

*Searching for magic in Dog Town:
A photographic journey*

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Attestation of Authorship

I hereby declare that this submission is my 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.

This thesis is constituted as 80% practice based accompanied by this exegesis worth 20%. Documentation of the final exhibition will be included on completion.

Signature

A handwritten signature in black ink, appearing to read 'Su H. Lee', written in a cursive style.

Date _____ 28/9/15

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I would like to extend my thanks to the camera crew and the Mangaone Stream for sharing their experiences, my tutors Dieneke Jansen, Natalie Robertson and Dale Fitchett for rearranging my brain cells, and my partner Tom Turner for his love and support, carpentry skills, merciless critique, and for being there. Always. Regardless.

Abstract

This project began as an exploration of Henry F. Talbot's 1839 description of his new photographic process as "a little bit of magic realized". It examines the role of sympathetic magic and the participation of non-human agencies in the creation of the photograph and explores the potential of photography to evoke a sense of re-enchantment with the everyday environment. The project defocuses on a minor suburban waterway, the Mangaone Stream in Palmerston North, an unsung remnant of a significant ancient wetland. As the project unfolded, it became a personal journey of exploration of a familiar environment not normally renowned for its magical potential. The methodology includes the development of a magical photographic praxis, utilising simple, analogue, zone-plate cameras and silver gelatin based media that reference historical processes. The project attempts to rekindle Talbot's sense of magic at a time when the ability to photograph has become commonplace and unquestioned.

*Midonz, with the gold of the sun, the leaf of the poplar
by the light of the amber
Midonz, daughter of the sun, shaft of the tree,
silver of the leaf,
light of the yellow of the amber,
Midonz, gift of the God, gift of the light,
gift of the amber of the sun*

Give light to the metal

From *The Alchemist: Chant for the Transmutation of Metals*,
Ezra Pound

Introduction

Henry Talbot famously described his new photographic process as “a little bit of magic realized”. This project revisits Talbot’s statement, exploring the magical potentials of photography, examining where magic may reside and how it may be encouraged to inhabit the photographic image. It also embodies a personal journey of re-enchantment with my immediate environment through the process of photographic engagement.

Chapter 1 explores the interconnections between magic and photography, discussing the role of non-human participants in the creation of the image. Chapter 2 outlines my efforts to develop a magical praxis of photography, introducing my camera crew and experimental methods. Chapter 3 considers the process of discovering a suitable place to site the project and how places can, inexplicably, find us. It concludes with my evolving relationship with the Mangaone Stream and my subsequent journeys there. Chapters 4, 5 and 6 relate to the creation and presentation of the photographic work, exploring ways in which magic may be experienced by the viewer. Chapter 7, *Concluding Thoughts* reflects on the project and the ways in which a magical journey has succeeded in altering my perception of the environment studied in this thesis.

Chapter 1: Magical relations and the agency of others

On magic, and why it matters

Magic is an elusive concept, prone to disappear on close inspection, vanish on interrogation. It stands in defiance of Cartesian logic and is chary of academic analysis. Searching for it is immediately problematic. Can it be defined and dissected or may it only be observed, through half closed eyes, loitering in the shadows? Does the interrogation of magic in a rational manner destroy that which is being investigated?

'Magical' is often a term used when a creative process results in work that evokes a sense of wonder, seeming to be more than a product of its logical stages (Elbow, 1993). There is a point when magic transcends process.

I will tiptoe around it and try not to scare it away.

A recent online search for 're-naming your boat' (9 June 2015) yielded approximately 109,000,000 results. Since the dawn of time sailors have sworn that the unluckiest boats are those that have defied the gods by being renamed. A renaming ceremony involves the thorough purging of the boat's old name, the incanting of prescribed spells and the ritual imbibing of copious quantities of quality Champagne. In the year 2015, these matters continue to be taken seriously. Fluffy dice still dangle above the dashboards of sophisticated modern vehicles. Does this imply that we are still believers in magic and that technology is

intimately bound to voodoo? As noted philosopher of science Bruno Latour maintains, perhaps we have never really been modern (Latour, 1993)¹.

The natural world was once thought of as an enchanted place where mountains, rivers and clouds, as well as plants and animals were seen as equally 'alive'. Humans at that time had a sense of belonging, of oneness with nature. This holistic view manifested itself in the practice of alchemy, a paradigm quoted as being "the last great coherent expression of participating consciousness in the West" (Berman, 1981, p. 16).

