defined by their effects and relationships. As all objects are not privileged in relation to each other, having the equivalent ontological value between things (material) and concepts (semiotic), they possess an equal amount of agency. Like the human beings with which objects are equated, objects have lives as actors that are continuously creating the effect of their relationships within networks. For Latour, everything is real insofar as it acts, and things exist if they have an effect on something else. An actor is what it "modifies, transforms, perturbs, or creates" (Harman, 2010, p. 185).

Similar to actor–network theory, assemblage theory provides a mode to view social complexity that endorses heterogeneity and fluidity. The term is most commonly attributed to Gilles Deleuze and Félix Guattari, who explore the concept of the assemblage in their book *A Thousand Plateaus* (1988), and has been continued to be developed by Manuel DeLanda. Rather than addressing social complexities through the analysis of social constructions or language-focused methods, assemblage thinking can be thought of as constellations of relations between heterogeneous entities that work together as observable consistencies. Deleuze and Parnet describe an assemblage as a "multiplicity which is made up of many heterogeneous terms and which establishes liaisons, relations between them" (Deleuze & Parnet, 2007, p. 69). The components of the assemblage are independent,

and have their own characteristics of material and expressive properties or a mix of the two. Through processes of stabilisation and destabilisation, termed "territorialization" and "deterritorialization", the consistency and coherence of an assemblage may, or may not, emerge. The components relate to become more than the sum of their parts, with an emergent unity of heterogeneous bodies in a consistency that becomes an assemblage.

Karen Barad's project of bridging the humanities and scientific theories provides a method to regarding the active reconfigurings of the world. As the human as centre of the social and physical universe becomes less tenable with developments in quantum physics and nanotechnology, the idea that the world of atoms and subatomic particles are a scaled down version of our physically perceptible world has been dismissed. Classical physics no longer applies. Objective reality is not relevant when objects may exist in multiple states, simultaneously. What humans consider to be non-human is not fixed or static. The matter from which both humans and non-humans are constructed exist as sets of dynamic and ongoing forces. Barad describes this as the dynamic reconfigurings of the world, through "specific agential practices/intra-actions/performances through which specific exclusionary boundaries are enacted" (Barad, 2003, p. 816). Through the lens of quantum physics, she likens matter to a performance of evolving and transformative states; "matter is substance in its intra-active becoming – not a thing, but a doing, a congealing of agency. Matter is a stabilizing and destabilizing process of iterative intra-activity" (2003, p. 822). Rather than humans acting upon matter, these intra-actions are a performance of both human and non-human matter, as agential actors in a world as it constantly comes into being.

Karen Barad's "intra-action", rather than interaction, furthermore, collapses the possibility of a rigid distinction between human and non-human realms. Any separation, or struggle, between organisms and machines

is irrelevant as the human and non-human are regarded as equal actors. From this standpoint, a duality of human and non-human photography is also not applicable. There then can be no photographic practice that is exclusively either human or non-human. As Flusser describes, "a new kind of function … in which human beings and apparatus merge into a unity" (2000, p. 27). With this unity, human vision is not replaced by seeing machines, but a distributed form of vision – a way of seeing the world with no particular privileged point of view, "the mutual intertwining and co-constitution of the organic and the machinic, the technical and the discursive, in the production of vision, and hence of the world" (Zylinska, 2015, p. 217). Photography may be considered a dynamic network of human and non-human actants, in a flux of becoming as a living system or cybernetic organism (Martinez, 2015). Photography as a fluid system in constant flow establishes with it the possibility of reconsidering the fundamental question as to what even counts as photographic. If we can regard objects, both human and non-human, as ontologically equal, then we may also consider that the components that formulate photographic configurations are also ripe for reassessment and renegotiation. An emphasis on understanding photography as simply as representational, or as technological modes, lacks possibilities that new and broader configurations may afford. To expand our notions of the photographic, it needs to be comprehended as a concert of interwoven intra-actions of both human and non-human technologies and practices that emerge as co-constituted visions of the world.

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3.4 Objects

Photography can be a tool to explore the world. Photography provides a way of looking at the world that incorporates both representation and mechanised reproduction simultaneously. As such it provides a valuable means not only to investigate the human world, but also to explore the world in which humans inhabit and operate in conjunction with other entities. In a view of the world that decentralises human agency, how might photography be used to explore a world in which the human is no longer regarded as the central protagonist? What could a non-anthropocentric photography be and what would it look like?

Speculative realist and object-oriented philosophies place things at the centre of existence and fundamentally reject an anthropocentric view of the world. The rejection of a human-centred approach to thinking about and acting in the world affects how objects are understood and experienced. These philosophies offer new ways of addressing photographic practice. Photography provides a site for the ontological exploration of objects, and a mode to experience the interrelations of objects. The particular characteristics of photography can be used to explore the world and interrelations between both human and non-human objects. Photography is distinct in its position as an object; it encounters other objects with claims of perceived impartiality, and the product of its interactions, the image, also exists autonomously as an object. An object-oriented sensibility opens up new spaces of photographic practice, as photography is used to explore the world as objects that appear to have access to how they relate both to humans and to each other.

This section explores photography in terms of speculative realist and object-oriented philosophies, and considers what part they may play in regard to photographic practice. It looks at how two main concepts associated with it – the rejection of correlation and the concept of flat ontologies – might allow wider interpretations of photography as practice. A rejection of correlationism suggests that there is more to the world than what humans can experience, and that photography might extend the phenomenological range of humans. The concept of flat ontologies offers an insight to how photography can be regarded in terms of the ways the hierarchies of human, camera and image objects are disputed in terms of being regarded as equal and as democratic. It asks, what does photography that assumes an object-oriented sensibility look like, and what might it allow?

This poses a contradiction and challenge for photography, which is primarily experienced as a human-centred process. It raises the question as to whether there ever can be a purely non-human photography, and if it did exist, would a human be able to recognise it as such. Is photography, as an object, able to relate to other objects outside of human experience, and, if so, can the human be aware of these interactions? Or, alternatively, it might well exist, before our very eyes as it were, and be made non-visible due to restrictive understandings of what, and when, is photography.

The tendency towards automated, algorithmic, mechanical manifestations of photographic practice is indicative of a greater societal trend towards displacement of the human as the central protagonist. But photography as commonly regarded – as the photographic image – is specifically reliant on human interaction and particularly representational processes of recognition and interpretation. In this form, photography is clearly human-centric and so would appear to be trapped inside the correlation question.

Correlation places the human in the world where things exist only in terms of the effects that they exert on humans. The world thus exists only in relation to human thought. This idea can be traced back to the philosophies of Immanuel Kant (1724–1804). Quentin Meillassoux describes correlation as "the idea according to which we only ever have access to the correlation between thinking and being, and never to either term considered apart from the other" (2008, p. 5). Graham Harman summarises Martin Heidegger's human-centred tool-analysis of correlation with his account of an anecdote of a hammer:

> 1. I cannot think of the hammer's being without thinking it. In other words, thinking of the hammer is a necessary condition for thinking it. …
>
> 2. Therefore, the hammer is no more than the being-thought of the hammer. (2009, p. 182)

Speculative realism critiques a world that privileges the human knowing and suggests that the world may well not be what it appears to be. Therefore, there exists the possibility of objects existing outside of the human ability to perceive or know them.

If some objects exist for us, and others are external to our knowing, then there is always more to them than we can know. We can never encounter them entirely. They withdraw as we are unable to access them fully and completely. If humans are unable to access objects fully, then objects are also unable to access other objects fully. As objects withdraw from knowing and each other, how they might relate or interact becomes an issue. Harman argues that objects are to be regarded as "existing in their own right, as autonomous from their relations with other things" (2011c, p. 69), and that access to things can only be indirect (p. 73). Not all of an object's properties are relevant to any given interaction.

If objects are autonomous and we cannot know them completely, how then would we know if and how objects interact? Timothy Morton argues that we are able to observe objects and their interactions through their aesthetic properties. This does not refer to human perception as such, but rather objects that assert an aesthetic influence on one another. He illustrates that how an object perceives is no different to how a human might encounter a shadow: "When the light-sensitive diode detects my shadow, it perceives in every meaningful sense" (2013, p. 35). For Morton, aesthetics and perception are causality, synonymous with aesthetics being symptoms of the interaction of objects. "The aesthetic dimension is the causal dimension" (p. 20).

Aesthetics play a crucial role in speculative realism and object-oriented ontology. In his book *The Quadruple Object* (2011c), Harman argues that there are no objects without qualities and no qualities without objects. In his alternative to a human-centred correlationist argument, he sets out a set of relationships between objects by mapping between the four poles of sensuous objects, sensuous qualities, real objects and sensual qualities. Without exploring these relationships in detail here, he describes what access we do have to objects is located through the tensions of the two axes of real vs. sensual and object vs. quality. Although objects are withdrawn and inaccessible to any direct relation, in human interactions with objects, the human also becomes an aesthetic object. Harman argues that art provides an example of this, and he agrees with art critic Michael Fried's famous critique of minimalism, where art is essentially "theatrical", an object consisting of both the physical artwork and its spectator interaction (Harman, 2018). For Harman, the theatrical is a requirement for the aesthetic as the artwork and its beholder fuse into another object (2020, pp. 174–175).

Although these modes describe being able to perceive objects interacting by their resultant aesthetics, objects will always withdraw as our access to them is limited by our human-centric view. Quentin Meillassoux describes

our limitations in an interview, where he declares, "we cannot access any form of the in-itself, because we are irremediably confined in our relation-to-the-world, without any means to verify whether the reality that is given to us corresponds to reality taken in itself, independently of our subjective link to it" (2012, p. 72). In the realm of photography, which usually requires a combination of human and non-human objects such as photographer, camera, image and its viewer, objects are also withheld by their context. Photography as a human-centred activity is enclosed within the correlation between thought and existence. Although photography may offer humans access to objects in specific modes, such as moments in time and representation, it leads to the question, can photography exist as an autonomous entity apart from human perception and interpretation? If objects are unknowable in their entirety to humans and each other, then what role might photography take in mediations between them. How might photography give an insight into how objects present themselves to one another, or is this bound within photography by representational systems.

The question is then if photography can operate as a site of encounter between the worlds of thought and being. Not only are photographic objects withdrawn, as we can never know an object in its totality, but the photographic creation process in itself draws attention to its own withdrawal. The human operates a camera object that, by addressing the chosen subject of its attention, creates a causal relation between the object and subject. The camera creates a photographic image that is clearly a representation of this encounter, which may reveal unintentional and unobserved aspects that suggest that the human is not always privy to all its goings on. In his book *Pencil of Nature* (1844), William Henry Fox Talbot describes his enthusiasm for details of which he was unaware at time of photographing, which became apparent in the photograph, describing them as being "unconsciously recorded" (Talbot, 1989). Walter Benjamin later adopted this idea of the optical unconscious (1935) to describe photographic

imagery that not only revealed previously unobserved elements, but also was able to uncover things that could not be seen with the human eye. Benjamin applied ideas derived from psychoanalysis to suggest that photography's optical unconscious was able to uncover an unseen Freudian inner world. Siegfried Kracauer also asserted that the camera can see the extraordinary and that photography reveals "blind spots of the mind" (1960, p. 53). For him, photography goes beyond the limits of human sight, and has the ability to represent what he calls the "[p]henomena overwhelming consciousness": "Only the camera is able to represent them without distortion" (p. 57). André Bazin recognises photography's speculative encounter with an object, carrying within it some unseen dimension that exceeds its representational qualities. Bazin compares the photograph to the psychology of relics and souvenirs, such as the Holy Shroud of Turin, arguing that "photography enjoys a certain advantage in virtue of this transference of reality from the thing to its reproduction" (1960, p. 8). He adds, "photography actually contributes something to the order of natural creation instead of providing a substitute for it" (p. 8). For these historical figures, photography provided a mode to extend vision beyond the limitations of human sight, suggesting that there was an unseen visual realm that was only made visible through photography.

The advent of photography revolutionised perception and provided a critical tool in the exploration of new visual realms beyond human vision. The specific technological characteristics of photography allow the visual compression of time and space by means of optics and photosensitive recording surfaces. Objects that were once invisible to the naked eye were now the subjects of documentation. The application of optical lenses allowed the detailed observation of previously unseen micro and astronomical worlds, while photographic recording media allowed for temporal characteristics of photography to display unique visual phenomena enabled through such capabilities as long exposures, high-speed and time-lapse. Most

photography presents a combination of these elements to provide its optical illusory effects. These forms of photographic practice utilise the particular characteristics of photography to extend and augment the realm of human vision. Uncovering much that was previously invisible to human sight led to the assumption that there would be much more that was as yet undetected that was possible to be made visible.

Spirit photography is a photographic genre that offers a useful site of exploration of the realm beyond the limits of human sight, and explores the optical unconscious between mind and matter. This form of photography captures worlds beyond sight and exposes a supernatural world, inaccessible to the human. The emergence of spirit photography coincided with the rise of spiritualism, which was popular from the 1840s until the 1920s. The spiritualists held the belief that the spirits of the dead exist and are both able and willing to communicate with the living. The emphasis for them was on providing evidence for the existence of spirits, and their existence would be provable through scientific observation and visual documentation. Photography suited the aims that the spirit world could be captured in a visual form. Photography had provided a successful medium for illustrating what the eye could not see, and brought to view what was previously hidden. It seemed feasible that it would be able to capture the worlds of ghosts and spirits visually.

The most well-known of the American spirit photographers was William H. Mumler, who in the 1860s gained notoriety by making portraits that appeared to display a ghost-like figure behind the sitter. These images were proven to be no more than double exposures and Mumler was exposed as a fraud. The spiritualists argued that it was the spirits rather than the deceptive photographer who were using photography to communicate with the living. John Taylor quotes G. H. Wells, "[t]he figures that occur in these,

when not produced by any human agency, may be spiritual of origin" (1894, p. 125), that the "'intelligence' appears to clothe itself with matter capable of being perceived by us … for the purposes of recognition" (p. 126).

The use of photography to document a metaphysical presence that was previously outside human comprehension, but generated from within the human mind, is demonstrated in what is known as "thought photography". This genre of photography explores the ability to transfer images from a human mind to photographic film using psychic powers. This usually involves the photographer "projecting" thought images onto light-sensitive materials. Such psychic photographic practitioners as Tomokichi Fukurai, Eva Carrière, Ted Serios and Masuaki Kiyota and Uri Geller attempted to create physical imagery that originated in their thoughts. Each one of them, however, invariably failed to prove the authenticity of their images and their credibility was critiqued by the scientific community. Although the imagery produced by thought photography does not attempt to demonstrate unseen, object-to-object interaction, it does, however, explore modes of speculative mind-machine interfaces.

Hippolyte Baraduc believed that the substance of thought, or "mental activity", could be caught photographically. Unlike the other thought photographers mentioned, Baraduc's intention was to use photography to record emotive thoughts and feelings, rather than projected images. Believing that the human soul projected itself into space, he invented a machine he called the Biometer, which measured the invisible "life force". In 1907 he famously photographed his wife twenty minutes after her death to create an image that displays three cloud-like forms near her body. Baraduc believed that this was a photograph of her soul leaving her body.

The resulting images in these cases attempted to provide visual evidence of object interactions between unknowable forces and the camera, which are invisible to human experience. By making the invisible visible, thought and spirit photography highlight the optical unconscious, where invisible worlds are made apparent, suggesting that there are greater unexplored possible realms. These works are both fictional and speculative, as almost all of this photography is conventionally proven to be untrue.

Whether these images are factual or the spirits or emanations recorded by the camera are in fact what their makers claim they are does not diminish their value as photographic objects. It is the playful speculative visualisation of possible unknowns that provides the photographic interest here. Tom Gunning argues that a requirement for photographic indexicality misunderstands the human photographic experience; the photograph thrives on contradiction. In his essay What's the Point of an Index? or, Faking Photographs (2004), he maintains that the photographs exceed the functions of a sign and that our fascination of visual illusion is as relevant as indexicality (p. 45).

From a speculative realist point of view, living and non-living and fictional and non-fictional things are all equally objects. As Harman asserts, "[r]eality does not matter: mountains are no more objects than hallucinated mountains" (2010). The image's scientific validity does not diminish its status or value as a photographic object. Photographs of the supernatural offer an imagined, hypothetical view into the interactions between the spirit object and the camera. Whether these images portray an interaction between the spirit object and the camera object is unknowable. All imagery is made by and for humans and, as such, it does not circumvent the limits of correlationism. The imagery is produced and viewed through object and human interactions. Spirit and thought photography offer humans a partial glimpse into the withdrawn worlds of object interactions, but they remain sites of human experience of objects, as photographic objects.

Photography is a human-centric practice. If an autonomous form of photography, as we know it, is to exist, then it is either unknowable or reveals itself to us in unrecognised or unnoticed forms. If we were to seek an example of an autonomous, non-human form of photography, we might look to instances of effects of light that exist externally to the human realm. Take the example of an apple as photographed by Yanai Toister (2012). A leaf has grown close to the apple, and by inhibiting an area of light it has left a difference in colouration in the pigment on the skin of the apple. In essence, the leaf has left its shadow on the apple. Although this is not an image in the conventional sense, the phenomenon is both *photo* and *graphic*, a graphical description of a light trace. To claim this is a photographic image is to issue a challenge to conventional understandings of what is and is not photography. Its resemblance to the practice of creating photographic photograms is undeniable. As this *photo-graphic* event may occur irrespective of human involvement or appreciation, it can be determined that this is indeed an example of non-human photography. Then, a quest for a non-human-centric photography would question what might be considered photography. For relations to be reassessed through photographic practice, for both human and non-human entities, the ontology of photography must expand along with its conceptual horizons. An apple may well be a photograph.

The other main concept associated with speculative realism and object-oriented philosophies related to this investigation is that of flat ontologies. The term "flat ontology" was introduced by Levi Bryant in his book *The Democracy of Object*s (2011). Bryant does not claim that all objects are equal, but rather that all objects have the same ontological status, or that they are all equally objects. Ian Bogost maintains the photographic works of Stephen Shore and Garry Winogrand demonstrate a flat ontological approach to image-making (2012), arguing that it presents itself as an approach or style rather than something that might be inherent to photographic practice itself. Photography's claims of being a mechanical recording medium may well

make it suited to explore and document, as Timothy Morton puts it, "[w]hat would a truly democratic encounter between truly equal beings look like" (Morton, 2010, p. 7). What might a photography that adopts a flat ontological approach look like and how would we be able to recognise it?

If all objects are to have the same ontological status, then the challenge is to photograph in a way that presents them as equal entities. Photography in its documentary mode, with its claims of objectivity, provides a suitable format to address objects with impartiality. All photographs are inherently documents, but documentary photography as a genre is well established, being used as evidence in such instances as police mugshots, and in early social commentaries such as those by Jacob A. Riis and Lewis Hine (as well as many others). The idea of the photograph as providing documentary evidence with authenticity is well established; but, at the same time, this is also well established to be an unsustainable argument. As the photographer Jeff Wall claims, there are two prominent myths about photography: "The myth that it tells the truth, and the myth that it doesn't" (Edwards, 2006, p. 117). Photography in its documentary mode is democratic in nature and demonstrates a particular sensibility towards its subject matter, one that endeavours to regard things equally. This egalitarian stance would lend itself as an appropriate approach for an object-oriented photography as it is one that allows the photographer to regard all objects equally, portraying them as equally objects.