In the West, this worldview changed with the Age of Enlightenment, bringing with it the power of reason and logic. Cartesian science with its positivist viewpoint and its strict divide between observer and observed brought with it a sense of separation from nature, a consciousness of alienation and disenchantment that has been said to characterise the modern Western world. Perhaps in response to this, the belief system of animism has been revisited by authors such as Graham Harvey. Harvey proposes that, in order to be good global citizens, it is necessary to acknowledge that the world is full of agencies other than our own, referring to them as 'persons' who are not necessarily human but may be animals or things, in possession of consciousness and capable of engagement (Harvey, 2005).

¹ Latour's concept of modernity refers to its preoccupation with the separation of nature and culture, humans and non-humans, belief and rationality through the process of purification. This process is continually disrupted by the process of translation – the creation of hybrids that challenge our constructed boundaries. Latour contends that, in order to evolve, we need to embrace the existence of hybrids, at which point we will cease to be modern.

Advances in quantum mechanics at the beginning of the twentieth century by physicists including Max Planck, Albert Einstein, and many others, brought into question the concepts of the independent observer and 'objective' knowledge. The idea that consciousness may constitute part of measurement, that everything is alive and participatory, suggested a paradigm more similar to alchemy than science. For nearly a century, the philosophical implications of quantum mechanics remained unresolved. It remains a separate curiosity, an untidy misfit in the mainstream scientific paradigm (Berman, 1981).

Recently it has been discovered that quantum behaviour also exists in the macroscopic natural world outside the particle physics laboratory, playing an essential role in processes such as photosynthesis, enzyme action and, curiously, the magnetic orientation of birds (Al-Khalili & McFadden, 2014). In short, the world of science may be approaching the world of magic. The artificial distinctions between science and nature that characterise Latour's modernity may be beginning to disintegrate.

Theorist Jane Bennett argues that the world is still a place of enchantment, and that a sense of the magical has outlasted the Enlightenment. She quotes Latour's contention that the biotechnological hybrids created by modern science serve as a modern equivalent of the supernatural, possessing a strange magic and the ability to enchant (Bennett, 1997). Furthermore, she reasons that the paradigm of an enchanted world containing vibrant matter may benefit humanity by promoting sustainability and mitigating against the human drive for domination over nature (Bennett, 2010).

Photography, magic and alchemy

The act of combining the camera obscura with light sensitive chemistry has been described as one of alchemy's longest and best kept secrets. Some have suggested that experiments in photographic processes may have been done by alchemists centuries before Niépce and Daguerre introduced photography to the Western world (Martin, 2011). French alchemist, Tiphaigne de la Roche was thought to have knowledge of the basic photographic process as early as the mid-eighteenth century, as evidenced in a passage in his novel *Giphantie* in which he describes a fantasy of fixing passing images by means of a "very subtle substance" (Batchen 1999, p. 32).

The early 19th century was a watershed zone in the evolution of Western scientific thinking. Philosophy, nature and alchemy were still intertwined, the word 'scientist' was yet to be coined and knowledge had not yet fragmented into the series of 'ologies that characterises modern thinking. This was the era in which photography lurched into Western consciousness with Daguerre, Talbot, Niépce and other practitioners perfecting their processes independently of each other and within a very small pocket of time (Batchen, 1999).

Henry F. Talbot was working on his photogenic drawings in the 1830's. He was a mathematician, astronomer and writer of magical romance with an interest in the supernatural, as well as being a photographer. Talbot also addressed the philosophy of photography, describing his new process in lyrical terms, as "a little bit of magic realized" (Nickel, 2002, p.133), invoking the poetic and the alchemical alongside the mundane practice of chemistry. His desire to photograph stemmed from his perceived ineptitude at drawing,

even with the aid of the camera lucida (Talbot, 2010). This highlights the difference between photography and other art forms of the era – the major contribution of an object, in the form of a camera, to the creation of the image.

Photography historian Geoffrey Batchen points out that photography, at its inception, posed a conceptual dilemma for its early practitioners (Batchen, 1999). Was it a copy of nature or a painting by nature? Talbot pondered upon the conceptual issue of whether the photographer fixes the image on paper or merely creates the conditions for nature to fix herself (Batchen, 1999), leaving open the possibility of a role for other agencies, for 'natural magic' to occur.