Eugène Atget was an early pioneer of documentary photography who is well known for his haunting photographs of old Paris. Atget sought to document a version of Paris that was disappearing due to modernisation. The intention of his photographic work was for a service of supplying documents for artists, images to be used as references for artists, painters and architects. His subject matter included buildings, street scenes, monuments, trees and, famously, the gardens at Versailles. He produced

practical, utilitarian images, which Molly Nesbit describes as "non-aesthetic" (1992). Atget resisted artistic recognition for his work, claiming that "[t] hese are simply documents I make". Atget's themes of technologies and the changing world resonated with Walter Benjamin, who compared Atget's images with those of the scene of a crime (1972). For Benjamin, Atget liberates the object from the aura (1972, p. 20). "He seeks the forgotten and the forsaken, and hence such pictures are directed against the exotic, ostentatious, romantic sound of city names; they suck the aura out of reality like water from a sinking ship" (1972, p. 20). Atget's approach resisted the heroic; no dramatic angles, subjects or lighting. In his attempts to create factual, technically useful renderings of a disappearing Paris, he suspends his own artistic tendencies so as not to imbue the images with personal, subjective significance. Atget was a documentary photographer, as he attempted to create independent documents of his subjects not necessarily co-opt them as characters in a personal narrative.

Hugh McCabe discusses the eclectic work of William Eggleston, whose unexpected vision draws attention to objects in moments of everyday life that would largely go unnoticed. Using Heidegger's terminology, McCabe claims, "Eggleston's photographs make things *present-at-hand* for us, things that were previously were *ready-to-hand*" (2013, p. 39). Eggleston is drawing our attention to the previously unnoticed through the act of photographically pointing it out. McCabe continues that the world is populated with unnoticed objects that may have an independent reality outside of our experience of them. Eggleston's work points to seemingly random objects and elevates their status by identifying them as objects of value, by choosing to photograph them. One of Eggleston's series where he explores his snapshot aesthetic is appropriately entitled *The Democratic Forest* (1989). In the BBC documentary *The Colourful Mr Eggleston* (2009), the photographer Martin Parr describes Eggleston's work as "about photographing democratically and photographing nothing and

making it interesting" (Cocker, 2009). Making something that is "nothing" "interesting" implies hierarchical values. The levelling of all objects includes persons; to be of similar and equal ontological value may express an interest for the democracy of objects, but contrarily, these selections, moments and photographs are made for and by the very much human William Eggleston.

Photography in this documentary mode can be described as ontographic. Ian Bogost describes ontography as a general "inscriptive strategy … that uncovers the repleteness of units and their interobjectivity" (2012, p. 38). Ontography offers a "way of looking" that explores the relationships between things without categorisation or narrative. Bogost uses the example of a technical, exploded-view diagram that shows both independent objects, which, while grouped together, indicate their interrelatedness (2012, p. 52). Ontography is not an effort to create an ontology, but a method to provide descriptions of the relations of objects without necessarily offering an explanation of those relationships. William Eggleston's famous 2002 book *Guide* demonstrates this as a collection of images of seemingly random objects, people, places and events, with little to suggest any particular singular or unifying theme, other than what the title might suggest. Bogost claims, "[a]n ontograph records the presence of many potential unit operations, a profusion of particular perspectives on a particular set of things" (2012, p. 52). The ambiguity, or the withdrawn aspect, of the images and their relations to each other in Eggleston's *Guide* is the artwork. The book is a heterogeneous configuration of images that presents diversity as its unifying factor.

The works of photography with an object-oriented sensibility present objects as a visual litany. So-called Latour litanies are lists of apparently random and previously unrelated objects, and are common in object-oriented literature. Although litanies are not particular to Latour, Ian Bogost designated that name to describe the lists that Latour is particularly

fond of creating – such as, "a storm, a rat, a rock, a lake, a lion, a child, a worker, a gene, a slave, the unconscious, a virus" (Latour, 1993, p. 192). Whereas Latour's lists describe objects as a set of relations, object-oriented philosophy claims that the relation of humans to objects is no different from the interaction of objects with each other. The creation of lists of miscellaneous objects seeks to illustrate the claims of flat ontology that all objects are all equally objects. These catalogues of juxtaposed objects resist human-centred narratives and pose heterogeneous groupings to illustrate the ontological equivalence between them. Ian Bogost created an online software version that he called the Latour Litanizer (2009), which generates random lists of objects drawn from Wikipedia. The rhetoric of lists presents objects without hierarchy, sequence or order. The collections draw attention to the heterogeneity of objects as being representative of the nature of all relations, of all objects.

Not all collections or series of images immediately generate a Latour litany, but series that even unintentionally explored the world in this mode may well do. Paul Caplan describes Robert Frank's influential 1958 book *The Americans* as "ontologically flat, democratic – present but distinct and withdrawn" (2013, p. 152). The book, with an introduction written by Beat Generation poet Jack Kerouac, is a collection of images created on a road-movie-style journey across America. The book explores a diversity of people in America – multi-racial, rich and poor, country and city – in a diversity of locations – cars, parks, diners, streets and so on. Essentially, this is a democratic vision of America, but one where objects, such as empty chairs, buildings, TV sets, flags and diverse objects, play an important part. Caplan maintains this book represents an ontologically flat world, one where Frank is also an actant and there are only objects, reconnecting within other objects: "A Latour litany of human, nonhuman and unhuman objects, vibrant, doing things in the world, material" (p. 153). With its dark vision, *The Americans* influenced documentary photography as it acknowledged

and introduced the maker into the narrative. Although it appears to be a collection of random encounters, there is a deliberate structure and what Frank called a "distinct and intense order" (National Gallery of Art, n.d.) to the imagery. *The Americans* is representative of what a democratic vision was in the era in which it was made, but as a series of images, contained in a book, Frank clearly creates a coherent and somewhat melancholic narrative from his trip across America. This demonstrates that flat ontologies as described through a litany of images remains problematic; groupings of images, even intended as independent objects, will invariably imply relationships.

Ian Bogost cites the photography of Stephen Shore as photography in an ontographic mode (2012, p. 52). Shore's choice of seemingly mundane subject matter combined with the technicalities of using a large-format camera create imagery that appears both incidental and monumental. In his *American Surfaces* series (1972) – another road trip – he creates a visual diary of meals, people, televisions, motel rooms, towns that he encountered on a trip to Amarillo, Texas. The series displays a snapshot aesthetic with no apparent structure, order, hierarchy or narrative, and is a collection of apparently unrelated objects. For Bogost, Shore's photographs catalogue the way things *exist* in a given situation (2012, p. 55), but Shore's intentions of his photographic work are, however, specifically human-centric. He claims that he wanted to share the experience of perception by creating screenshots of his field of vision. He sought to create a cultural picture. The series acts as a mode for the photographer to impose an order on a non-human world. Although the imagery gives the appearance of a democratic view where all objects may be considered as equal, this ignores the fact that this process has been mediated by a human with an apparatus. The objects photographed are withdrawn, in that they are less accessible as they are no longer present. Shore's work gives the appearance of objects that have some form of agency by the status of them being photographed. It remains, however, difficult

to regard Shore's work as a demonstration of a flat ontology, other than applying a more democratic version of vision. The images demonstrate that objects are indeed objects.

Considering photography from an object-oriented viewpoint offers new perspectives on image, image-making and the wide range of photographic practices. The photographers discussed above display an approach to photography that exhibits characteristics of an object-oriented sensibility, such as a democratic approach to image-making. The discussion of these practitioners and their works has remained within the realms of the traditional discourses of representation that prevail within photographic practice. Photographic practice is a vast and complex domain of objects that can be seen from an object-oriented perspective as objects existing independently, autonomous from their relations with other things (Harman, 2011c, p. 69). These photographic objects interrelate, exceeding their relations to form other autonomous objects (Harman, 2020, pp. 174–175). This is not referring to the undermining that Harman criticises, that states objects are not a collection of their smaller parts. For Harman, an object is what "is or seems to be one thing" (2010, p. 148). For object-oriented ontologies, all objects are in play, and as photography is an object in itself, it too lends itself to broader explorations of what object interrelations might offer.

In his 2013 thesis *JPEG: The quadruple object,* Paul Caplan explores an interpretation of object-oriented photography. Rather than focusing on the photographic image as the central photographic object, Caplan uses photography as a way of exploring objects. He applies Timothy Morton's concept of a "mesh", with "no absolute centre or edge" (2010, p. 29), to describe photography as a mesh of human and unhuman objects. His mesh expands his scope of photography to include the interrelated material networks of software and hardware components that facilitate digital photography. He regards these elements as being in themselves autonomous

objects. Discussing the work of photographer Sally Mann as illustrating the connection of objects, he describes her as "co-present as an object" and her work as a "photograph with objects, by an object" (Caplan, 2013, p. 71). Instead of focusing his attention on the representational image, he identifies the photographic image file format JPEG as a photographic object. Caplan uses Harman's framework of a quadruple object to explore the JPEG as exceeding its relations exploring its position "within the distributed, governmental scopic regime via an analysis of Facebook's Timeline, tagging and Haystack systems" (p. 3). He assesses the JPEG as an object in terms of qualities, time, space, materiality and more. This work gives an indication of how photographic practice may be regarded as a mesh of objects in terms of a flat ontology of objects. Caplan's application of object-oriented concepts to photographic practice presents a method of photographic practice that makes it available for reconfiguration.

Reassessing photographic practice through the view of flat ontologies offers opportunities to reconsider photography by reconfiguring components of photography. Through the examination of cultural and technological hierarchies that are evident within photographic practice and challenging their structures, other speculative modes can be proposed. One of the most prevalent photographic objects, the image, is prioritised as it is considered the aesthetic, human interface of photographic practice. A flat ontology of photography would not only deprioritise the image, but also re-emphasise other components and their configurations to regard them equally as objects within the photographic realm. Imageless photographic practices already occur regularly in forms such as astronomical and machine vision genres of photographic practice, but these remain marginalised. Object-oriented photography challenges traditional ontological hierarchies, disputing the dominant discourses of representation and relationality that prevail within

photographic practice. Photography as seen through an object-oriented lens will allow photography permutations that not only do not centre on the image but will extend a democracy of objects across a wide range of components.

Photography provides a site for the examination of the rejection of correlationism as associated with an object-oriented approach. As photography is primarily a human endeavour it would appear to offer limited scope in the exploration of whether objects can exist outside of human experience. Although photography operates in relation to human perception, it can only suggest the possibility of non-human interrelations. Photography is well suited to explore these interactions as aesthetic events, traces left by otherwise invisible objects acting on one another. Its uncanny ability to generate what is called the "unseen", or the "optical unconscious", allows speculative worlds to be created in terms of the supernatural of spirit and thought photography. It remains to be seen if photography could exist as an independent object, external to the human realm of interpretations and representations. The photograph can be regarded as documentation of how the camera experiences the world and other objects that it encounters in it. It may well be an accurate portrayal of that interrelation, but through our observation it withdraws further, becoming an image object interrelating with a human object.

Photography remains a valuable mode to explore how objects are understood and experienced in the world. Nevertheless, it remains unavoidable that it is a human-centric activity, and so efforts to establish the existence of objects outside of a human-centred universe remain speculative. Photography is always an essentially self-reflective practice in which humans are at the centre of understanding. An object-oriented approach to photography is one that displays a democratic sensibility and regards all objects equally. It would not only give objects in front of and behind the lens equal ontological standing, but expand to democratise the greater

contexts that surround photographic practice. Photography that embraces a flat ontology would not necessarily prioritise any particular object over another, and although it need not reject the human as object, it would indicate the possibilities of reconfigurations that emphasise unexpected elements in unconventional arrangements. Including the reduction of an emphasis on the image.This section sought to explore how speculative realist and object-oriented philosophies might broaden the conceptual range for photography. It sets the scene for the exploration of these concepts and what they might offer in practical terms for photographic practice.

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3.5 A Democratic Photography

What could a democratic photography look like? In this section, concepts of flat ontology that can open up new spaces for photographic practice are explored, posing a material democracy of photographic objects. This approach provides a mode to examine photographic constellations of interrelated objects as equal objects that do not necessarily prioritise or privilege any particular aspect, including the image, over another. It questions specific material relations of conventional photography through challenging existing object hierarchies and puts forward a renegotiation of relations between photographic objects. This will not only enable a method of reassessing existing works but suggest strategies for new possibilities for photographic configurations.

Flat ontologies, as argued by Levi Bryant, claims, first, that humans are amongst beings and not at the centre. Second, objects exist in their own right regardless of whether any other object, which includes humans, relates to them (2011, p. 249). In the rejection of what has been termed "anthropocentrism", where the human is considered to be the centre of existence, the privileging or prioritising of one object over another is no longer sustainable. The term "flat ontology" is usually attributed to the work of Manuel DeLanda:

> While an ontology based on relations between general types and particular instances is hierarchical, each level representing a different ontological category (organism, species, genera), an approach in terms of interacting parts and emergent wholes leads to a flat ontology, one made exclusively of unique, singular individuals, differing in spatio-temporal scale but not in ontological status. (2002, p. 47)

A democratic and egalitarian approach, a flat ontology holds the position that all objects are singular with no privilege between entities and that no object has a greater or less ontological standing than any other. Objects are not defined by their relations to humans or other objects and no object is just a construction of other objects. As a consequence, Ray Brassier argues, this implies that there are no degrees of being, and so there is "no distinction between being and non-being, or between reality and appearance" (2015, p. 67). A flat ontology is ontological egalitarianism. Although all beings are not the same, and they may not necessarily contribute equally, they are all objects that exist equally.

What does this mean for photographic practice? What could an encounter with democratic photographic objects be? What could an ontologically flat photography be, and what might it look like? If all things are equivalent, this suggests that existing hierarchies are open for dispute and conventional relations between objects may be renegotiated. Photography, with its well-established practices, privileges some modes of practice over others, but a photography that embraces a flat ontology would not necessarily prioritise any particular object or form of practice. Although it would regard the human as an equal object, it would allow for unconventional reconfigurations of objects and practices.

In section 3.4, *Objects*, ideas of photography viewed through the lens of object-oriented ontology were discussed. The content of imagery analysed was regarded as displaying a democratic sensibility or point of view. The work of legacy photographers Stephen Shore and Robert Frank have been examined by Ian Bogost and Paul Caplan. They both refer to these photographers' work as operating in the mode of a "Latour litany" (Bogost, 2012, p. 49; Caplan, 2013, p. 153). For them, the sensitivity of the photographers, their selection of subject matter and methods of display demonstrate a particular democratic empathy that might be considered

corresponding with a non-human point of view. Nevertheless, the works of these photographers are celebrated very much for their personal, human vision. The works can only imply an objectivity, which ultimately eludes them.

An object-oriented version of photography would democratically regard a photograph of any object as equal to any photograph of any other object. The aesthetic qualities of the image visual content are not less or more equal than the aesthetic qualities of a photographic print, screen or projection. It would also regard any photograph as an object equal to any other object, photographic or not.

If we choose to no longer privilege the image, then the practices involved around its creation are also of equivalent ontological value. A camera is no less photographic than an image. Meta-photography, which explores its own creation in a self-reflective mode, provides an example of an ontologically flat photography. The process of its own creation becomes the content for the work. Gottfried Jäger, in his book *Concrete Photography/Konkrete Fotografie* (2005), claims that the "photographic means thus become the object of photography, and the medium itself the object" (Jäger et al., 2005, p. 413). By regarding photographic objects democratically, the expanding field of photography will include any associated medium or practice as ontologically equivalent to any image object.

A flat ontology opens up new spaces for photographic practice. If we democratise all photographic objects this decouples them from the representational imperative to one of practice. A photographic democracy of objects then does not necessarily emphasise any particular aspect of the photographic practice. In viewing photographic practice through the lens of a non-hierarchical flat ontology all aspects of its practice may be deemed

equal. Photography, in this material sense, may be considered in terms of photographic practice that would not only rethink the objects of photography, but expand the range of possibilities of what those objects may be.

A flat ontology does not remove photography from being a super-container for photographic objects. Object-oriented philosophies claim relations between objects where objects are both independent and yet simultaneously part of another object. Harman argues that "we have a universe made up of objects wrapped in objects wrapped in objects wrapped in objects", such that, "every object is both a substance and a complex of relations" (2011a, p. 85). Looking at photography through this lens we can say that it is, unsurprisingly, both an object and, simultaneously, a network of interrelated objects. Bryant, disputing the world's existence, argues that it must be "composed of all other objects as sub-multiples that form a harmonious whole consisting of beings as complementary and inter-locking parts" (2011, p. 271). Whether or not the objects of photography are independent, they do relate, to each other and obviously to other non-photographic objects – whatever they might be. A flat ontological view would then hold an equivalence between objects that may support or dispute both conventional and abstract photographic formations.

Photographic objects that relate are gathered in arrangements or assemblages. The dynamics of any arrangement, photographical or otherwise, can be usefully examined using actor–network approach or assemblage theories, as these both embrace a flat ontological approach of fluid, non-hierarchical formations of heterogeneous objects. Assemblage theory is associated with the work of Gilles Deleuze and Félix Guattari, and further developed by Manuel DeLanda. This concept describes an assemblage as the establishment of relationships between components of diverse nature and origins to form an arrangement. Deleuze and Guattari use the term "constellation", referring to assemblage.

> It is a multiplicity which is made up of many heterogeneous terms and which establishes liaisons, relations between them, across ages, sexes and reigns – different natures. Thus, the assemblage's only unity is that of a co-functioning: it is a symbiosis, a "sympathy". It is never filiations which are important, but alliances, alloys; these are not successions, lines of descent, but contagions, epidemics, the wind. (Deleuze & Parnet, 2007, p. 69)

An assemblage consists of an association of independent objects, which does not rule them out of being detached and reconstituted into any other assemblage at any time or even being simultaneously part of multiple. Through processes of stabilisation and destabilisation, consistency or the coherence of an assemblage may, or may not, emerge. The relationships of the components can become more than the sum of their parts with an emergent unity of the heterogeneous objects.

An assemblage, in this sense, describes relations between objects that are dynamic, fluid and have multiple configurations – "living, throbbing confederations", as Jane Bennett describes them (2010, p. 23). The emphasis on them being ontologically flat means that they can emerge as both actual and imaginary. Objects converge artificially or naturally, to create imaginative alliances from a multitude of heterogeneous elements. As Deleuze and Guattari argue, "[a]n assemblage is, in this sense, a veritable invention" (1988, p. 406).

Following Deleuze and Guattari, assemblages connect to one another to become what they call "machines". For them, "[e]verything is a machine" (1983, p. 9). Abstract machines and assemblages are complementary and present in each other. The abstract machine is like the diagram of an assemblage (1988, p. 100). These are abstract machines, without substance or form, that resist linguistic forms of representation and are closer to the realm of engineering diagrams. In their book *A Thousand Plateaus* (1988)

they give the example of a book. As an assemblage, the book is itself only in connection with other assemblages. They do not seek to understand it or to examine what it may signify, but to ask how it connects and converges with other assemblages. For them there is no difference between what a book talks about and how it is made. A book itself is a machine (1988, p. 4).

Although abstract machines have no being in themselves, they construct new ways of being. They refer to points of creation or potential. Or rather, ways of *becoming*, in which abstract machines remap and reimagine configurations of language, culture, time and space. "The diagrammatic or abstract machine does not function to represent, even something real, but rather constructs a real that is yet to come, a new type of reality" (1988, p. 142).

Photographic configurations of social and technological components are assemblages, and are indeed veritable inventions. The heterogeneous, dynamic, fluid nature of photographic configurations is clearly demonstrated as both the historical and ongoing evolutions of photographies. The recognised technological components of photography – the camera obscura, optics and light-sensitive surfaces – form the basis of many interpretations of photographic assemblages. A flat ontological approach would allow formations not limited to these and would open for any combination of these components to be regarded ontologically equal. It would also allow for the exclusion of one or more of these components. Social, cultural and any other factors are inseparable from these assemblages, and having no designated or assigned hierarchy they act similarly. An approach that promotes diversity and heterogeneity will resist the inflexible categorisations, classifications, dogmatic approaches and dominant narratives of photographies and their histories. A flat ontology of photography is one where configurations are available for imaginative renegotiation and will provide new modes for analysis and creation for photographic practice.

Such a democratic approach to photography would enable us to view the conventional photographic camera as an example of a fluid assemblage. If one were to dismantle and reassemble the camera in an unconventional or even incorrect manner, it would remain a photographic object. Irrespective of traditional functionality, even if its conventional purpose of producing images was to be compromised, in a reconfiguration of its components it remains a photographic apparatus. The introduction, rearrangement, addition and/or exclusion of components has little bearing on its status as a photographic apparatus. What is or is not a photographic apparatus is an open question.

In her writing on sculpture, Rosalind Krauss describes its expanded field as "generated by problematizing the set of oppositions" (1979, p. 38). She positions sculpture as relative to a "combination of exclusions," contrasting it in relation to landscape, architecture, not-landscape and not-architecture. Sculpture is not defined by the things that it is not, but one term in a field of possibilities (1979, p. 38). In response, George Baker describes how consistently photography has been addressed, "through the rhetoric of oppositional thinking" (2005, p. 124) and argues that photography needs to be removed from contest between oppositional extremes. Rather than positioning photography within a set of oppositions of what it may or may not be, it is more productive to consider it as a wider, expanded field of possible practices.

The huge variations of photographic assemblages make static definitions unsustainable. It is clear that there were just as many assemblages of photography, as there are instances of cameras and images. By keeping concepts of photography as wide open as possible, heterogeneous and resisting hierarchy, assumptions about what it may and can be are challenged. By resisting the static definitions of photography, it becomes a labyrinth of countless variations. The French film theorist André Bazin

asked “what is cinema?” (1967); his response was one of “where?” or “when?” is cinema. Does photography then become a question of *where* and *when*, rather than *what*, is photography?

Beauty

A photographic assemblage, however, may not necessarily resemble conventional photographic apparatus in the traditional sense of the term. A democracy of photographic objects that does not prioritise conventional constructions would allow for abstract and unorthodox alliances. It is one that does not privilege conventional human notions of image production, but views its constituent components through the lens of a flat ontology. An example of an artwork that, while not presenting itself as a photographic object, provides a reading of photographic objects arranging themselves in a non-hierarchical state is examined here.

The Danish-Icelandic artist Olafur Eliasson (1967–) is known for his installations utilising elemental materials such as light, water and air. Eliasson’s work primarily explores the human subjective experience. His works are generally interested in drawing attention to the activities of perception and human relations to natural phenomena. The works can be seen as perception experiments, often without any central object. Eliasson is interested in a dynamic conception of phenomenology, where subjectivity is always variable and susceptible to change. These works provide sites for the perception of reality to evoke an awareness of how the world is seen.

In 1993, Eliasson exhibited a work entitled *Beauty*, at the Tate Modern, London. The work consisted of an artificial rainbow generated in a darkened gallery space. Eliasson created *Beauty* by attaching a perforated hose pipe to the gallery ceiling. The hose releases tiny drops of water that fall as a mist. As the water falls to the floor it passes through a beam of light generated from a suitably positioned spotlight. The viewer standing in front of the

artwork, perceives a rainbow effect as the light refracts through the falling water. From the Eliasson website, it is clear the work is intended as a perceptual experience:

> In this early work, a spotlight shines obliquely through a curtain of fine mist. Since the experience of the visual effects generated by the interplay of water and light changes in response to visitors' positions within the room, the artwork exists only in the coming together of eye and objects and is unique for each viewer (Eliasson, 1993).

Although Eliasson puts human perception very much at the centre of this work, this does not exclude other possible interpretations. The emphasis of Eliasson's artwork is the human phenomenological experience of the space and the components contained within it. He positions the work both physically and metaphorically towards a human point of view. He considers the viewer a constituent of the artwork. An interpretation of this work need not necessarily reject or discard the artwork as a perceptual project, but can regard this as one aspect of the work. The human phenomenological encounter with the artwork can be considered an object equivalent in ontological interest as the materiality of the other component objects within the exhibition space.

A flat ontological approach takes the democracy of objects as its underlying project. It refuses to privilege the human amongst objects as it refuses to privilege hierarchical distinctions between them. Following the Harman model, it holds no distinction between being and non-being, or between reality and appearance (Brassier, 2015, p. 67). Whereas Latour's actor–network theory views objects and their qualities as defined by actions and relations, Harman sees objects as independent and irreducible. Exactly how objects relate and connect, and the nature of the connections is not prescribed precisely by its theorists, nor, he proposes, need it be. Both Harman and Latour regard assemblages as networks of objects that act,

connect and disconnect in dynamic relationships (Caplan, 2017, p. 3). Examining the *Beauty* installation through the lens of a flat ontological approach allows us to rethink the artwork both in terms of interrelating objects, and as a reconfiguration.

It is possible to interpret this artwork as an assemblage of material objects. The installation can be conceptualised as a reconstituted material photographic object. If we are to envision a photography that no longer privileges a photographic image or emphasises a representational mode, then such an artwork as this may provide a coherent example of what this may look like. If we are to place objects on equivalent ontological footing, thus de-emphasising the human perceptive processes in favour of considering them part of a set of objects interrelating, then this work may be interpreted as an abstract rendition of a photographic apparatus. No longer required to give prominence to the representational, a gathered arrangement of objects interrelating to each other can create a photographic assemblage that may no longer be immediately recognisable as conventionally photographic.

What would photography that need not necessarily produce a photographic image look like? A camera alleviated from an image imperative is perhaps one where the constituent components collaborate to generate a photographic event. The *Beauty* artwork exhibits a collection of components that are associated with photographic materials working in concert to produce an optical effect. In this way, the installation can serve as a metaphor for practices and materials associated with the photographic. The gallery space as a darkened room references the interior of a photographic camera, the interior of the eye and the photographic dark room. The falling water in this circumstance acts as both a lens and a medium, as a lens refracting the light to create the spectrum, and as a medium gathering and momentarily holding it. A light source transmits rays, which are then manipulated to produce visual phenomena. Although

these components are in common with traditional photographic practice, here they present an abstract interpretation of the traditional photographic processes of light being manipulated to create visual phenomena. Eliasson has also created a number of camera obscura artworks that utilise the natural optical phenomenon of light passing through a small aperture. These installations are also physical, abstract renderings of naturally occurring phenomena. They present creative reconstitutions of components that regenerate existing phenomena. These configurations are not inherently or specifically photographic, but the emergent combinations pose as the sites of speculative photographic exploration. When an image is no longer the central requirement, the *Beauty* installation can then be considered as a photographic apparatus whose image is an actual rainbow.

Addressing photographic practice though the lens of flat ontology establishes grounds for innovative creative practice. As hierarchies of objects are disputed, a wider range of objects come into play while others are de-emphasised. A photographic democracy of objects does not necessarily emphasise any particular aspect, function or relation of objects. The traditional prominence of the photographic image as being the ultimate end product of the photographic process is no longer applicable. As other, abstract configurations of objects come into play, unique interpretations of what constitutes photographic practice emerge, contrasting prevalent photographic narratives. Photographic practice in these terms becomes one of the creation of abstract machines of material experimentation.

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3.6 047 Drop

Rood, S. (2017). *047 Drop* [Video, 2:00 minutes]

Click to play

View video online

A large sheet of semi-transparent plastic is suspended in the darkened space. It hangs freely on a wire that crosses the space, with a large proportion of it lying still on the floor. A slide projector is positioned behind the sheet and projects a transparency (diapositive slide) of an image of a landscape onto the sheet. An electric fan directed from the same position as the projector starts up and blows air towards the sheet. The sheet lifts in waves from the air blown by the fan, but does not separate from the ground in

its entirety, as the fan lacks the power and the sheet is too large for it to do so. The fan is connected to a photographic darkroom timer: it blows for a period of time and then shuts off. The sheet drops back to its original resting position.

As the fan starts up, the sheet begins to lift; the air passes underneath the sheet creating a wave-like motion in the sheet as it undulates in the flow of the air. The sheet lifts and falls in a wave motion. The sound is of the two fans, the projector's cooling fan and the fan itself, as well as that of the plastic brushing against the floor. The plastic undulates in equilibrium with air flow created by the fan. As the fan cuts out, only the sound of the fan of the projector is heard. The plastic gradually withdraws to its original, stationary position at rest on the floor.

The creation of this photographic configuration was motivated by the question, what might a photography that adopts a flat ontological approach look like – one where no particular component is given greater ontological privilege than any other? A flat ontology of photography not only deprioritises the image, but also re-emphasises other components and their configurations to regard them equally as objects within the photographic realm. This view holds an equivalence between objects that may support or dispute both conventional and abstract photographic formations.

This work explores a fundamental technical attribute of the photographic process, that is, the projection of light through a lens onto a surface. The projection of the 35mm transparency on the surface is the direct technical inversion of the process of its original exposure. In a standard photographic procedure, light reflected from a subject travels through the lens onto the film or sensor. In the projection of an image, light travels through the film and through the lens and the image is projected onto a surface. Technically they are the same optical process, but orientated in opposite directions.

Here, as these processes are photographic in nature, no ontological distinction is made between them. The projection of light through a lens towards a surface is taken as the basis of a photographic encounter and is addressed in this work.

The constituent components of this configuration – light, lens, surface – are reassessed and interpreted in an abstract manner so as to question assumptions around them. In particular, this works queries if the photographic surface must be flat and stationary. In the photographic process of creating and producing photographic imagery, the subject and surface are rarely motionless. The subject, a camera, the light projection of the image, analogue or digital, all entail activities of some form. The presentation of the photographic surface here emphasises its movement to draw attention to its materiality. The work exchanges the priority of the components of the subject matter and projection surface to make the surface itself the emphasis of the work. The work does not attempt to represent the visual content of the original transparency in any way, rather it renders its transmission, or mediation, as an active performance. By reducing the traditional priority of the image in favour of the materiality of the surface, this work replaces the emphasis on representational capability of the photographic process with the animation of its reception.

This artwork project takes the reconfiguration of photographic objects as a creative strategy. An aspect of the photographic process has been selected and reassessed through the view of flat ontologies to question assumptions. The objects involved are not privileged in relation to each other, having an equivalent ontological value between them and an equal amount of agency. It may be seen as exploring ideas around Latour's actor–network approach. Object-oriented philosophies that claim that relations between objects where objects are both independent and yet simultaneously part of another object are also applicable (Harman, 2011a). But the work does not seek to

address these, or other theories, directly. There is also no attempt to distil photographic practice to an essence through a reductionist approach. Rather, play with photographic practice, exploring modes through unencumbered associations of objects, has been sought.

Through this approach, the photographic processes are purposely abstracted, that is, they are not scientific in nature, but interpretive. Rather than precise measurement and recording, it is open exploration. In a sense, this may be regarded as a "cargo cult" of photographic practice.

> Cargo cults develop when primitive societies are exposed to the overpowering material wealth of the outside industrialized world. Not knowing where the foreigners' plentiful supplies come from, the natives believe they were sent from the spirit world. They build makeshift piers and airstrips and perform magical rites to summon the well-stocked foreign ships and planes ... the faithful still expect the Americans to arrive soon, bringing with them lots of chocolate, radios and motorcycles. (Wallace, Wallechinsky, & Wallace, 1984)

Cargo cult thinking tends to be generally regarded negatively, as it is associated with something that simulates aesthetic appearances while disregarding functionality yet still expecting similar results (Feynman, 1974). The photographic practice explored in this artwork functions in a similar way, as it reassembles the familiar elements of the practice but does not necessarily function in the same way. This artwork is configured so that it references technologies and effects but has no intention of initiating or replicating any productive function. It performs an invented ritual of photographic practice through wilful misrepresentation.

Albrecht Dürer, in his famous woodblock print of 1515, portrays an absurdly inaccurate representation of a rhinoceros. Dürer had never seen a rhinoceros and relied on a sketch and written description of what he imagined. This is an example of what Eric Kluitenberg calls "imaginary

media" (2007). Kluitenberg asserts that obsolete and failed technologies, or even technologies that did not exist, are as relevant to the history of media as the ones that are widely accepted (Natale, 2012). He argues that history should not only document the trails of history of the apparatus of technical media, but also the paths of the unfollowed, the abandoned and the fantastic. Both real and unreal media are of equal relevance to historical inquiry and help us understand and inform how we might view both the past and present media and the nature of its progress. Conceptual or impossible media and machines provide as valid a contribution to the field as any other (Kluitenberg, 2007, p. 30). This artwork purposely performs imaginary photographic practice as, like Dürer's rhinoceros, it utilises imaginative inventiveness to generate an unorthodox outcome.

The lens of a flat ontological approach is not only applied to objects and concepts, but also to the question of photographic time. Photography as an instantaneous event is a fiction. Photographic practices occur in time. The light that passes through the transparency and is projected on the animated surface does so for an amount of time that relates to the darkroom printing process. The fan is connected to a darkroom timer in the way that a darkroom light might be. Like the time of a photographic exposure, these occurrences take place over a short period of time. In this work, the photographic encounter is prolonged. By emphasising the time-ness of the mediation process, our attention is brought to the material activities that occur. As Kember and Zylinska put it, "[i]t is precisely in the gap between photographs as media objects, and photography as a practice of mediation that aims and fails to capture the passage of time" (2012, p. 81). Here, the photography is occurring over time. Although the direction of the air creating waves might suggest waves of light, this resemblance is not intentional, but it does serve to accentuate the performance of a light over time. It acts to draw our attention to an abstracted performance of the elastic proportions of photographic duration. The projection of the light,

in the exposure, printing, projection or screen redraw, are all performative orchestrations of light rays over time. Here, photography is not what *has happened*, but what is *happening*.

This artwork acts as an abstract machine. It is an assemblage consisting of associations of independent objects that have been detached and reconstituted into another configuration. The relationships of its components constitute a photographic object that has emerged from the sum of its parts. With the hierarchies of objects disputed, a wider range of objects have come into play while others have been de-emphasised. Approaching photographic objects democratically has enabled us to view the photographic process itself as a fluid negotiation of objects. As this abstract configuration of objects performs, it provides an interpretation of what constitutes photographic practice, one that contrasts with prevalent notions of photographic practice.

This chapter poses a way of thinking about the objects of photographic practice where the image is no longer its central concern. As the development of photographic technologies of automatisation and mechanisation increases, the central role of the human, and the image, in the photographic process becomes ambiguous. In a world in which the human is no longer regarded as the central protagonist, a strategy for understanding photographic practice is explored. Speculative realist and object-oriented ontology philosophies have been investigated here to provide a mode to explore how objects are understood and experienced in relation to the human and non-human. They place things at the centre of existence and fundamentally reject an anthropocentric view of the world.

Photography is explored as a site for the ontological exploration of objects, and as a means of exploring the interrelations of objects. The perceived objectivity associated with photography, along with its ability to produce

a product of its interactions (the image), place it in a unique position. As argued by Ian Bogost (2012) and Paul Caplan (2013), photography has also been presented as having a democratic mode - as evidenced by practitioners such as Atget, Eggleston, Frank and Shore. However, these practices are seen to ultimately fail to provide access to the objects they depict beyond portraying the narrative of the photographer's intent. Current expanded notions of photographic practice such as post-photographic (Beller, 2016; Hand, 2012; Rubinstein, 2018) and non-human notions of the photographic (Zylinska, 2015) also continue to prioritise the image as their central component and as such limit themselves to photography's conventional representational capabilities.

Alternatively, examples that do offer an understanding of photographic practice as an interaction of democratic objects are explored in the form of Eliasson's *Beauty* and the author's *047 Drop*. These present a photographic practice that does not necessarily place the photographic image as central. Rather than apply a non-hierarchical, ontologically flat and democratic vision of the content of photographic imagery. It is the position of this thesis that concepts of democratic objects can be applied towards the objects of photography in themselves. Photographic practice viewed through this lens of flat ontologies, does allow for the possibility of reconfiguring photography by regarding its objects as equal. A democratic, flat ontology of photography not only deprioritises the image and its content, but also re-emphasises other components and their configurations of photographic objects to regard them equally as objects within the photographic realm.

Informed by the displacement of the human as central to the world, the concept of flat ontologies determines a hierarchy of objects to be human-centric and suggests instead a democratised vision of the photographic world. Photographic practice is neither exclusively human nor non-human. It is explored here as a "complex ecosystem of different elements,

interconnections and contexts" (Tomas, 2004, p. 234). This view allows thinking about photography as a wider field of material relationships rather than solely an interaction between photographic image and its viewer. As such can be used as a method for the creation of concepts for photographic practice as explored in this artwork *047 Drop*.

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CHAPTER 4 – PERFORMED PHOTOGRAPHY

4.1 Chapter Introduction

If photography is to be considered a site of encounter, with the dynamic formations of assemblages of objects, what could this mean for photographic practice? How can photographic artworks be generated in a heterogeneous matrix of interactions between devices, technologies, knowledges and networks that act in a continuous and unpredictable flow?

We no longer look at a photograph as simply a recording of an event when the photograph exists in the context of its production, distribution and encounter. It is part of the event. The photograph documents in some way the performative processes of its own creation. Rather than emphasising the representational aspects of photographic practice, we can look beyond by focusing upon the practices that surround it, how human and non-human configurations are enacted, and not focusing simply on what is produced. Photographic practice that is not constricted to eventual production of the photograph is one that can be appreciated as a performative process.

The previous chapter has presented a notion of photographic practice where both the image and the human has been displaced as its central component. The concept of flat ontologies has been explored towards the project's aim of deprioritising the photographic image. Speculative realist and object-oriented ontology philosophies have provided a framing that offer an understanding of photographic practice as the interaction of democratic, non-hierarchical objects. This thesis contests a foundational characteristic of photography that allows the visual compression of time into a static image. However, the lens of a flat ontological approach can not only be applied to photography's objects and concepts, but can also be

applied to the question of photographic time itself. Photographic practices can be situated as part of the as an intra-action of objects or involved in the ongoing, "dynamic reconfigurings of the world" (Barad, 2003, p. 818). This allows a notion of photographic practice that occurs in time. These explorations extended photographic practice into the dimensions of time and space and present it as the iterative performances of democratic objects. Photography in this sense is not what has happened, but what is happening.

If photographic practice can be considered performative, it may be employed as a strategy for photographic practice. In the context where photography is increasingly networked, mechanised and automated, performance can be seen as a way of engaging with an increasingly dematerialised photography. Photography as a flow of information no longer values a static image as much as the enactment of its processes. The knowledges of photography are held in the activities that surround it and that keep it in motion. Performance not only provides a creative strategy for the creation of works but also exists to reframe the research process itself as incorporating performance.

The aim of this chapter is to explore the concept of performance as providing the location for the objects of photography to exist as a democratic interaction of objects. One that may occur outside the limits of the conventional static photographic image. The concepts of "performance" and "performativity" are examined, as are the performative aspects of photography both in front of and behind the camera. Nigel Thrift's non-representational theory is examined, as it presents practice as sites of knowledge in motion and emphasises both performative and embodied knowledge. This is followed by an exploration of the "non-photography" theories of François Laruelle in order to provide a response to the issue of how a performance of democratic photographic objects might be represented

and communicated if not through photographic imagery. Photographic practice is posed as occurring in time as the performance of photographic objects within both material and immaterial configurations. The chapter includes discussion of two artworks created by the author that have both informed and been informed by these theoretical investigations.