Talbot described the images formed by the camera lucida as "fairy pictures, creations of a moment, and destined as rapidly to fade away." (Talbot, 2010, p. 4). It is tempting to conclude that his sense of wonder at his new process of photogenic drawing has been lost forever. Photography is now ubiquitous and familiar and its faithful rendition of nature taken for granted. It may be hard to sense magic when taking a snapshot with a mobile phone. But still, photography is distinguished from other art forms by its co-dependence on the agency of objects and their mysterious interactions with the wider universe, as I will discuss later in this chapter.

Sympathetic magic and the indexical trace

"The photograph of the missing being, as Sontag says, will touch me like the delayed rays of a star." (Barthes, 2000, p. 80)

Theorist Roland Barthes spoke of the power of the indexical trace of the photograph – the light emanating from the referent, focused by the lens, leaving its trace on the emulsion. An invisible entity providing a direct link between photograph and subject. Extrapolating further, he suggested that the photograph carries its referent within itself, becoming something more than mere representation (Barthes, 2000).

This concept of the index bears some similarity to that of sympathetic magic, first brought to the attention of the West by early anthropologists Marcel Mauss in 1902 (Mauss, 1972) and subsequently Sir James Frazer in *The Golden Bough* in 1922. It relates to the Law of Contagion, which posits that things that have been in contact with each other continue to interact after their separation, the idea that things might “act on each other at a distance through a secret sympathy” (Frazer, 1978, p. 35). These concepts raise the possibility that a photograph may act as a vehicle for contagious magic, creating the potential for a magical connection between subject and viewer.

In Aotearoa, Maori acknowledge that a photograph may become a vehicle for the wairua (spirit) of its subject. For example, a photograph of an ancestor, created by the touch of their emanating light, creates an indexical and sympathetic link between the living and the dead. It carries their mana (power, prestige) and may stand in equivalence to their presence (MacAuley, 1999.). Similarly, a photograph of a place of spiritual significance, for example a meeting house may also be imbued with its mauri (life force) and carry a significance beyond representation (Robertson, 2012).

As a Pakeha outsider, I feel I have no authority to speculate further on this matter. However, within other cultural settings, various ways in which a photograph may carry or even become the spirit of its subject have been proposed. Assuming that the light or shadow of a subject is integral to its substance, a photograph, created by this light and shadow, could be seen as a vehicle for contagious magic. There are historical examples of subjects of great mana gaining the ability (with the aid of God, gods or spirits) to direct the composition of the image². The photographic process itself may render visible what is normally unnoticed, giving the image a particular power³ (Reinhardt, 2014). In both instances, the photograph is revealed as a product of a variety of agencies, both human and non-human, suggesting the potential for nature and others to paint their own pictures in a magical way.

The Agency of Things

Photographer and academic Hugh McCabe, whose practice includes time-lapse photography of musical performances captured on large format negative film, questions the sole artistic agency of the photographer. He applies Graham Harman's concept of *Object Oriented Ontology* which proposes that Western philosophy has unduly privileged human

² In Senegal, many followers of the prophet Cheikh Ahmadou Bamba (1853 – 1927) believe that he gave his image to posterity as an aid to communicating his teachings to future generations. Only one printed photograph of him survives. It has been widely copied in the form of paintings and figurines that faithfully reproduce the harsh shadows in the photograph, one of which obscures his right leg. There is no surviving negative.

³ As in the case of the shroud of Turin, in which the image of Jesus became apparent after it was revealed in a photograph of the shroud made by Secondo Pia in 1898. The photographic process had revealed a viewpoint not apparent to the naked eye.

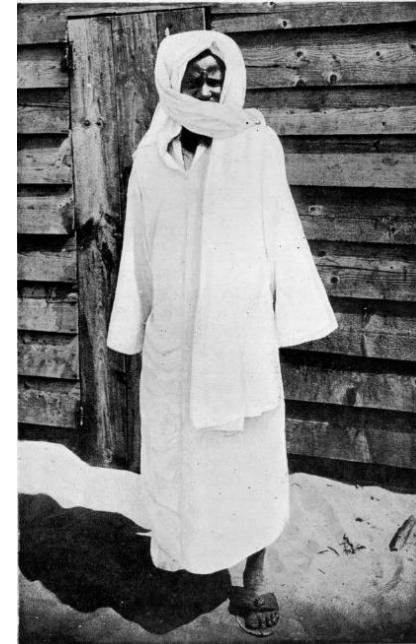


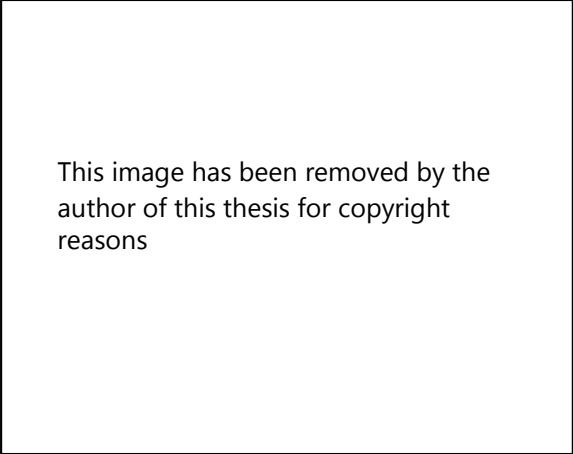
Figure 1 *Cheikh Ahmadou Bamba*, n.d. photographer unknown. Retrieved from <https://upload.wikimedia.org/Wikipedia/commons/1/18/AhmaduBamba.jpg>

consciousness, ignoring the consciousness of objects that make up everything else in the world. Harman proposes the existence of two types of object: real objects that are by nature mysterious and remain hidden from us, and sensual objects which are aspects of the same object as experienced by our consciousness (Harman, 2011).

Using Harman's theory, McCabe conceptualises the photograph as a sensual object that results from the way the camera and film see reality, rather than being a purely human construction. He sees the process of photography as a complex set of interactions between many different types of consciousness, similar in concept to a Deleuzian assemblage (Deleuze & Guattari, 2004) of photographer, camera, film and lens as well as objects that constitute the outside world.

The photograph becomes more than the product of an encounter between photographer and subject. It is product of relations between objects, offering a rare glimpse into the way objects perceive each other (McCabe, 2013) and serving as a portal into a hidden world, not contingent upon human consciousness. The photographer no longer shoots and captures (photography's adopted language of the hunt⁴), but, instead, enters into a partnership with other agents, facilitating a sequence of encounters that allow nature to 'paint herself'.

⁴ The term "shooting film" may have originated from the photographic rifle developed by Étienne-Jules Marey in 1882 to capture motion on film (Chanan, 2003). By the mid-20th century 'shooting and capturing' were in common parlance amongst photographers (Croy, 1959). Eastman Kodak, finally acknowledging these linguistic nuances, changed the name of its popular journal *How to make good pictures* to *How to take good pictures* in 1981.



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Figure 2 McCabe, H. (2014). *Goat*. Retrieved from <http://tracesofthereal.com/category/photography-2/page/2/>

Things with Souls

The photograph, as a thing that is neither alive nor dead, has often been described as uncanny. Writer and historian Marina Warner speaks of photography as an enchanting transformative process, a magical device that can turn a mundane object into a “thing with a soul” (Warner, 2004, p. 8). In the object-oriented universe, the inanimate also possess consciousness and spirit that may find expression within a photograph.

Photographer Sally Mann uses large format cameras and wet collodion plates⁵ to convey the souls of places. Serendipity and imperfection are common threads in her work, celebrating the agency of the natural world. Her landscapes of American Civil War battle sites in her series *Last Measure* forge a grim connection between the seemingly innocent landscape and what lies beneath (Sally Mann, 2015). The unique relationship between photography and death, as explored by Barthes (Barthes, 2000) and Sontag (Sontag, 1977), is never far below the surface. The empty landscapes reek of dead men’s bones. Her use of wet collodion, torn and pockmarked, speaks of the violence of the battlefield, transcending mundane issues of past and present. The titles inform the viewer about the gruesome history hinted at in the landscapes. However, that which remains unseen has more power than that which is revealed, resulting in a sense that there is more within the photograph than there is on its surface. Would it then be possible for the unseen to convey a similar magic in an unsung place with an unremarkable history and a prosaic label?