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4.2 Performativity

Photography does not exist as a static arrangement in the world. If it is a concert of interwoven intra-actions of both human and non-human technologies and practices that emerge as co-constituted visions of the world, what might this then mean for photographic practice and the photographic image? If we consider objects as actors that come into being, as Barad asserts, "specific agential practices/intra-actions/performances through which specific exclusionary boundaries are enacted" (Barad, 2003, p. 816), then the world emerges through what is happening, and humans play but one part in it. The configurations of the world are enacted through "determinations of boundaries, properties and meanings", in an "intra-active becoming – not a thing but a doing, a congealing of agency" (Barad, 2003, p. 828). Then, in this way can we regard photographic practice in terms of a dynamic process of human and non-human actors, material and social elements that configure to allow the emergence of recognisable practices.

Photographic practice is then the performance of photographic configurations. Its constitutive elements move in and out of material forms that are recognisable to humans as relating to what we know as belonging to the photographic realm. A photographic image not only represents a moment in time, but also exists as a material configuration of visible and non-visible components, enacted or performed in time. The digital image is an activated program and the printed image will one day become dust. The events that surround the production of the photographic image – the before, during and after – not only facilitate the generation of the photographic image, but also constitute equally relevant and significant aspects of photographic practice, all contributing to what we understand to be photography. Photography refers to an activity rather than an object, an intra-active process of the becoming of which the image, much like what

it may represent, is also momentary. Photography exists as the interplay of human and non-human, material and social components that occur as actions and events in time.

In this section, rather than regarding photography as a static image, it will be considered from the perspective of "photography as performance". Any and every action, event or behaviour can be studied "as" performance. Alternatively, to use "photography *is* performance" would refer to specific cultural context, usage and tradition of the discipline (Schechner, 2012, p. 42). Although the distinction between these two are becoming blurred (Schechner, 2012, p. 38), the intention here is not to explore existing rituals of photographic practice, but to uncover neglected ones. The questions "What is performance?" and "How do performance and photography relate?" will be explored. The performative aspects of photography both in front of and behind the camera will be established. Photography as performativity, where it is considered as a "performed" act will also be explored. Nigel Thrift's *Non-representational Theory* (2008) is examined as a method that goes beyond the representational aspects of the photographic. These concepts are used to explore the idea that photographic knowledge is held not only within the material images that are the product of its processes but in the repetitive, iterative actions of the performances that constitute its practice. Investigating photography "as" performance will enable us to establish photographic practice, as the enacted bearer of photographic knowledge.

To perform is to undertake an action. It can be said that all human practices are "performed". Related to the body, performance is bodily practice that produces meaning and that is a public presentation of the self. The actions in the living of everyday life, arts, sports, ritual and play are performances that create meaning and affirm individual and cultural values. Richard Schechner describes performance as "showing doing", that is, "pointing to, underlining, and displaying doing" (2012, p. 28). The goal

of the performance is usually to influence any of the audience, observers and performers in some way. It is primarily a social relationship where values and aspirations of a culture are displayed through action, in the presence of others. Considering the link between the social and performance, Erving Goffman emphasises culture as a performance, once remarking, "[a]ll the world is not, of course, a stage, but the crucial ways in which it isn't are not easy to specify" (1956, p. 72). Schechner refers to performances as "restored behaviours", that is, actions that are repeated or "twice-behaved". These are actions that require training, or to be rehearsed or practiced, to be recognised as performance. Intentional and repeated actions are a fundamental part of living and learning itself. Although the performance must contain repeated actions, it must also demonstrate an element of uniqueness for it to be experienced as authentic. Performances only exist as actions, interactions and relationships; to regard any object as performance means to examine it as to how it relates and interacts with other objects as actors.

The ability of performance to exert influence and effect change in the world was further explored by John L. Austin, who introduced the concept of performative language. In his influential book *How to Do Things with Words* (1975), Austin investigated the idea that language is used for more than just describing things. He makes the distinction between constative, descriptive language that describes the world and can be assessed as true or false, and performative language, which does something in the world (Cavanaugh, 2015). Austin claims, "[t]o say something is to do something, or in saying something we do something, or even by saying something we do something" (Austin, 1975, p. 108). Performative language describes actions; promises, bets, curses, contracts and judgements are actions not descriptions. Utterances such as "I do" (take this woman to be my lawful wedded wife), "I name this ship the *Queen Elizabeth*", or "I apologise" do not represent actions, they are actions. In Austin's performativity, words can be regarded as an event and action and thus a performance, as opposed to being only a representation or description.

The philosopher Jacques Derrida agrees with Austin's ideas that language itself has the power to transform and affect the world (1988). However, whereas Austin assumes a stable context for utterances he describes, Derrida argues that utterances can never be fully understood, because if the context can never be fully known, then the intention of the utterer can never be fully known. He claims that language does not exist in a fixed and stable universe but is very much part of the dynamic conditions of the context in which it occurs. Every word spoken or written has previously been written or spoken; its established current usage and meaning is derived from its previous use, and the context in which it is used specifically affects its meaning. Language carries with it its past and a future. In what Derrida terms "iterability", language is a repetition of the past, and in its use, at the same time, a new and unique event. This concept establishes a foundation for text, and all experiences, as performance. Derrida's argument is that all experiences are both, simultaneously, a singular event and also repeatable. "What is happening right now is also *not* different from every other now I have ever experienced. *At the same time*, the present experience is an event and it is not an event because it is repeatable" (Lawlor, 2019).

Performativity is the concept that language can effect change in the world. It is not a singular act but the repetition of practice, within constrained guidelines, that produces the effects it names. Demonstrating that performativity enables the formation of identities through the processes of iterability. The American philosopher Judith Butler argues that gender is performative. Taking the concepts of the ways language can do things in the world, pioneered by Austin and Derrida amongst others, Butler developed a theory of gender performativity. Adopting the theory of iterability, Butler emphasises the role of repetition in performativity, posing gender as enacted through the repetition of stylised acts in time. She asserts, "[p]erformativity is not a singular act, but a repetition and a ritual, which achieves its effects through its naturalization in the context of the body, understood, in part,

as a culturally sustained temporal duration" (Butler, 2002, p. xv). She rejects a biological account of binary sex and asserts that gender is best understood as performative, which suggests that it has a social audience and that performances of gender are imposed by historical social practice. Butler argues identity not as an essence but as a doing, and that gender is an ongoing and socially constructed process, which evolves through repeated performative acts over time.

Performativity is not only evident in everyday behaviour and has since been applied to a wide range of disciplines such as language, gender, science, finance, economics and, noticeably, art. Photography in relation to performance is complicated by photography's paradoxical role in being able to document performance photographically, and photography itself being an activity that might be considered performative. The indexical properties that make it suitable for use in a documentational capacity – in the documentation of performance – have led to photography becoming intertwined with performance art and its role as a documentation medium for its performances. This is further complicated by the notion that the act of photographing a performance contains an element of performance in itself.

Performance recorded by the camera to create a visual record or document is photography in its documentary mode. On the other hand, when the photographic act or its events are incorporated into the production of the image, it is termed "performed photography". These are general groupings and there are not always clear distinctions between them – much photographic practice falls into the continuum between the two. This can be seen as the performative act occurring in front of the camera, as in the photographic documentation of performance such as a photo finish photograph of a horse race. Or it can be seen as the performative, photographic act occurring both behind and in front of the camera. Cindy Sherman's photographs of herself in various guises fits into this distinction.

In these modes of photographic practice, the production of an image is central and the primary aim. If we were to overlook the production of the image as being the central component, we might then consider the activity of photography itself as performative activity in itself. In this sense, it would also be possible to regard the production of the image as a performance. Ansel Adams famously describes the uniqueness of each print, comparing the negative to a composer's score and the printing of it as its performance (1950).

Documentary photography refers to a photo journalistic mode where the photographer shares their view of a subject to create a photographic narrative or chronicle of an event. In the sense of a performance, photography frames it as a singular gesture to be "read" by a spectator (Taylor, 2017, p. 19). Since a performance is a singular, unique event, any attempt to save, record or document the performance is by definition a representation and, thus, by its very nature, something other than the original performance.

The use of photography in the documentation of performance is related to the truth claim of traditional photography, which has become identified with Charles Peirce's concept of indexicality. As Tom Gunning argues, the truth claim of photography is very much that: a claim (2004). Although now considered unreliable and disputed, the indexicality of the photograph depends on the physical relation between the object photographed and the image finally created. To pose photographic imagery as indisputable evidence is problematic, as we have seen clearly demonstrated by the photographic work of "spirit photographer" William H. Mumler (1832–1884), whose claims of imaging actual ghosts were famously exposed as a fraud. In spite of such examples, photography's truth claim persists and is held as a critical concept by photojournalists.

Performance art emerged in the 1970s as a reaction to formalism and the emerging commercialisation of the art world of the time. This movement was interested in reconfiguring the "work of art" from its perceived static forms towards themes such as site and time-specific, conceptual, process-driven, installation and even immaterial. The performance art piece is usually performed as an end in itself and, not always intentionally, provides the subject of its photographic documentation. Although in some cases the very fact of documenting work can undermine and conflict with intentions of temporality and impermanence, the purpose of any photographic documentation of an art performance is generally to make the work available to a wider audience. For a majority of people, those who did not attend the actual performance, it exists only as a photograph and access to the concepts of the artwork are perpetuated through the photographic imagery of the work. The photographic imagery generally conforms to a journalistic documentary mode with its consensually agreed norms of objectivity. Chris Burden's *Shoot* (1971), where he is documented being voluntarily shot in the arm by a friend, lives on as an iconic image through its documentation.

In light of a performance being a singular event, what remains are the anecdotal accounts by participants and viewers, written reports, photography and film. After the performance the work of art is inaccessible, and the image of the work of art stands in for the original and replaces it. The image of the performance is detached and independent from the original performance. The photographic documentation of the performance no longer acts primarily as a relationship between the performance and the photographic imagery, but rather as mediator of the relationship between the image and its viewer. It becomes simulacra, described by Jean Baudrillard as not just a copy of the real thing, but a discrete thing in itself (1994). The documentation of the performance is not the performance, but, nevertheless, it may be regarded in this sense as a performance in its own right.

In contrast to the photography of performance in a documentary mode, "performed photography" celebrates the performance that is the act of photography. Whereas the documentary mode refers to an assumed objectivity in the photography, performed photography accepts the impossibility of a fully objective mode and embraces the illusionistic subjectivity that is inherent in photography. Performed photography is understood as a type of photographic imagery that results from staged or performed activities, and draws the viewer's attention to its own creation process. This also presents itself as the self-reflexive mode of photography called meta-photography, which includes photographic imagery that references its own construction. An example of meta-photographic concepts is illustrated in the John Hilliard work *Camera Recording Its Own Condition (7 Apertures, 10 Speeds, 2 Mirrors)* (1971), where he photographs himself photographing into a mirror while altering the camera's exposure settings.

As a performance we can think of Marcel Duchamp's photographs of himself as his female alter ego Rrose Sélavy, photographed by Man Ray in 1921. In a sense signalling Butler's concepts of gender as performative, here Duchamp's cross-dressing performance is documented. Duchamp is clearly performing for the specific act of being photographed and the viewer is fully aware of that. There is also an element of dramatic irony at play, as we know that Duchamp both is, and is not, Rrose Sélavy. Similar to the theatrical movement "epic theatre" associated with German playwright Bertolt Brecht, the illusion of the invisible spectator is broken, and the audience is recognised as a component of the performance. This challenge of the fourth wall (where the barrier between the viewers and performers is purposely ignored) expresses an awareness of being seen, on both sides. With photographic imagery, this reflexive element is separated or displaced over time. The performance documented in the image, and the viewer acknowledging the performance, do not occur simultaneously. In effect, it is in the act of viewing the image, the recognition that Duchamp is presenting

himself performing to the camera, that the performance is fully realised. The viewing of the photographic imagery can therefore also be considered a performative act.

Philip Auslander describes the phrase "performed photography", as a kind of photograph rather than performances (2006). Photographs of performances are performative in that, in many cases, the event never took place except in the photograph itself. Auslander examines Yves Klein's famous photograph *Leap into the Void* (1960), in which the artist is jumping from a building, as if flying, towards a cobbled street below. The photograph shows a terrifying leap towards imminent serious injury on the street beneath, but we now know he achieved this effect by jumping into a net and compositing the street in the photograph at the printing stage. Although Klein is performing the *leap into the void,* the performance is supplemented where the illusory aspect is enhanced with post-production techniques, as well as the disbelief and terror on the part of the viewer. Auslander describes this mode of performance documentation as "theatrical", where the "space of the document … thus becomes the only space in which the performance occurs" (2006, p. 2). To demonstrate this, he explores an audio recording analogy. He argues that The Beatles never performed the music as we hear it on their *Sgt. Pepper's Lonely Hearts Club Band* album, but that performance exists only in the space of the recording (2006, p. 7).

In performed photography, the performance provides material for the creation of documentation as contrasted, but not opposed, to a documentary mode in which the photography provides documentation of the performance. Performance and performed photography are embedded in relationships between the performance, the document and its viewer. The actual location of the performative aspect is not specific and subject to debate. Where the performance occurs is not as relevant as the framing of the work as performative by the viewer.

If we examine photography in terms of performativity we can ask if photographic practice can be considered a practice that can effect change in the world. In Austin's original sense, it is not that photography necessarily performs, but also that it "does" something in the world. Photography as performance we can see is not a singular event, but indeed all aspects of its practice contain iterative elements and repeated actions that carry with it its past and its future. As Flusser argues, photographers are the funtionaries in the program that is photography, and the vast majority of photographic practices consist of sets of actions within a set range of social and technological understandings. Photographic practice such as portrait, landscape, documentary, wildlife and so on fall into and repeat practices that are specific to it and hold to the traditions of that genre. The performativity of these practices comes into play when the activity of these photographies as a predetermined, citational nature of the performance becomes apparent. For example, the convention of wedding photography refers not only to the ultimate images of the couple, but to a formalised set of actions that surround the production of the images. The activities associated with the production of the wedding photos acts very much as Austin's speech acts. The photography consists of iterative performance of stylised ritual, constrained by social convention with the variable aspect being the couple in the centre of the frame. The wedding is thus a transformative performance in which photography plays an important and performative part.

Photography as performativity is photography that does something in the world. It is not just images that affect viewers, but a wider photographic practice that can be examined as a set of performative practices that allow photography to act. As in an actor–network approach, photography acts as part of a greater social system. Although the image is a central aspect of photographic practice it takes place in the context of greater interrelated technological and social networks. The photograph in this way is incidental to the series of practices, to the performativity demonstrated by a shift in

emphasis away from the discussion of photography as the image and toward the phenomenological encountering of it as an object, and further toward considering photography as a set of practices. This places the emphasis towards its operations within social and technological networks. As Joanna Lowry claims, it is "less to do with photography itself than they do with the ways in which photography is being used and deployed within culture" (2007, p. 317).

An example of photography as performativity can be seen in the activities of the tourist, where the activity of photography is demonstrated in a performance mode. Jonas Larsen explores tourist photography as performance, arguing that tourist photographers are framing their subjects as much as being framed themselves (2005, p. 416). He describes a hermeneutic circle of photography where the tourist seeks to recreate the images they have previously seen in brochures, thus engaging in a ritualised form of image quotation. For tourist photographers, the photography is unintentional engagement in an iterative act where the performer does not always recognise themselves as such. Photography in these circumstances could be understood as actions, rather than solely the production of meanings, which places the work in the realm of social and human (and non-human) performativity. For Larsen, this type of photography is choreographed and experimental performance connecting representational and non-representational realms (p. 417). Photography as such constitutes ways of seeing and acting within a complex network of interrelated actors.

Non-representational theory provides an approach to regarding these performative aspects of photography. Developed by Nigel Thrift in conjunction with J. D. Dewsbury and Derek McCormack, non-representational theory emphasises performative and embodied knowledges. Founded on the concept that life is not static but based on movement, Thrift describes it as the "theory of practices" (Thrift, 2008). Although it does not

reject the representational, it does not dwell on representational aspects, rather it goes beyond to dispute humanities and social science's focus on the interrogation of texts in search of contested and multiple meanings. Instead it emphasises a focus on how human and non-human formations are enacted or performed. Thrift explains his theory as an approach "to understanding the world in terms of effectivity rather than representation; not the what but the how" (Thrift, 2008, p. 113; Kemp, 1996). Non-representational theory is a methodology of practice, situated between theory and empirical practice, that Thrift considers a style of thinking valuing practice (Thrift, 2000).

Non-representational theory prioritises events. Thrift describes it as "the geography of what happens" (2008, p. 2). Practice as events take place in time as singular events, and occur as repeated ways of expression in time. Non-representational theory adopts the performativity of Austin's theory of the performative dimensions of language, where expression and action unite. The iterative utterances of these actions can both carry and transmit knowledge, in a performative flow as opposed to static statements or representations. The recording of a performance is not the performance and does not replace it. Performances are one-time-only enactments, and are intent on portraying thought in action or "meaning in motion" (Desmond, 1997). As Tim Ingold elaborates, "[c]ertain embodied gestures and action sequences, certain turns of phrase and idiomatic expressions, certain organisations of objects in space, do not 'express' or 'stand-for' certain cultural meanings, values and models; they are not 'vehicles for symbolic elaboration'" (2000, p. 283). Non-representational theory presents practice as sites of knowledge in motion.

Recognising the vitality of life, non-representational theory is interested in the ways that life takes shape in experiences, routines, encounters and movements (Lorimer, 2005, p. 84). It does not prioritise what it constitutes as social. Everything takes part and everything acts. Everyday life and

mundane practices that usually go unnoticed are regarded seriously and may provide the means for performative investigative methods – the flow of everyday life and the lived present as an "open-ended and generative process; as practice" (Harrison, 2000, p. 499).

Non-representational theory is interested in capturing the "onflow" of everyday life (Thrift, 2008, p. 5), and moving beyond linguistic forms of expression and the conventions of "striving to uncover meanings and values that await our discovery, interpretation, judgement and ultimate representation" (Lorimer, 2005, p. 84). Rather than representing the world, a non-representational approach is interested in things that take place in the world and therefore focuses on movements, practices and processes. As Dirksmeier and Helbrecht claim, "[n]on-representational theory is interested in the flows of practices in time and in the presentations, which result from acting at the moment and not in post hoc reconstructions of further actions" (2008). Non-representational theory does not dispute representation, as representations – for example, words, concepts, images – are themselves regarded as events, or doings, and as such they function as a form of re-enactment. Representations can be considered actions rather than intermediaries or agents of some external intention. "The point here is to redirect attention from the posited meaning towards the material compositions and conduct of representations" (Dewsbury, Harrison, Rose & Wylie, 2002, p. 438; Anderson & Harrison, 2016, pp. 14–15).

Inspired primarily by actor–network theory, non-representational research privileges the study of relations termed "relational materialism". This view sees life arising from the entanglement of human and non-human actors, not as isolated actors but related through the processes through which relations take place (Vannini, 2015). These objects' relation to one another are performed as active networks, interactions with each other on equal ontological standing. This emphasis on the relationality of objects leads non-

representational research to examine associations, connections, formations and configurations, seeking to discover how things are related rather than determining what they might be (Anderson & Harrison, 2016, p. 15).