⁵ A photographic process invented by Scott Archer in 1851 in which glass plates coated in cellulose nitrate sensitised by silver iodide are exposed in camera while still wet. Preparation and development of plates has to be performed in-situ in darkroom conditions, making the process technically challenging and difficult to transport.



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Figure 3 Mann, S. (2000-2003). *Last Measure, Battlefields series*. Retrieved from http://www.houkgallery.com/exhibitions/2003-09-18_sally-mann/

Photo-objects

Magic can be a practical application that enables liaison between the physical and spiritual worlds, often by means of a thing that acts as a medium for communication. Art critic Jan Verwoert points out that people communicate with, through and around things, and that the way in which the thing is produced influences the nature of the communication (Verwoert, 2011). He proposes that sculpture acts as a magical medium. Perhaps a photograph can mediate in a similar manner. Is it possible that the magical nature of a photograph can influence the relationship between the viewer and the subject, or forge a link between art and science, science and alchemy, the pristine and the abject, the present and the past? Can it perhaps mediate between the physical and spiritual worlds, and promote a much needed sense of re-enchantment?

When a photograph emerges, wet and vulnerable from a chemical soup, (or is perhaps, disgorged from a digital printer), it becomes an object with a consciousness and agency of its own. It may acquire a spiritual significance beyond mere representation. This may be especially so when the photograph acquires a third dimension, becoming an object that can be held. The invention of the daguerreotype made it possible to own a small photograph, often of a deceased loved one, that could be carried about one's person. Such objects were often embellished with other indexical traces such as human hair and made into personal jewellery (Batchen, 2004), the association with the physical remains of the deceased strengthening the experience of sympathetic magic.



Figure 4 Mexican – American War era locket daguerreotype with hair. Retrieved from <http://www.cowansauctions.com/auctions/>

So here sits photography, spawned of alchemy, conceptually conflicted from its inception. Perhaps it is, after all, “the bastard child of science left on the doorstep of art” (Nickel, 2001, p. 553) ⁶, a Latourian hybrid of nature and culture (Latour, 1993), technology and magic.

Chapter 2: Developing a magical praxis

Having outlined some of the magical associations that surround the practice of photography it was now necessary to develop a praxis that explored these potentials by cultivating a state of mind receptive to magic. I would need to be mindful of the consciousness and agency of objects involved in the photographic process and re-examine my habitual mode of seeing, in order to appreciate the world as experienced by other entities.

A photograph is an act of co-creation between photographer, camera, medium and subject. Each player exerts its own agency, and has a profound effect on the expression of the others, the effect of the whole being greater than the sum of its parts. It is a memento of a tryst, a tangible proof that some thing has been (Barthes, 2000).

⁶ Peter Galassi was actually arguing the reverse: that photography was not “the bastard child of science left on the doorstep of art but rather a legitimate child of the Western pictorial tradition”

The role of the human

It is desirable to pay due regard to the natural world and its disposition when setting out to make photographs.

Firstly the work calendar within the project should be flexible. It is pointless to set forth with a camera when the weather is inclement. Similarly, long sessions in the darkroom on a beautiful day will result in grumpiness that will be transmitted to the other entities in the assemblage. Their unhappiness will be evident in the photographic results.

One should be open to visits by “the angel of uncertainty” as referred to by Sally Mann (Cantor, 2005). Happy accidents are gifts easily discouraged by a practice that is too rigid or a process applied too pedantically. Serendipity is magical.

It is important to avoid tempting fate. The universe cannot be pressured into complying with one’s wishes, but it may perhaps be cajoled into playing nicely.

“You press the button, we do the rest” a note on the agency of cameras

This is the slogan with which George Eastman ushered in the age of egalitarian photography, with the promise that much of the decision making involved in producing a photograph would be taken care of by the manufacturer (George Eastman, n.d.). In turn, our photographic aesthetic has been conditioned by the makers of cameras. As an example, Eastman Kodak’s publication ‘How to Make Good pictures’, started in 1914 and continuing

throughout most of the 20th century, may have contributed to a homogenisation of the photographic aesthetic (Griffin, 1987). In this sense the camera has become a corporate slave, a dedicated worker for the cause of the perfectly focused, correctly exposed, high definition image designed to recommend its brand to consumers of photographic equipment. Much of its agency resides with its manufacturer's programme (Flusser, 2000).