Photographic critique that primarily concerns itself with issues around representation often overlooks the material and doings of photographic practice and its associated actions. Non-representational theories shift our attention away from the emphasis on the image in its representational modes as central to photography, to photography as performance. The application of this approach to photography is one that goes beyond relying on the representational capabilities of photography to focus on the activities and relations of photographic performativity. Non-representational theory offers itself as a lens for the generation of new approaches to the photographic discourse, with implications for its application for practice to be explored in the following sections.

Photography presents itself as an intricate network of human and non-human configurations, and is continually being performed or enacted. Photography is not a singular or static entity embodied in the photographic image, but a heterogeneous matrix of interactions between devices, technologies, knowledges and networks that act in a continuous and unpredictable flow. It can be understood as the performance of the relations between human and non-human actors within socio-technical networks. Within this dynamic, photographic geographical knowledge is held and sustained through the activities and flows that are associated with photographic practices.

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4.3 A Performed Photography

Performativity is fundamental to the material realm, as objects do not exist as static entities but are co-constituted interactions of performing matter. From a material perspective, the "post-humanist performativity" of Karen Barad emphasises the performativity in her understanding of matter: "Matter is therefore not to be understood as a property of things but, like discursive practices, must be understood in more dynamic and productive terms – in terms of intra-activity" (Barad, 2007, p. 150). She argues for the dynamism of matter, in contrast to the representationalism of language, discourse and culture. "The move toward performative alternatives to representationalism shifts the focus from questions of correspondence between descriptions and reality (e.g. do they mirror nature or culture?) to matters of practices/doings/actions" (Barad, 2003, p. 802). Barad proposes a post-humanist notion of performativity – one that incorporates important material and discursive, social and scientific, human and non-human, and natural and cultural factors (2003, p. 808). The extension of this materialist point of view determines that we can view photographic configurations as dynamic systems of interrelated objects. This enables us to modify our understandings of photography, as in these terms it cannot be regarded as static documents but rather as flows of a dynamic reconfiguring of the world.

If Karen Barad has explained to us how objects can be performative, Graham Harman argues that performance can be an object (2020, p. 2). If performance itself can be regarded as an object, that enables us to consider the performance of photographic activity to be a photographic object. As objects, these activities can be regarded as independent, autonomous artworks, rather than as the dislocated mechanisms and processes of image production.

For object-oriented ontologies, the term "object" refers to a wider range of things than solely the solid material. Any thing can be an object, including an event or performance, so long as it is irreducible to its components, or irreducible to its effects (Harman, 2020, p. 2). Harman addresses the art object directly: "Like any other object, an art object need not be physical, solid, durable, or devoid of human interaction: it need only be more than its components and deeper than its current effects" (2020, p. 114).

Harman relates these tensions between under and overmining to Michael Fried's themes of "absorption" and "theatricality", as argued in his article Art and Objecthood (Fried, 2003). Fried criticises the "theatricality" of minimalist art, and argues for the autonomy of the artwork as opposed to the autonomy of the beholder and his or her "theatrical" relation to the artwork. As object-oriented ontology emphasises the autonomy of objects from all relations, Harman argues that the object and the interactions with it conjoin these two aspects, and thus the performativity of their interactions form a new object. The performative event is not opposed to the object, their interaction creates a new object in its own right (Harman, 2020, p. 114). So events and performances can be regarded as objects as long as the new formation establishes an identity that exceeds its constituent components, or, as Harman puts it, "that beholder and artwork fuse jointly into a third and higher object" (2020, p. 173). This places photographic practice as a performative practice in the realm of autonomous art objects. In this sense, photography as a flow of dynamic interactions can act independently as objects. This is a way of enabling us to reconfigure our understandings of the activities of photographic practice as performative artworks.

The history of technologies that led to the invention of photography has predominantly been one of material performed practices, where the image is part of a wider context of activities. The technologies that relate to the genealogy of photographic practice contain performative aspects in their

very nature. In the history of image-making, it was rarely a static entity. Rather, images have generally been created and presented in the performative context of activities. There are a vast number of optical and light apparatuses that led towards the invention of photography. Although these inventions do not represent a linear progression and do not necessarily contribute to the sequential development of photography, they are part of its genealogy. Some historic examples illustrate the possibilities of engagement with the technologies of photography performativity.

The spell of the projected image is a constant and remains integral to the histories of both photography and cinema. The first cinematic spectators were perhaps the captives of Plato's cave – the play of the shadows of hands in caves, whose traced images were also captured with pigment. The mythological origins of painting were described by Pliny, with the Corinthian Maid whose father traced the projected shadow of her departing lover upon a wall as an early example of shadow writing (Kenaan, 2006). The camera obscura, where light passing through a small aperture creates an inverted image on a wall opposite, has been known for two thousand years. The camera obscura offered a model for explaining human vision and an essential apparatus for the discoveries in physical optics as well as a number of cultural activities. It is not just an optical phenomenon or technical apparatus, but a complex combination of perception and technologies. Jonathan Crary describes historical accounts of the camera obscura as "a model simultaneously for the observation of empirical phenomena and for reflective introspection and self-observation" (1992, p. 40).

The magic lantern was developed by Christiaan Huygens in the 1650s – an early manifestation of the slide projector. Huygens dismissed it as a mode of entertainment. Later, it was put to a more theatrical use as the phantasmagoria, which was in itself an early version of horror theatre with projection of phantoms, skeletons, ghosts and demons. The show typically

concealed the lantern projector in the dark and utilised smoke and screen to enhance the frightening effect of the bizarre and fantastic imagery. Although the magic lantern and phantasmagoria both projected still images, they were in the context of multiple and often sequential images, suggesting a predecessor to cinema. The site of the encounter was theatrical in the sense that spectators were contained in a darkened room with an expectation of a performative experience. In these cases, and many others, the engagement with the image and its making is very much a performative activity. The invention of photography and the photographic image, by its very nature, arrested the performative aspect of image creation, if only momentarily.

The photographic pioneers Joseph Niépce, Louis Daguerre and Fox Talbot harnessed the optical phenomena that had long existed in the form of the camera obscura. They were able to record the ongoing visual phenomena by capturing an image of it in a medium. Talbot comments, "the most transitory of things, a shadow, the proverbial emblem of all that is fleeting and momentary, may be fettered by the spells of our 'natural magic,' and may be fixed for ever in the position which it seemed only destined for a single instant to occupy" (Talbot, 1981). What set their inventions apart was the ability to freeze the flow of time in a visual rendition. From a material perspective, photography can be regarded as a storage device. The camera obscura was technology for receiving images and the magic lantern one for transmitting them. The aspect of photography that was invented by Niépce, Daguerre and Talbot were the technologies for storing images. This would subsequently become the same technology that would allow its own duplication. Although Talbot actively resisted the reproductive characteristics of his invention, he was a close colleague of Charles Babbage. The concepts fundamental to computing and photography stem from a similar set of ideas around automated, programmable, mechanised production. As Friedrich Kittler argues, the devices that store and separate sights, writing and sounds "ushered in a technologizing of information that,

in retrospect, paved the way for today's self-recursive stream of numbers" (1999, p. xl). Photography as a storage device dissects the flow of imagery of the camera obscura into two: the activity of the recording of the image and its continued activities after that moment, just as a book is a storage device for recording the performance of storytelling and the performance of the book's reading, or music as it is performed for a recording and the performance of playing the recording. In these cases, the recording medium is a momentary capture of what is actively occurring, but the imagery of photography, storytelling and music are all ongoing performances.

The storage devices, or recordings, are not static but need to be activated to be accessed. An analogue photographic negative holds its photographic memory, but it lies dormant unless activated by the light in the performance of the print. The digital image is never still. Displayed on a digital screen it is being continually refreshed at some 60 Hertz (cycles per second). The same image is never the same one. Boris Groys argues that "looking at digital images we are also confronted every time with a new event of visualization of invisible data. … The digital image is a copy – but the event of its visualization is an original event, because the digital copy is a copy that has no visible original" (2008). The concept of a "still image" in this context is an oxymoron. Any photography that is displayed by digital means is, in fact, a moving image. Just as video is a sequence of photographic images displayed in quick succession, the digital photograph is the performance of stored image data being continually activated. As a consequence of this, for the practical artworks that are part of this project no distinction is made between digital photography or video.

Light and its projection underlie the processes and forms of photographic practice in both capture and presentation. The photographic image creation process is one of an optical lens, steering a stream of light towards a light-sensitive surface. For reproduction and presentation, those processes are

literally reversed. An enlarger to make a print, a projection and a digital screen all require the projection of light. The screen and projection are fundamentally the same thing, with manipulated light emanating towards a surface. The difference between light projection in a darkened space or within a screen is a matter of the distance between source and surface.

Projection as a performative aspect of the projection of light has been explored well in the realm of cinema. In what came to be known as "expanded cinema", experimental film in the 1960s began to interrogate the apparatus of cinema itself. This work sought to deconstruct the cinematic apparatus: "The notion of the film medium is itself questioned, and the cinematic is sought outside or beyond the film machine" (Rees, 2011, p. 12). Techniques such as flicker effect, experimentation with celluloid as material, projection and duration exposed the inner workings of the cinematic experience as technical operations. The reduction of the cinematic experience to its more material states deals directly with the mechanisms that, as Rosalind Krauss asserts, "are closer to the birth of the illusion" (1978). These often took the form of film projection events. The narrative content of the film is disregarded and thus no longer representational, and so becomes a performative experience. Paul Sharits describes this as a spectacle: "I wish to abandon imitation and illusion and enter directly the higher drama" (1969, p. 13). Photography as the projection of light is less established as a practice as it is in expanded cinema, or at least recognised as such. Photography and cinema have a shared genealogy: photography is pre-cinema and cinema is post-photography. As abstract material interpretations of light projection are considered cinematic, then light projection artworks may also be considered abstract forms of the photographic through the shared attribute of the projection of light.

Although this materialist approach sought to expand cinema, the light that emanated from the projector was often constrained to operating within the black rectangle of the frame. This is also the case for photography, whose predominant currency exists as the rectangular frame. The frame refers to the representational image and relates to its pictorial traditions. Jacques Derrida's concept of the "parergon" applies, where the frame exists between the artwork and the wall, and is part of both and separate from either (1987, p. 9). Projected light that resists the confines of the rectangle comes into the domain of "light art". In this case, the framing of the work becomes more conceptual than physical.

The Light Space Modulator

If photographic practice is to be reframed, then its boundaries both physically and conceptually need to expand beyond its historical limitations. Conforming to its traditional technical formations and requirements for the representational image will restrict not broaden photographic practice. To expand notions of the photographic that are current rather than historic, the framing of the relationships between its materials of space, light and time must be questioned.

The Hungarian artist László Moholy-Nagy completed his most well-known artwork, *The Light Prop for an Electric Stage* (subsequently known as the *Light Space Modulator*), in 1930. This animated sculpture provides a purposeful illustration of an artwork where photographic practice has been expanded to incorporate the exploration of the performance of light in space and time. Although his artwork ultimately resulted in a kinetic sculpture and a film of its operation, its conceptual basis was the challenging and expansion of notions of material photographic practice. Moholy-Nagy strongly believed that innovation was generated by creating new, and previously unknown, relationships. Addressing photography through its material relationships between light, space and time, Moholy-Nagy created

a photographic apparatus that transformed photography into one of the earliest examples of light art. This work demonstrates that reconfiguration of relationships between the materials associated with photographic practice can expand our notions of what might constitute photography. The dissolution of boundaries between material practices gives rise to new forms that may no longer resemble photography, but are firmly photographic in essence.

For Moholy-Nagy, photography, as painting with light, was particularly suited to expressing space-time as "vision in motion" (1969b). His photograms, where images are created by placing objects directly on light-sensitive material and by exposing them to light, provided representations of this new expression. He did not consider this as camera-less photography, but as the extension of a mechanical means of representation. Moholy-Nagy created objects specifically for the creation of his photograms, such as specific shapes from reflective metal, transparent plastic and so on. In the process of creating the photograms, it became apparent that the orchestration of light and objects was a sculptural activity, and the resulting imagery represented instances from the execution of the photogram. Bringing his vision to motion, the animated creation of the photogram was to develop into his form of kinetic light painting. This was to become Moholy-Nagy's mechanised (automated) instrument for the artistic expression of space and time in art.

The *Light Prop* as an apparatus for writing with light is, in effect, an inverted camera. With the light source being generated from within the apparatus, projecting shadows outwards, it acts as an animated magic lantern, generating a phantasmagoria of the technological age. Its automated repetitions and resulting improvisational light display demonstrate its function as a generative art-producing instrument. As a self-operating machine of moving parts and animated lights, the *Light Prop* emphasises the material

performativity of its constituent components. With its components being both illuminated and animated, it was designed for the connections of elements to occur in time, introducing a theatrical, performative aspect to the work.

Although the work was not specifically intended as a photographic project, it shared fundamental photographic concepts – as photography etymologically means *writing or drawing with light*. Likewise, it honoured the intentions of Fox Talbot's ideas of photography as being the mechanisation of shadow compositions: "The present work are impressed by the agency of light alone, without any aid whatever from the artist's pencil" (Talbot, 1989). The *Light Prop*, was an apparatus for the mechanical production of photograms made explicit. It was a machine that fabricated the ongoing abstract light and shadow play of photograms with innumerable permutations. But rather than capture the light and shadow play as still photographs, the photograms were animated in a time dimension. The lights and shadows were performed over time, just as one would in the creation of a photogram. It was a mechanised, automated photogram maker that dispensed with recording in favour of performance.

Moholy-Nagy presented the machine and its ongoing workings as the artwork. His project was one of energising vision by creating new combinations of technologies and media to generate his "vision in motion". He was intent on creating a "new, specific dimension for film". Although this work is not acknowledged as photographic as such, it does nevertheless provide a demonstration of a photographic mode that is expanded beyond its technical and conceptual bounds. The *Light Prop* presents a reconfiguration of photographic elements that pushes past the limits of what is commonly recognisable as photographic, yet, its core operations and genealogy are directly photographic in nature. The *Light Prop* is a photographic artwork in that it proposes a legitimate example of photographic practice expanded beyond the confines of current notions.

In the evolution of the optical image, spanning from the camera obscura to the current digital version, the traditional photographic image stands out in its ability to be regarded as a static entity. From a material performativity point of view, this an anomaly. The image is never still. Photographic processes are always ongoing. The performativity that is existence is incorporated in the activities of photographic practice. It is very much "performative repetitions with a difference" (Kember & Zylinska, 2012, p. 189). Photographic practice is a vital force, one in which photographic actions are very much performed. The photographer becomes the orchestrator of the flow of objects of space, time and light. Lyle Rexer writes, "[t]his makes the photographer into a strange kind of artist, at least in the modernist sense – part showman, part magician, part stage manager. The photographer does not 'create' but harnesses and directs. The photograph itself is a piece of performance art, and the performer is light – it's passing through and encountering things in the world" (2009, p. 12). The photograph is not just performance art, but encompasses all the practices that surround it.

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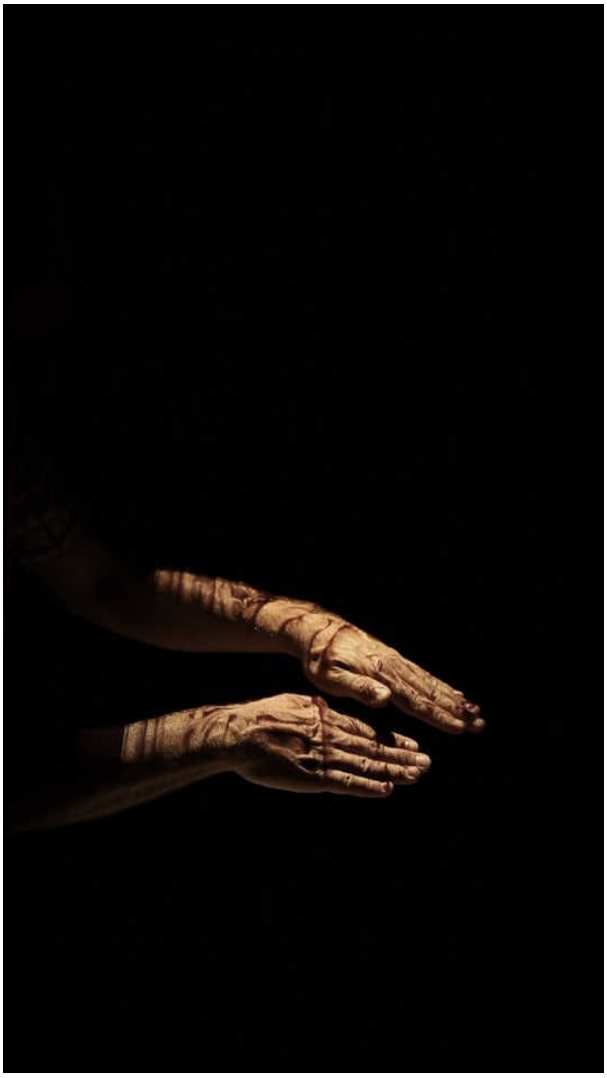
4.4 036 Dodge



Rood, S. (2017). *036 Dodge* [Video, 1:15 minutes]

Click to play

View video online

The darkened space of the photographic darkroom serves as the location for this work. It takes place between the photographic enlarger head, which holds a negative or transparency, and the photographic paper that is being printed below it. Neither of these are visible in the recording. As the exposure to make a print begins, two hands enter the space and perform what is known as the “dodge and burn” technique.

> The Dodge tool and the Burn tool lighten or darken areas of the image. These tools are based on a traditional darkroom technique for regulating exposure on specific areas of a print. Photographers hold back light to lighten an area on the print (dodging) or increase the exposure to darken areas on a print (burning). The more you paint over an area with the Dodge or Burn tool, the lighter or darker it becomes. (Adobe, 2018, p.488)

For the duration of the photographic print exposure, gestural hand movements determine the lighter and darker shades of the resulting image. The sound is the cooling fan of the darkroom enlarger and the ticking is the timer that has been set for the length of the exposure of the print.

Often the tonal range of a photographic negative exceeds that of the tones that can be reproduced in the print. To create an image with a balanced tonal range – where the light areas are not too light, dark areas are not too dark – requires exposing different parts of the image for different lengths of time. The two are inverse of each other with “dodging” holding back light to lighten darker areas, and “burning”, also known as “printing in”, to darken lighter areas. Hands are generally used, but other instruments can be introduced in the form of dodging utensils known as flags, which usually consist of shapes of black cardboard mounted on wire, or larger pieces of black cardboard cut into shapes or with holes for burning in. All of these require continuous motion to avoid leaving traces in the print. For the duration of the exposure, which is controlled by a darkroom timer, the printer will orchestrate a sequence of movements above the photographic paper to control the flow of light. This achieves a deeper level of clarity in detail of tone across the image. These tools also exist in their digital form as tools in Photoshop, and are used in a similar way. The Dodge, Burn, Pen or Paint Brush tools are used in place of hands or flags. This is a common practice in photographic darkrooms and has always been an important part of photographic darkroom practice. It is also possible to apply a similar procedure in front of the camera lens to affect exposure in camera.

Conventionally, taking a photograph means not being in it (Frosh, 2015, p. 1611). Typically, other than selfies and reflections, the photographer is not represented within the image. The photographer is implied in the image by the choice of pointing a camera at something, at a particular time. The human gestures that influence the mechanical operations of photographic post-production not only maximise tonal values in the image but can be seen as introducing an additional layer of human expressivity. The dodge and burn technique involves a moulding of light that requires an involved level of skill and handcraft. This form of human interfacing with technology is specific to photographic practice, and the dexterity required is akin to that of shaping wood or metal. It is in this manual operation that a form of Moholy-Nagy's "writing with light" is materialised.

In a McLuhan sense, photography here is not only an extension of man's vision, but an extension of the body. The photographic darkroom printing process places the photographer literally inside the photographic apparatus. In the darkroom, the photographer is operating within a darkened chamber, manipulating a projection of light towards a flat, light-sensitive surface. This is a reverse reconfiguration of the processes and technologies of the camera that generated the image he or she is now printing. The photographer, as encapsulated within the photographic darkroom, is analogous to working inside a camera during an exposure. In this sense, the darkroom is the extension of human capabilities, and the human works as an extension of photographic capabilities.

The photographic printer in the darkroom provides the circumstances where the relationships between man and machine are played out in action and become intertwined. Here, as the human is both physically and metaphorically contained within the apparatus of photography, it serves as a convenient illustration of the indistinguishable divisions between human and technology. Much in the same way, Donna Haraway argues for doing

away with ontological distinctions between human and machine: “It is not clear who makes and who is made in the relation between human and machine” (2004, p. 35). The apparatus becomes an extension of the human body as he or she takes the camera for granted, the separation between the two becomes less distinct.

Vilém Flusser explores this relationship between humans and apparatus in his work, stating, “photographers are inside their apparatus and bound up with it” (2000, p. 27). He argues that photographers are functionaries of the apparatus, where they can only act within the program of the camera, becoming a “function of the images they create” (2000, p. 10). They can only act in accordance with the program, even if they believe that they are doing the opposite: resistance is also a contained part of the program of the apparatus. But, according to Flusser, it is also the photographer’s responsibility not to become a function of the camera; the photographer must discover ways to disrupt the apparatuses’ programs and expose the struggle between human beings and apparatuses.

Flusser argues that it is the gesture of photography that frees the photographer from the domination of the apparatus: “By observing the gesture of photographing, it is possible to actually see the reversibility of this relationship in a specific para-industrial context” (Flusser, 2011b, p. 289). Flusser draws our attention to the human gestures that provide the nuances in the uses of technologies that often go overlooked. For him, the act of the gesture is an interaction that occurs between the human and the apparatus that is a mutually complementary relationship that creates a unity between them (2000, p. 27). In this sense, it is in the gesture where human and machine interact to merge as apparatus. Although the photographic gesture does allow the photographer to express his or her own will, because this is constrained within the apparatus it does somehow still carry out the apparatus’s inner instructions (2011a, p. 20). The human gestures are

expressions of the will to freedom. The hand gestures of the photographic printer are simultaneously part of the photographic apparatus and an attempt to free the photographer from it.

The gestures the photographer makes in executing the print in the darkroom are the human interruptions of the mechanical and automated printing processes. While the darkroom timer ticks, human hands conduct the light. Dodging and burning is the act of the photographer placing him or herself in the picture, reaching in between the lens and print surface to sculpt light to fashion a handmade image. The reintroduction of hand craft into an otherwise mechanical process of photographic printing is the re-establishment of human agency within the mechanical photographic process. To counter concerns around automated and unlimited reproduction, photographic art prints often are printed in, and limited to, numbered editions as a method of reintroducing notions of originality. While unlimited mechanical reproduction undermines photography uniqueness, authority and, ultimately, legitimacy, the gestural activities of dodging and burning strive for the re-establishment of photography's notions of authenticity.

The skills and techniques of dodging and burning are idiosyncratic to each particular photographic printer. They require a technical proficiency that can be compared to the competency of a musician in both dexterity and creativity. With photography's evolution into digital, the decline of many of these analogue skills passes unnoticed. They are often regarded as arbitrary, manual, if not mundane, antiquated production tasks. The legacies of these and many other photographic skills, for the most part, pass undocumented. However, Robert Burley's *The Disappearance of Darkness* (2013) is an example that provides photographic observation of the retreat of film-based photography, as it documents both the demise and the resilience of traditional photographic cultures. Rather than a nostalgic grasp for a bygone

era, celebrating legacies of material photographic culture may well record what is passing in the course of photography's inevitable evolution, but will also provide the background for the rise of new cultures.

The artwork *036 Dodge* has been created to produce a document of this dwindling darkroom technique, and to draw attention to it as a neglected aspect of material photographic culture. This draws on a "media archaeological" approach, with its emphasis on reassessing often underappreciated and overlooked historical media cultures from the past. Neglected and previously ignored technologies and practices are particularly valued as possible bearers of previously unidentified cultural significance. Siegfried Zielinski, one of the founders of this approach, states, "[w]e do not seek the old in the new, but find something new in the old" (2006, p. 3). The goal is to gain insights about the role of historical media and implications that it may offer to contemporary practice. It seeks to uncover new understandings about them, promote their historical relevance, and explore how they may inform contemporary practices.

This artwork highlights the disappearance of these material techniques, and, as such, would suggest a body of work that would extend to document a range of practitioners engaged in it to record a range of styles and approaches, or, alternatively, other bodies of work that would uncover and document other material photographic practices of a similar kind. It may also serve as an illustration to those who may only know these techniques as Photoshop tools. Primarily, this work sets out to highlight the specific set of skills that this technique entails as a valid photographic practice in its own right. These graceful and intricate gestures of light play that go towards the production of the image are physical photographic practices in themselves.

Methods and styles of dodging and burning are particular to each particular photographic printer. Every printer develops their own methods to keep time and motion consistent, as prints are almost always made in succession, either to attain an optimum print, or to produce an edition of them. The aim is to achieve accuracy and maintain consistency. It is not uncommon for the printer to count or to use a song to guide the sequences of necessary actions. The printer choreographs a set of predetermined movements, as they need to be precise and repeatable. The algorithmic nature of this human activity not only draws attention to the alliances between man and machine, but also to it as ritual performance.

The process involves a person in a darkened room, gesticulating their hands, motioning pieces of black cardboard or shapes mounted on wires over photographic paper, while counting or singing. Comparisons to ritualised performance can be made here, as the photographic printer executes repeated physical actions to perform the print. The process entails what Richard Schechner refers to as "restored behaviours", that is, actions that are repeated or "twice-behaved" (2012, p. 52). The printer is performing the human enactment of a set of predetermined actions, guided by his or her own creative and ritualised expressions of how they might move through time and space. The algorithm that governs the varying lengths of exposure times is encoded into human repeatable physical actions. To memorise a complex set of physical actions, the printer encodes the instructions based on restored behaviour. Dodging and burning is, in effect, a dance, or a play, of light and shadow.

The practice of dodging and burning presents photographic knowledge that is held in performative practice. It requires the set of physical actions to be remembered and repeated with considerable accuracy. These are memories encoded into a sequence of actions. The sequence that is the manipulation of the print process is stored in the repeated physical actions that constitute

embodied knowledge. As the printing sequence is repeated, an iterative learning process of improvement takes place. Each print is reassessed, and the printing sequence is subsequently modified towards the creation of an optimum print. The process is refined through its rehearsal-like process of testing and reappraisal. The knowledge that is being developed is not fixed but one of continual improvement through cyclical repetition.

The collective memories of photographic culture are held within the repeated actions of its practice. The actions of the photographer, across a broad range of photographic practices, exhibit attributes of ritualised behaviour – the programmatic sequences of wedding photography or the tourist photography observed by Jonas Larsen (2005), for example. The collective knowledges of photographic practice are not necessarily stored solely in books or images, but also in its iterative physical performances. Although the image is the product of photographic process, relying on the photographic image or written descriptions does not necessarily encapsulate knowledge of photographic practice accurately or in its entirety, nor does it present an accurate mode to represent and document them. The performances of photographic practice may be documented in any number of ways but recognising them as performance acknowledges the dynamic nature of photographic knowledge. Rather than statically representing them, photographic practice as performance presents its knowledge as both stored, and transmitted, in motion.

The artwork *036 Dodge* isolates the activity of dodging and burning, separating it from its context in the actual printing of a photograph, to present it as performance in its own right. This presents this practice *as* performative and as the site of photographic knowledge in movement. Performance provides a mode to disengage with the representational aspects of photography and provide a site exploration of photographic practice. As Karen Barad argues, "[t]he move toward performative alternatives to

representationalism changes the focus from questions of correspondence between descriptions and reality … to matters of practices or doings or actions" (2007, p. 28).

Once the representational mode of the photographic is de-emphasised, the subject of the artwork becomes photographic practice itself. As the representational requirement is removed from the photographic work, then it is only the mechanics of a photographic process that can become the focus of the work. This artwork is a video of a performance of the production of an image. This work draws our attention to the process of image-making, a self-reflexive mode of photographic introversion of "photography looking at photography through photography" (Gützel, 2014, p. 56). The mode of image production and the content of the work have become fused. In the words of Gottfried Jäger, writing on concrete photography, "[t]he photographic means thus become the object of photography, and the medium itself the object" (Jäger et al., 2005).

This artwork explores the otherwise overlooked photographic darkroom practice of dodging and burning and presents it as performative, uncovering it as a dance not only of light and shadow, but of human and machine. Photography is explored as it is being (re)produced through performances of doing and acting. Observing these rituals of photography's material practices as performances reveals them as the sites of photographic knowledges. This notion of photography as knowledge in motion helps us reconfigure and expand our understandings of what constitutes photographic practice. It also suggests that a wider range of photographic rituals remain for further investigation and documentation.

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4.5 Immaterial Photography

Regarding photographic practice as performance provides the location for the objects of photography to exist as a democratic interaction of objects. One that offers the possibility of an imageless photographic practice. In response to de-emphasis on the representational capabilities of photography and democratisation of its objects, regarding photography as performance offers a point of view that presents practice as sites of knowledge in movement. This enables us to modify our understandings of photography, as in these terms it cannot be regarded as static documents, but rather as flows within these dynamic reconfigurations of the world. Photographic practice as a performance of objects in this sense presents itself as an intricate network of human and non-human configurations that are continually being performed or enacted. Photographic practice operates as the sites of knowledge in motion.

The issue arises of how might a performance of democratic photographic objects be represented and communicated when not represented through photographic imagery? Although photographic concepts are often articulated through material modes and many photographical concepts might be better served through the medium of photography itself, here we speculate on a photographic practice as philosophical performance that may be abstract, conceptual and immaterial.

The "non-photography" theories of François Laruelle (1937) provides a valuable response. A philosophical approach to photographic practice, as argued by Laruelle is one that emphasises the non-material and portrays photographic concepts through performance. A non-photographical approach fuses both its concept and its interpretation through performative means. Laruelle's non-photography poses a theoretical photography, as his

project emphasises a photographic metaphor as a mode for philosophical thinking. This philosophical approach to photographic practice is one that emphasises the non-material and portrays photographic concepts through performance, be that spoken communication, written texts, dance or other modes. A non-photographic approach fuses both its concept and its interpretation through performative means. This is photography as a theoretical object that need not be attached to any visual manifestation, and presents the possibility of an immaterial photographic practice.

François Laruelle's "non-photography" poses a theoretical photography, as his project emphasises a photographic metaphor as a mode for philosophical thinking. He presents it as a genre of both photography and philosophical performance. Laruelle regards philosophy as an activity, a performative undertaking, in the sense of speech act theory of performative language, that does something in the world – a performance art of philosophy. In what she terms "performance philosophy", Laura Cull relates these ideas in a similar way to the philosophy of performance arts such as theatre, where she describes philosophy as performative practice as a "philosophy that does not represent thought as movement so much as it *moves thought"* (2013, p. 498).

Laruelle's non-photography is not for generating images, but for the performance of non-philosophy. Photography is used as a theoretical metaphor to perform his non-philosophy, as his non-photography theories replace the technological apparatuses of photography with purely theoretical ones. Non-photographic thought that is practiced or performed is a theoretical photography that takes place as conceptual thinking. In terms of photographic practice this means presenting photography as non-materialised forms, bringing it to the realms of performed abstraction conceptualisations.

This raises the question of how we could then develop and articulate photographic concepts using Laruelle's non-photographical theories without a material medium to communicate them. An indication of how these

photographic artworks might be articulated may be that they adopt other media, such as the written or spoken word. The work of German artist Tino Sehgal creates performative pieces as artworks that he calls "constructed situations". The concepts for Sehgal's work, other than the performance itself, are not held in written form or documented in any way and are only communicated orally. He famously stipulates that his performance works not be documented in any form, insisting that no photographs are to be made. His refusal to create physical objects in or around his work disputes the material-based work that had been predominant. For him, performance exists in the same terms as objects in a gallery space. The work is conveyed as concept orally and exists as ephemeral performance.

Laruelle's non-photography is not an extension or variation of photography or even its negation. Here, the essence of photography is in itself not "photographic" in the usual sense of the word, but a notion of photography that might appear when viewed with non-philosophical and non-human eyes. In an attempt to relieve photography from the theoretical and philosophical notions placed upon it, Laruelle seeks to use his concepts of non-philosophy to create an abstract new genre or generic practice, which he suggests might be called "philo-fiction". In his book *Concept of Non-Photography* (2011), he describes non-photography as an "attempt to photograph photography (the philosopher as self-portrait of the photographer) rather than describing it as a thinking" (p. 27).

> Here is the first meaning of 'non-photography': this word does not designate some new technique, but a new description and conception of the essence of photography and of the practice that arises within it; of its relation to philosophy; of the necessity no longer to think it through philosophy and its diverse 'positions', but to seek an absolutely non-onto-photo-logical thinking of essence, so as to think correctly, without aporias, circles or infinite metaphors, what photography is and what it can do. (Laruelle, 2011, p. 4)

Laruelle's non-philosophy argues for a reorientation of thought and philosophy that suspends philosophy's claims over the "real". The philosophical conditions of thought are not of interest to him. He makes no claims for truth or knowledge. His argument is that no knowledge of the real is possible and so the real cannot be grasped by philosophy. It is not an attempt to construct a new philosophy or to counter existing ones, but to make all philosophies equivalent. As Anthony Smith puts it, "[t]he point of non-philosophy is not simply to think the Real" (Smith, 2011).

> Philosophy is not only a set of categories and objects, syntax and experiences, operations of decision and position: it is animated and traversed by a faith or belief in itself as if in an absolute reality, by an intentionality or reference to the real that it claims to describe and even constitute, or to itself as if the real. (Laruelle, 2013, p. 17)

Non-philosophy is not an anti-philosophy or a negation of philosophy, rather the name "non-philosophy" is modelled on an analogy with "non-Euclidean geometry". "Non-philosophy" stands in for "non-standard philosophy", as "non-photography" stands for "non-standard photography".

Laruelle's non-photography is an extension of non-philosophy into the photographic realm. Similar to his approach to philosophy, Laruelle rejects the real as a starting point for thinking about photography. Photography need no longer be required to frame the real: "Photography must be delivered from its philosophical interpretations," Laruelle declares (2011, p. 17). Non-photography seeks to dispute the standard philosophies of photography by untethering it from the real, by creating it as an abstraction, and in this way challenging philosophical divisions of knowledge between the arts and sciences. "Non-photography is a thinking of photography without the Real" (Fardy, 2018, p. 23).

This is a photography that need not be attached to any visual manifestation. Laruelle's theories reject the rhetoric of representation, and any relational, conceptual claims on real objects. As photography is severed from its connection to the real, the photographic image becomes an image-object, rather than an image of an object. It is photography with no intrinsic relationship to the real or representative of real objects. Photographs have more in common with other photographs than the objects they depict. Photography that neither "reasons nor reflects" (Laruelle, 2011, p. 31), or harbours anything of "the invisible" (p. 105).

Rather than seeking the essence of photography, Laruelle argues that it becomes a theoretical object. A philosophical fiction capable of producing what he terms "photo-fictions", a "philosophical artistic genre that strives to make a work with pure and abstract thought" (2012, p. 6). The technological apparatuses of photography are replaced by a photo-fictional theoretical apparatus that offers an "aesthetic impossibility, a non-aestheticizable or non-philosophizable impossibility" (2012, p. 12). A photograph is therefore an idea, rather than a concept, one that exists in experience. The photo-fictional apparatus is not for creating pictures to view, it is for generating fictions that are like "theoretical captions" (2012, p. 12). Photo-fiction is not a photographical or philosophical fiction – for Laruelle it is more comparable with science fiction. Photo-fiction is a genre.

A Light Odyssey

Then what would a photo-fiction look like? For the purposes of illustration, what would provide an example that might manifest itself in the world? Alexander Galloway provides an example in his book on Laruelle: *Laruelle: Against the Digital* (2014).

In 1991 Laruelle wrote an essay on the work of the renowned artist James Turrell. Entitled A Light Odyssey: The Discovery of Light as a Theoretical and Aesthetic Problem, the essay examines a series of twenty etchings made by Turrell called *First Light* (1989–90). The exhibition press release describes the works as "arranged in groups based on the white shape that hovers in the dense black field of each print. In the installation, with light projected onto the images, the shapes appear to glow and float; viewed in sequence, they seem to move. The effect, from print to print, is trance like and mesmerizing" (Turrell, 1990).

Amanda Boetzkes quotes Turrell speaking later of his art practice in general: "First, I am dealing with no object. Perception is the object. Secondly, I am dealing with no image, because I want to avoid associative, symbolic thought. Thirdly, I am dealing with no focus or particular place to look. With no object, no image, no focus, what are you looking at? You are looking at you looking" (Boetzkes, 2010, p. 119).

These ideas resonate with Laruelle's non-standard aesthetics of abstract thought. As translated by Galloway, in A Light Odyssey, Laruelle describes a photographic fiction:

> Imagine a photographer tired of using light to render his "subject" or whatever other objects were before him. Imagine that this photographer was crazy enough to want to render the light as light. If so, this would not be the light from distant stars, but a light without stars, without source no matter how distant or hidden, a light inaccessible to the camera. Should the photographer abandon his technique and find another? Or should he generalize his technique across the various forms of the darkroom, the white cube, and the camera obscura in order to proliferate the angles, the frames, the perspectives, the openings and shutters used to capture (or perhaps to seduce) the light itself? Would he not be making, in essence, the kind of work that Turrell makes? (Laruelle, 1991, p.10)

Laruelle is claiming that by releasing photography from the necessities of representing, or being specifically connected to, the real, other configurations are possible. Here it is the will of the photographer to "want to render light", to display "light discovered in its radical identity" (1991, p. 5), rather than posing it as a photographic essence. In what he terms the "photographic stance", he refers to the philosophical posture of thinking photography, that is, to be "rooted in oneself, to be held within one's own immanence" (2011, p. 12), rather than referring to a physical undertaking. Therefore, an artwork that is regarded in other realms as light-art, from a Laruellian point of view, can be considered a photo-fiction. Non-photography poses photography as a photo-fictional apparatus that is no longer "materially or physically optical but intellectually optical" (Laruelle, 2015, p. 15), but a theoretical object of abstract thought.

Laruelle's rejection of the real is the starting point for thinking about both philosophy and photography. His non-philosophy is a practice of thinking philosophy and thinking photographic practice that exists between philosophy and the real. This is an approach that offers the possibility of a photographic practice that is no longer dependent on the production of an image. He uses photographic practice as a philosophical model to explore the experience of philosophical thinking that rejects the real. "The task of a rigorous thought is rather to found – at least in principle – an abstract theory of photography – but radically abstract, absolutely non-worldly and non-perceptual" (2011, p. 8). These photo-fictions are abstract constructs with no pretensions to be based in any truth. Non-photography is a way of thinking about photography that presents it as a theoretical "science fiction" of photographic practice.

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4.6 085 Imaginary

Rood, S. (2020). *085 Imaginary Photographic Objects* [PDF, 5 Pages]

View PDF online

The artwork *085 Imaginary Photographic Objects* explores photographic practice as conceptual undertaking. Containing no photographic imagery, it explores a possibility of what an imageless photography might look like. Rather, this work consists of a small (PDF) booklet of written instructions for four unexecuted artworks. These artworks seek to extend the photographic ideas investigated in this thesis and explore their outermost limits. This is an exercise in determining where these ideas produce what is no longer photographic practice and evolve into some other form.

Auckland Harbour Signalling Event

A coded (Morse) message is sent from Devonport using Navy signalling lamps and operator.
The message to be sent is a simplified Māori creation myth poem with the words;
"*Te kopre, Te pi, Te ao marama*"
in a continuous loop.
The lamp signals will be received by public celebrating Matariki at Bastion Point across the harbour. The message can be decoded using a freely available mobile phone app.

Poem:

Te kopre	Void	-.- --- .--. .-. .
Te pi	Darkness	.--. ..
Te ao marama	Light	.- --- / -- .- .-. .- -- .-

To summarise, the practical concepts proposed in this work include:

Auckland Harbour Signalling Event. To celebrate Matariki, a short poem of a Māori creation myth is signalled across Auckland harbour in Morse code using naval signalling lights.

Auckland Harbour Searchlight Re-enactment. A re-enactment of two episodes in Auckland's history when the harbour was illuminated with searchlights is performed.

The All Black Haka. As the haka begins with a Māori creation myth, the All Blacks perform this section of their haka in complete darkness.

Te Unuhanga-a-Rangitoto. A searchlight is placed in a cave in the Waitakere Ranges. The searchlight is directed skywards, through a hole in the cave's ceiling.

Auckland Harbour Searchlight Re-enactment

In the Russian Scare of 1873, Auckland
harbour was lit up with an array of searchlights
positioned on both sides of the harbour.

The ship H.M.S. New Zealand's visit to Auckland
in 1913 was celebrated with a spectacular
searchlight display.

A re-enactment of these events.

The artworks that have been discussed so far (*075 Grain*, *047 Drop* and *036 Dodge*) explore a photographic practice that does not emphasise the production of imagery but is concerned with practices around image creation, storage and transmission. These works have been selected from a larger body of works that explore photography as a material practice, where objects are regarded democratically, and exist in a material performativity. In *085 Imaginary Photographic Objects*, the theoretical concepts that have been previously applied to photographic practice are applied to photographic concepts. to explore an immaterial photographic practice.

Without attempting to essentialise photographic practice, and for the purposes of experimentation, the material characteristics of photography are taken as the projection of light towards a surface. Flattening the ontology of photographic practice allows the disassembling and reconfiguration of

The All Black Haka

The New Zealand Māori rugby team's haka begins within the creation myth and the evolution of Māori from *te kore*, the nothingness, to *te pō,* the dark, and then to the light. It describes the separation of *Papatūānuku,* the Earth Mother, and *Ranginui*, the Sky Father, and the creation of human life itself.
(Gardiner, 2007)

The All Blacks performance of the haka is begun in complete darkness.

The spot-lights fade up gradually.

photographic objects into abstracted formations that may not necessarily resemble conventional photography. Here, photographic practice occurs as a performance in time, not as a static entity commonly associated with the photographic image, so that photography as a performative event is emphasised. The purpose of this work is to take these concepts beyond the limits of conventional photographic notions and norms themselves. It proposes that events in environments that might act as a camera obscura – a harbour, a cave, a sports stadium – could also provide the sites for abstracted forms of photographic practice.

In the work of François Laruelle, photography becomes a philosophical activity, not a pictorial one. His concept of "non-photography" opens up new notions of photographic practice that are no longer based in conventional forms, but rather as sites of theoretical speculation.

Te Unuhanga-a-Rangitoto

At Mercer Bay, in between Piha and Karekare,
there is a sea cave with a huge hole in its ceiling.

A searchlight in the cave beneath the hole,
its light beam pointed skywards.

In Laruelle's non-standard photography, photo-fiction is photography not material in the technological sense; it is a conceptual apparatus, where "operations are no longer materially or physically optical but intellectually optical" (2012, p. 15). This photo-fictional apparatus is not for creating pictures to view, but for generating fictions that are like "theoretical captions" (2012, p. 12). Non-photography is a way of thinking about photography that presents it as a theoretical "science fiction" of photographic practice. Laruelle rejects the "real" as a starting point for thinking about photography. Non-philosophy, on which his non-photography is based, argues for a reorientation of thought and philosophy that suspends philosophy's claims over the real.

Although the artworks proposed in *085 Imaginary Photographic Objects* are not attempts to provide an illustration of Laruelle's concepts, its experimentation is informed by them, amongst others. The concepts

described are purposefully speculative, imaginary, and possible, but not fantastical. They seek to generate conceptual "photo-fictions", as Laruelle calls them, exploring where they depart from being recognisably photographic, but still conceptually linked. As Laruelle argues, they "must assure a certain resemblance between the photo or its subject and the photo-fiction sought" (2012, p. 15). Here, the photo-fictions that are proposed make no claims to be based in the realities of photographic practice. They instead present a notion of photography as a theoretical "science fiction" of photographic practice.

"Imaginary media", as Eric Kluitenberg claims, mediate impossible desires and "should be regarded as impossible machines" (2011, p. 68). Kluitenberg explores the idea of a "media archaeology" of imaginary media, describing this as a way of gaining insights into contemporary media. He sees the creation of connections between technological media and human imagination as a reaction to contemporary media culture that tends towards conformity and standardisation. Fellow media archaeologist Siegfried Zielinski, in his book *The Deep Time of the Media* (2006), interweaves the two different approaches of the logical and the magical as a method to reintroduce the aspect of human imagination into technological media. Beliefs, fantasies, magic, religion and imagined media, from both the past and present, all provide potential evidence for the understanding of media. Imaginary media are, however, not simply fictions. Media histories demonstrate that imaginary and realised media continuously intertwine and often generate cultural significance irrespective of them being actual or not. Imaginary media are stories that "convey what technological media are seen to be capable of" (Kluitenberg, 2011, p. 48).

In the light of a media archaeology of imaginary media, the artwork presented here, in *085 Imaginary Photographic Objects*, is not imaginative enough, as these projects are achievable. If they are to be imaginary, why

then make them feasible? From the position of imaginary media, they pose conventional proposals for event designs. From the point of view of presenting them as photographic practice, their purpose is to speculate on a photography beyond notions of photographic practice. They are fictions that explore what photographic media may be seen to be capable of.

If these photographic fictions are conceptual and imagined, then how they might be communicated and articulated presents a dilemma. Photographical concepts may well better be served through the medium of photography itself, but this is not possible as there is not yet anything that is visible. Photographic concepts that cannot be communicated through photographic means require some other form of mediation, such as performance, as in the case of the artwork *036 Dodge*, or as a set of written instructions. Artworks as a set of instructions are not uncommon within the art world. These are, in a sense, algorithmic, where a set of sequential instructions stand in for the artwork yet to be realised. With parallels to visual musical scores or dance notation systems, they provide directions for a later performance. These instructional works can, and often do, operate as independent art objects in themselves.

Art production as instruction has its origins in Marcel Duchamp's instructions for his sister Suzanne to construct his work *Unhappy Readymade* (1919), through written correspondence, as a wedding present. In the early 1960s, American artist Alison Knowles used the term "event scores" to describe "simple actions, ideas, and objects from everyday life recontexualized as performance. Event Scores are texts that can be seen as proposal pieces or instructions for actions" (Knowles, n.d.). They can be executed by any person and are open to modification and interpretation. Also in this period, artists such as Allan Kaprow, Sol LeWitt and particularly Yoko Ono pioneered the use of written conceptual abstract poems as instructions for artworks, with Ono's book *Grapefruit* (1964) an early and

formative example of conceptual art. The emphasis of event scores tends to be on the performance aspect of the execution of the instructions rather than the creation of static, permanent artworks.

085 Imaginary Photographic Objects proposes a set of written instructions as photographic performances. It seeks to interrupt conventional photographic narratives by shifting the focus from photography as the creation of a static object of the image, to one of an active and lived performance. The fact that they do not resemble anything recognisably photographic is not as pertinent as is the exercise of exploring a performative, abstract notion of photographic practice. The pieces are an attempt to blur the boundaries between photography, photographer and spectator. Taking its lead from conceptual art, this form of photographic practice as an event score extends this performative notion of the photographic to one that occurs in the imagination. This is photography as a hypothetical performative event.

The proposed artworks centre around significant locations and events with an emphasis on local cultures and landscapes of Auckland, New Zealand. *Auckland Harbour Signalling Event* celebrates Matariki, the Māori New Year. The *Auckland Harbour Searchlight Re-enactment* celebrates naval heritage and commemorates significant local naval events. *The All Black Haka* reinterpretation is a performance design modification for New Zealand's iconic rugby team and its famous pre-game ritual. *Te Unuhanga-a-Rangitoto* is a local landscape with ancestral mythological significance regarding Māori legend. The use of these cultural locations and events provides a vehicle for conceptual explorations of photographic practice. This is intended to explore photographic concepts in a cultural context, to expand the scope of the project beyond photographic culture and to place it within broader cultural circumstances.

Common to these locations and events is that they take place in a darkened space and concern the transmission of light. This refers directly to the concept of the democracy of photographic objects where the priorities of objects may be reconfigured to create new formations. If there is no restriction on the rearrangement of photographic objects, then other external elements come into play. Here the darkened space of the camera obscura, camera and projection space is expanded to include the possibility of external, environmental locations. A harbour, a cave and a sports stadium can function as the photographic black box of the camera obscura. The darkened locations act as a theatrical stage for the performance of shadow and light, and as constituent elements in an expanded photographic apparatus.

The aim of these artworks is to explore the creation of speculative pieces of photo-fictional forms of photographic practice. They provide a notion of photographic practice that is no longer reliant on the presentation of photographic imagery. These works intentionally take the concepts explored in this thesis to their furthest point, to where they are no longer recognisable as photographic practice. In doing so, it was necessary to establish a mode for how these concepts might be best articulated when it's not possible to convey them through photographic means. Rather than retreat to work within the bounds of conventional notions of photographic practice, there may yet be more to be gained by asking what an impossible or unimaginable photographic practice may entail. What could this look like and would it be of any relevance to photographic culture – would this depart into other or new genres? To speculate on imaginary forms of the photographic places it in the realm of science fiction. This might be presented in a literary form similar to Jorge Luis Borges' collection of fantastical creatures in his *Book of Imaginary Beings* (Borges, 1980). The intention of the works in *085 Imaginary Photographic Objects* is not to dispute the photographic apparatus, but to explore other ways of presenting it and to expand our notions of it, by imagining ourselves within it.

This chapter has explored the concept of performance as providing a location for the objects of photography to exist as a democratic interaction of objects. In response to de-emphasising the representational capabilities of photography, regarding photography as performance offers a point of view that presents practice as a site of knowledge in motion. One that may occur outside the limits of the static photographic image. By recognising photographic practice as a performative process, we can look beyond the products of the photographic process by focusing upon the practices that surround it, and how human and non-human configurations are enacted. This enables us to modify our understandings of photography, as in these terms it cannot be regarded as static documents, but rather as flows within these dynamic reconfigurations of the world. Photographic practice as a performance of objects presents itself as a dynamic network of human and non-human configurations that are continually being performed or enacted. François Laruelle's theories of "non-photography" (2011, 2012) have provided a purposeful response to explore how a performance of democratic photographic objects be represented and communicated when not represented through photographic imagery, but through performance. Disputing the centrality of the static photographic image, here, photographic practice occurs in time as the performance of photographic configurations as both physical and imaginary objects.

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CHAPTER 5 – CONCLUSION

5.0 Conclusion

The aim of this project has been to contribute to contemporary photographic practice through the proposition of new notions of photographic engagement. A practice-led exploration has been undertaken, weaving both critical investigation and practical exploration together. Concepts have been developed and presented that contribute and advance our understandings of what photographic practice might be. In this concluding chapter, the findings of the project are restated and reflected upon. The main points, arguments, deductions, and their synthesis are discussed clarifying the project and its contribution. Implications of the findings for photographic practice are also addressed. The application of the findings of the research as continued exploration and further research are proposed as recommendations. The limitations of the research and its findings are discussed. This chapter reflects on the project as whole, reiterating the aims that have framed it, reflecting on its outcomes and what it has achieved.

The research set out to contribute to photographic practice through evolving understandings and developing notions of the photographic. Informing this process, this thesis examined contemporary photography through an exploration of relevant critical theories. Contemporary and historical issues and trends concerning photography were examined, and an investigation of pertinent philosophical concepts was undertaken to provide a theoretical framework for the investigation. In conjunction, experimentation in the form of practical explorations was undertaken to investigate and develop photographic concepts in physical form. A body of artworks were produced as the location of practical exploration. A selection

of artworks was chosen from this body of work and have been discussed, drawing the practical and theoretical components of the investigation together. Both the theoretical investigation and the practical exploration have iteratively informed each other, leading to the findings reached and the conclusions produced in this thesis.

Fundamental to this inquiry has been the questioning of a core tenet of photographic practice, that is, the role of the image as its central element. The primary contention of this thesis is that photographic practice can no longer be defined by the production of image and its representational capabilities alone. The indexical capabilities of photography are regarded as but one aspect in its wide range of social and technological possibilities. This position has been informed and supported by an examination of the effects of digital technologies that have recreated the photograph as a digital object that operates as a node on networks of digital information. De-emphasising the image as the central element to this inquiry has determined that this project has become an inquiry into the nature of photographic practice, rather than the nature of the image, or any representational content it may seek to portray. With photography no longer just about the image, the inquiry becomes an open-ended and inter-medial exploration of photography's potential.

The three main findings of this study are identified as the themes of "material", "democratic" and "performative" notions of photography. These three thematic categories merge to form the hypothesis of the thesis. That is, photographic practice as the performance of democratic photographic objects. The sequence of ideas investigated through theoretical inquiry and creative practice consecutively builds towards the formation of these concepts. The three interrelated concepts pose a set of notions for the creation of practical photographic works and continued exploration and expansion of photographic practice.

Although photography as material practice acknowledges its ever-expanding field of associated practices, contemporary photographic practice is characterised by the algorithmic image. As such, it not only continues to sever the relationship between the image and the world, but suggests it has agency in the world. The implication for photographic practice in any of its forms, be they digital, analogue or other, is the displacement of both the human and the image from the central role in photographic practice, which which has consequently been recognised as an imaging system. This project has explored this displacement and proposes that addressing the material aspects of photographic practice can provide opportunities for practitioners to harness a wider realm of relationships.

Photographic practice as democratic objects as discussed in Chapter 3 acknowledges the displacement of human agency and offers a mode to negotiate an expanded field of photographic objects. In the democratic view of a flat ontology, all objects come into play. Everything in the social and natural worlds are regarded as heterogeneous objects in a network of relations (Law, 2009). Photography as non-hierarchical configurations of objects that are no longer restricted to media make the question of what and where photography is an open one. This allows photographic practice to be one of the formation of assemblages unrestrained by conventional notions of the photographic. A democratic, flat ontology of photography is one where configurations are available for imaginative renegotiation, and will provide new modes for analysis and creation for photographic practice.

Photographic practice as performance as discussed in Chapter 4 acknowledges the ongoing interactions of objects forming, disintegrating and reforming into other objects. This allows a notion of photographic practice that occurs in time. The photographer in this sense becomes the orchestrator of objects. Lyle Rexer writes, "[t]his makes the photographer into a strange kind of artist, at least in the modernist sense – part showman,

part magician, part stage manager. The photographer does not 'create' but harnesses and directs. The photograph itself is a piece of performance art, and the performer is light – its passing through and encountering things in the world" (2009, p. 12). The photograph is not just performance, but all material practices that surround its production, storage and transmission are in motion. Photographic practice as performance can then be employed as a strategy for the creation of photographic objects as actions rather than for the production of static monuments. Photographic practice is performed photography that creates and maintains knowledge through the passage of movement of its objects. In a theoretical sense, the performance philosophy of photography, as argued by François Laruelle, allows photographic conceptualisations to become a fictional form of photography, opening a path for a science fiction of photographic practice. Physical or not, the performance of photographic objects allows for the invigoration of the photographic to one of dynamic interactions.

This research endeavours to respond to contemporary trends of photographic practice. It has been guided by an investigation of the ways in which photography can be shaped by contemporary technological and social conditions. It addresses the implications of these findings for the culture and understanding of photographic practice. And how the synthesis of the established concepts explored in this thesis – material, democratic and performative – help the reimagining of photographic practice. This project strategically positions itself against the predominant narrative within photographic practice that assumes the centrality of the photographic image without question. This thesis argues that the current implications of "anthropocentrism" that have caused a displacement of the human deem this is no longer tenable. This uncovers an opportunity to expand our understandings of what photographic practice might be.

This research contributes to the understanding of post-photographic conditions, considering photographic practice as part of digital networked cultures, while not being exclusively contained within them. The work has been an exploration of speculative, possible photographies without emphasising particular photographic technologies. This thesis responds to the predominant narrative of the digital and seeks to expand it by proposing the inclusion of the wider practices that a flat ontological approach and performance allow. As the days of the camera as an "analogue of the eye, and so the mind" are over (Tagg, 2009), and the human eye is being displaced by practices that no longer bear reference to the position of an observer in an "optically perceived world" (Crary, 1992, p. 2), activities of photographic practice have moved on from camera obscura to photographer and camera, to network versions. This thesis proposes modes of practice that take place along this continuum, informed by these photographic traditions, conventions and technologies, and signalling paths forward.

This thesis has explored and engaged with the changing modes of photography as responses to the ubiquitous and prolific nature of both computation and imagery. As a majority of contemporary images are made by machines for other machines, the image as the central component of photographic practice is displaced, becoming but one component in a network (Hand, 2012; Kember, 2012; Rubinstein, 2018). This thesis responds to photography's emphasis on mechanised imaging by proposing photography as impermanent performance. But this is not confined within the realms of digital landscapes. This work seeks to go beyond these historical horizons and technical parameters of photography by de-emphasising mechanised vision. It explores a mode of photographic practice that can exist outside of predominant contemporary modes that continue to assume the image as central, and speculates on a framework that extends beyond the current boundaries of photographic practice. The findings presented in this thesis promote a means of comprehending the historical,

social and cultural processes of photographic practice and provides new concepts to explore and reimagine both photographic and digital cultures. As such, this positions it in direct relation to contemporary discourse on photography that examines the consequences of its technological evolution due to reproductive scale. A publication such as *Photography Off the Scale* (Dvořák & Parikka, 2021) presents a possible location for this discourse.

It should also be emphasised that this thesis seeks to expand notions of photographic practice while recognising the paradoxical nature of the existence of this investigation within the apparatuses of academic photographic discourse itself. Vilém Flusser describes photographers as being executors of the program of the camera and so are the functionaries of an apparatus. He claims, "[t]he apparatus does as the photographer desires, but the photographer can only desire what the apparatus can do" (Flusser, 2011a, p. 20). In response to this, he calls on "experimental photographers" (2000, p. 81) "to reflect upon the possibility of freedom" (2000, p. 82), to discover ways to disrupt the apparatuses' programs and expose the struggle between the human and apparatuses in the field of photography. Although this project is not a direct response to Flusser's call, as he places emphasis on the role of images, it does align with his intent. By drawing attention to unfamiliar formations of the apparatuses of photography, it is released from a prominence of the image towards formations that are not necessarily yet recognised within the program of conventional photography.

This thesis provides a site of examination of ways photographic objects might relate, and in so doing proposes a mode to explore how objects are understood and experienced in the relation of the human and the non-human. In Chapter 3 the exploration of how flat ontologies might be applied to the objects of photographic practice itself has been undertaken. This exploration is one where all related activities are recognised as having the possibility of maintaining equal ontological value. The implication of

this position is that assemblages not previously considered photographic may now be included in this realm, thus expanding the realms of photographic practice into overlapping terrains. This inquiry contributes to a notion of photographic practice by expanding it beyond a human-centric concept of photography. This work does not endeavour to offer or achieve a "non-human vision", or definitive post-human photography, but to contribute to discourse around how photography responds to questions associated with the Anthropocene, such as issues of agency. The blurring boundaries of photographic practice mean it is no longer "things that humans do with cameras" (Zylinska, 2017, p. 7). However, it does not exclude the human, promoting it as a realm "of interconnected and networked entities that create meaningful objects without recourse to the universal values" (Rubinstein, 2018, p. 4), of which the human is one aspect. As such, the democratisation of photographic objects allows for open interpretations of what photographic practice may be, and offers a mode for practice and wider understandings of what photographic practice might be for, within the cultures of photography, and beyond.

Performativity presents potent concepts to explore and reimagine photographic cultures. The lens of a flat ontological approach explored in Chapter 3 is applied to photography's objects and concepts but it is also applied to the matter of photographic time itself. This allows a notion of photographic practice that occurs as a performance in time, further disrupting notions of the static image. The examination of photographic practice as performance participates in and contributes to a wider "performative turn" (Dirksmeier & Helbrecht, 2008). It explores notions of non-representation and performativity in relation to photographic practice and in doing so broadens and extends these concepts into the creation of experimental practical artworks. Nigel Thrift's theories of non-representation (2008) have been explored as a mode that functions as a methodology of practice, shifting our attention away from the emphasis on the image in

its representational modes to photography as performance. By examining photography through the lens of non-representational performativity, it is argued that photographic knowledge is held in its practices. François Laruelle's theories of non-photography (2011) are proposed as a mode to inform methods of storage and transmission of photographic performative concepts. This emphasis of performance applied to photographic practice has its place within the performative turn and provides exploration, in a photographic context, of a shift from the framing of representation towards techniques of performance. In the realm of the photographic, the artworks explore and extend discourse on the relevance of the distinction of medium by providing sites of experimental exploration.

As this thesis positions photographic practice as performative, the question arises as to where the locations or limits of these performances take place. The performances of photographic objects occur at all phases of photographic practice, as part of its activities and in its stages of production, storage and transmission. These activities of photography are not motionless or static but contain sequences of performative actions that are repeated or "twice-behaved" (Schechner, 2012, p. 52). To expand on this idea, some examples follow where photographic practice may be regarded as performative. Often regarded as instantaneous, the initial photographer's gesture of pressing a button sets the shutter release into motion as the act of recording an image, the recording of the performance, as often a fraction of a second. As argued in the example that Philip Auslander provides in his account of Yves Klein's *Leap into the Void* (1960), the photograph serves as documentation of the performance of its own production and may or may not have taken place at the time of recording (Auslander, 2006). In Ansel Adams's performance of the rendering a photographic print from a negative, each print is both a repetition and a unique occurrence (1950). Interactions with photographic storage are also characterised as instances of performance. Rather than being static, the analogue photograph as

material object demonstrates Karen Barad's "iterative intra-activity" (2003, p. 822), as a photographic negative, or a print stored in a gallery or a draw, will gradually change form over time, progressively degrading, irrespective of any human interaction. In the digital realm, performativity, as described by Boris Groys (2008), is the encounter of the viewer witnessing the performance of the repetitive rendering of a digital file displayed projected or onscreen. The human encounter with the products of photography also occur in the dimension of time and participation as viewing of an image, framed as a singular gesture to be interpreted by the spectator, as in Roland Barthes's phenomenological encounter with the image in *Camera Lucida* (1981). These instances present photographic practice as repeatable activities within the conventions of both photographic practice and performativity, often described as repetition with difference. The activities of photographic practice are not stationary but, as motion is an integral aspect of its processes, consist of repeated actions or, rather, the "reiteration of norms that precede, constrain and exceed" (Taylor, 2017, p. 18) its photographic performer.

This thesis presents performance as a mode to counter emphasis on the photographic image and to provide a location for instances for democratic objects of photographic practice to assemble. While this thesis itself may also be considered in these terms as having been activated or performed in its authoring process, and in this moment of it being read, the accompanying artworks are intended to be regarded concurrently. There are a number of practical artworks presented and examined in the body of this thesis. In addition to this, a larger body of artworks, from which these specific works have been selected, is presented in digital form as videos that are housed on the project website. The intended engagement of these works is in the viewer's interaction, or participation, through encounters with the practical artworks informed by the concepts explored in the thesis.

No specific physical location has been designated for this interaction so as not to prioritise one particular form of photographic performance over any other. As all phases of photographic practice contain elements of performance, a democratic approach informed by flat ontologies will give no preference to any particular form or location. In keeping with the democratic vision of this thesis the decision was made to present the practical artworks as an accessible digital archive, as a site of interaction with the concepts being explored. A conventional photo book or exhibition of static photographs was deemed less suitable, as this would detract from the work's emphasis on performance and highlight a photographic practice that is representational and static. Exhibition in an art gallery did not present itself as an option that necessarily drew attention to a democratic, non-hierarchical viewing encounter. Photographic experiences or events, such as those proposed in the artwork *085 Imaginary Photographic Objects* (p. 178), offer the extension of photographic practice into other media and promote conceptual practice as the location of the works. In this thesis, the concepts explored in both the written and the practical works of the thesis are situated in the action of the encounter between these and the viewer. In this manner, the artworks and their encounter can be understood as actions, rather than offering specific meanings. The presentation of the collection of artworks as a digital online archive provides a readily accessible platform for these interactions to occur.

Further research into developing notions of photographic practice might usefully focus on applying these findings in other contexts. In particular, experimenting with these concepts in a wider cultural domain would open up the findings contained in this thesis to a broader range of interpretations. Possible areas for further research include ones that acknowledge the displacement of both the human and the image as central to photographic practice. As John Tagg claims, the days of the camera as an "analogue of the eye and thereby of the conscious mind" are over (2009, p. 18). Photographic

imagery as algorithmic and photographic practice as a network of seeing machines not only displace the centrality of the human but suggest that agency is also being redistributed. When W. J. T. Mitchell asks, What Do Pictures "Really" Want? (1996), he suggests it is not the same thing as what humans want. An age of algorithmic photographic practice, where all objects are of equal ontological hierarchy, opens the way for a multitude of permutations. The work of practitioners such as Lev Manovich, Harun Farocki and Trevor Paglen demonstrates how photographic practice that recognises both human and image as not necessarily its central actors can continue to evolve and offer opportunities to develop unique modes of photographic practice.

Another avenue for further research would be continued study into photographic practice as performance. If collective knowledges of photographic practice are stored and transmitted in its iterative physical performances, then it is critical that these performances are documented and are reflected upon. The majority of photographic practice consists of sets of actions within a limited range of social and technological understandings that, for the most part, go unnoticed. As Richard Schechner describes performance, by "pointing to, underlining, and displaying doing" (2012, p. 28), knowledge around photographic practice held in its actions may be made apparent. Undocumented and unanalysed, these practices, both historical and current, will vanish unnoticed. Examination of the collective knowledges of photographic culture held within the repeated actions of its practice has great potential to generate insights that may inform contemporary and future practice. This may be suited to a method such as a "media archaeological" approach, with its emphasis on documenting neglected and previously ignored technologies and practices that are valued particularly as possible bearers of previously unidentified insights and understandings.

Photographic practice is changing and has continually done so. The history of the evolution of photography is the story of a multitude of interconnected technical, historical, social, cultural, material, economic and philosophical trajectories. Although based in the material of photography, this project has resisted the current emphasis of photography that prioritises digital technologies. As the future of the photographic relies on technologies that are as yet unrealised, this research has explored concepts that do not emphasise any particular technological form. This research has sought to reimagine photographic practice. The intention has not been to define what photographic practice is, but, contrarily, to venture to wonder what it might be. The concepts that have been explored here are offered as invitations for photographic practitioners to explore and use for their own ends. While photographic practice's role for the future is unpredictable, it seems certain that it will remain a vital technology and social practice. Speculating on its possible forms contributes to the width and depth of the possibilities of photographic practice and is instrumental to its ongoing futures.

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Rood, S. (2018). *075 Grain* [Video, 1:00 minute]
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Rood, S. (2018). *059 Silence* [Video, 1:00 minute]
Rood, S. (2018). *057 Stick* [Video, 1:00 minute]
Rood, S. (2017). *054 Spot* [Video, 0:30 seconds]
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Rood, S. (2017). *047 Drop* [Video, 2:00 minutes]
Rood, S. (2017). *046 CAC* [Video, 1:00 minute]
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Rood, S. (2017). *038 Sol* [Video, 1:00 minute]
Rood, S. (2017). *036 Dodge* [Video, 1:15 minutes]
Rood, S. (2017). *034 M61* [Video, 0:45 seconds]
Rood, S. (2017). *033 Unstable Fixations* [Video, 0:45 seconds]
Rood, S. (2017). *031 Side* [Video, 1:10 minutes]
Rood, S. (2016). *025 Chat* [Video, 2:30 minutes]
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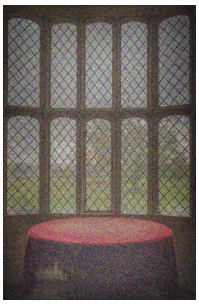
Rood, S. (2016). *006 First Photographs* [Still images]

Artworks available for viewing : *www.shadowmachine.net*

Body of Artworks - *Visual Overview*



075 Grain

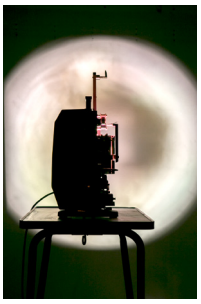
082 Granularity

044 Starter

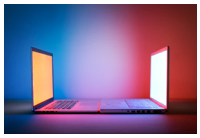
040 Cello

047 Drop

045 Mylar

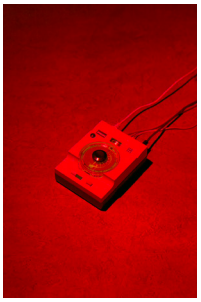


043 Mill

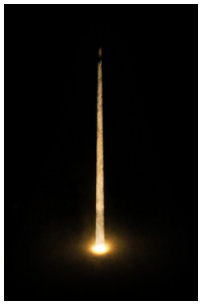


025 Chat

036 Dodge



048 Doka



038 Sol

054 Spot

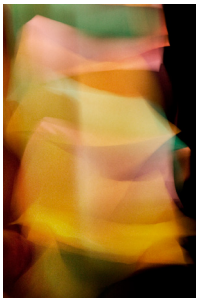
085 Imaginary

072 Morningside

071 Searchlight

073 V.D.L.

031 Side

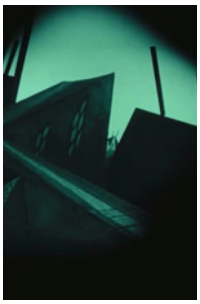


012 Fall

034 M61

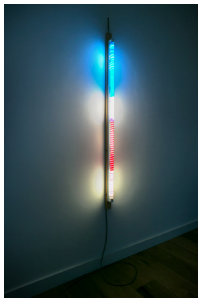
052 Latex

041 Vol

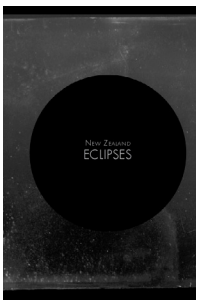


069 Darks

046 CAC



057 Stick

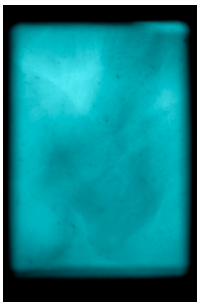


065 NZ Eclipses

066 Paterson

059 Silence

006 First Photographs



016 Enlarger

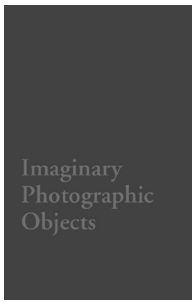
033 Unstable Fixations

078 Vido

074 Wall

Body of Artworks - *Notes*

085 Imaginary Photographic Objects
PDF
2020



Imaginary photographic objects.
Explorations of “non-photography”.

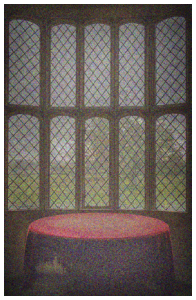
082 Granularity
Video
0:40 seconds
2019

The image as an algorithm.
The digital grain of an image is expanded.

078 Vido
Video
1:00 minute
2019

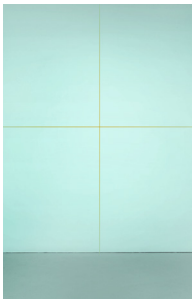
Shadow projection planes.

075 Grain
Video
0:30 seconds
2018



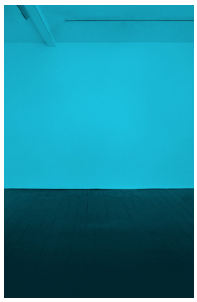
A photograph of the latticed window at Lacock Abbey. The image explored aas an algorithm. The digital grain of a still image is exaggerated.

074 White Wall
Video
1:00 minute
2018



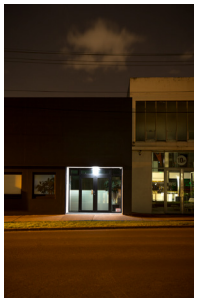
Projection of shadow.

073 V.D.L.
Video
0:30 seconds
2018



The words *Void, Dark, Light*, signaled in Morse code.

072 Morningside
Video
1:00 minute
2018

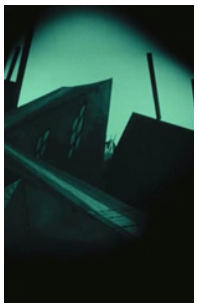


Lighting in urban landscape.

071 Searchlight
Video
1:00 minute
2018

Test with 1939 90cm HCD MK3 searchlight at MOTAT.

069 Darks
Videos
3:06 minutes
2018

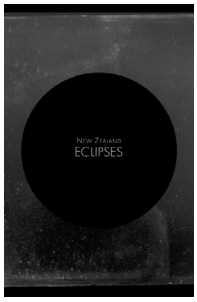


The films *Nosferatu* (1922) and *The Cabinet of Dr. Caligari* (1920) have been re-edited to include dark or shadow frames only. The frames are presented in order from dark to light values. A similar process has been applied to the soundtrack, where it has been re-edited to remove dialogue and sound.

066 Paterson
PDF
2018

A critical review of the "Pack Shot" product photography of the Paterson Photographic Equipment website.

065 NZ Eclipses
PDF
2018

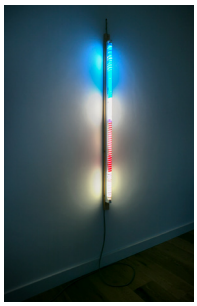


A collection of eclipses that have been documented in New Zealand. All images sourced from The National Library of New Zealand.

059 Silence
Video
1:00 minute
2018

One minute of observing a blank page in John Cage's book *Silence* (1961) with ambient audio. In 1951 Cage composed a three-movement composition entitled *4'33"*, which consists of the ambient sounds that listeners may hear as it is performed.

057 Stick
Video
1:00 minute
2018



The leader of a 16mm film wrapped around a fluorescent tube light.

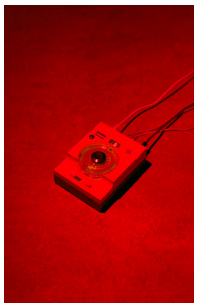
054 Spot
Video
0:30 seconds
2017

Slide projection of one, single-image element.

052 Latex
Video
2:00 minutes
2017

Film projected onto latex balloon.

048 Doka
Video
0:30 seconds
2017

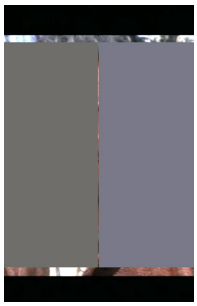


Operation of a darkroom timer.

047 Drop
Video
2:00 minutes
2017

Image projected onto drop sheet, animated with fan.

046 CAC
Video
1:00 minute
2017



Film with averaged colour values.

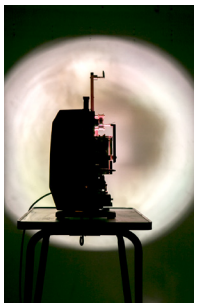
045 Mylar
Video
2:00 minutes
2017

Light and air projected onto a sheet of Mylar.

044 Starter
Video
1:00 minute
2017

Colour-mixing experiments with intermittent fluorescent lamps.

043 Mill
Video
1:00 minute
2017



Film projector, without film or lens.

041 Vol
Video
1:00 minute
2017

Projection of film, *The Valley of the Lawless* (1936), onto ice.

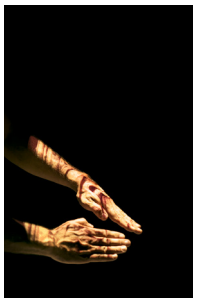
040 Cello
Video
0:45 seconds
2017

Colour-mixing experiments by means of overlapping sheets of cellophane.

038 Sol
Video
1:00 minute
2017

Luminiferous aether.

036 Dodge
Video
1:15 minutes
2017



Photographers hold back light to lighten an area on the print (*dodging*) or increase the exposure to darken areas on a print (*burning in*). This animation documents the performance of a photographic print.

034 M61
Video
0:45 seconds
2017

Ambient textures resulting from the breaking of light through air, trees, glass. Shadow as animated privation is observed.

033 Unstable Fixations
Videos
0:15 seconds
2017

In 1819 John Herschel discovered that "hyposulphite of soda" could be used as a photographic fixer, to "fix" pictures and make them permanent. This experiment speculates on the question what if this process had never been invented, using Herschel's own imagery.

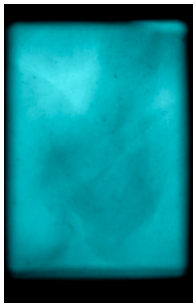
031 Side
Video
1:00 minute
2017

Observation of the side profile of a digital projection.

025 Chat
Video
2:30 minutes
2016

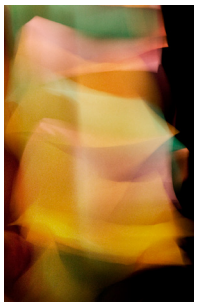
Two computers face each other, sample the colour value of the other, and then respond with a random gradual colour gradient. Loop.

016 Enlarger
Still images
2016



Experiments with the representation of the dodge and burn techniques. The trace of the dodging and burning without the image.

012 Fall
Still images
2016



Long exposure of papers of varying colours dropping to the ground in front of the camera lens.

006 First Photographs
Still images
2016

Printing through the pages of a book, both sides of the page are simultaneously visible. *First Photographs: William Henry Fox Talbot and the Birth of Photography* (Ollman, McCusker, & Gray, 2002).

Stephen H Rood

2022