"No photographer, not even the totality of all photographers, can entirely get to the bottom of what a correctly programmed camera is up to. It is a black box." Flusser made this claim in 1983 (Flusser, 2000, p. 27) when digital photography was still in its infancy. The modern camera is expected to see more and more of less and less, and what it cannot see, it invents. Sensors of ever increasing sensitivity now allow photography in near darkness. High dynamic range imaging enables fusion and manipulation of superimposed images, peering into every nook and cranny in a quest to reveal all.

Does this tell us more about the inner being of a place, given that the universe is now said to consist mainly of invisible dark matter? Can we perhaps see more by revealing less?

Choosing the Camera Crew

For this project I eschewed the sophisticated algorithms of camera and smartphone manufacturers along with their assorted apps and chose to work with naive analogue cameras whose inner workings I understand and whose opinions I value. These cameras (see appendix 1) have their own agency, carrying with them stories, memories and spirits, as things do (Taussig, 2012) and bringing their own moods and frustrations to photographic

practice. They have in common an unprogrammed simplicity and relatively long exposure times. The photographs produced are serendipitous affairs due to light leaks, mechanical fragility, absent or rudimentary viewfinders, the migratory patterns of black tape and the vagaries of weather. Does this help them to be in tune with the universe? Perhaps, on a good day.

I have a preference for the analogue process. It carries with it the thread of physicality, a visceral connection between photographer, camera and place. The index made palpable. The acts of photography are small and secret. Lifting the blue-tack from the small round hole in the coffee tin (where was it exactly?) Loosely counting seconds... one potato, two potato.... gently sliding a wooden shutter without wobbling (it's a bit loose – did it come open in the bag?) The flimsy mechanisms of plastic cameras. Did the shutter really open? Completely?

Simple equipment prepared and heard. Tacit knowledge required. No owner's manual. The ritual of film loading, taping and winding. Meditative rituals, magical rites afforded due diligence.

Digital processes play their part. Troublesome analogue negatives that would be otherwise unprintable can be scanned, rescued and transformed into digital internegatives for contact printing. Digital printers and scanners have their own sensitivities and inner mechanisms that I comprehend poorly. I can only communicate via a coded interface. I try to be polite and mindful of their needs but they can taste my fear.

I prefer the warm red fug of the darkroom, the romance of chemicals, the smell of fixer. The seduction of the moment when the image emerges from a tray of developer and acquires aura, becoming an object that can return one's gaze (Benjamin, 1999).

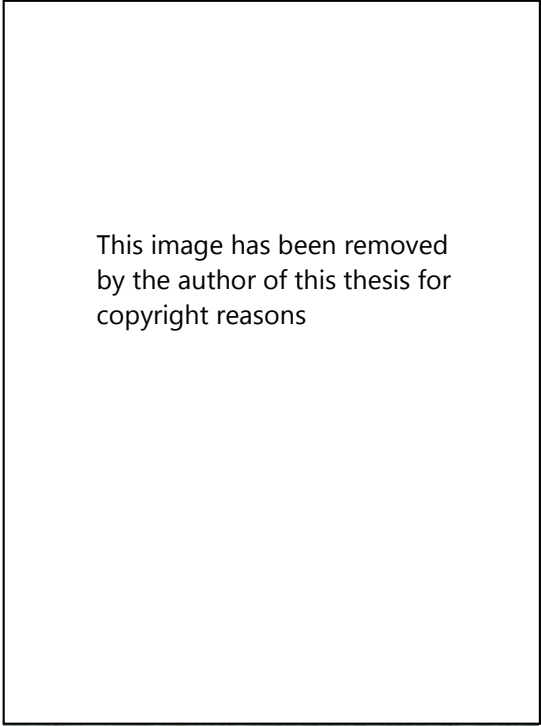
Cornelia Parker's 1996 work, *The Collected Death of Images* refers to the unique physicality of the analogue photograph. It consists of a sheet of silver reclaimed from used photographic fixer, silver particles lost from the positive areas of processed photographs, a distilled essence of the collected index (Blazwick, Ono, Parker, & Ferguson, 2014). The image itself is inconsequential. Its magic lies in the power of its name and knowledge of its content, without which any spell would be ineffective. For the purpose of this project, I decided to forego the power of naming in order to let the photograph speak with its own voice, and lessen the sphere of human influence.

The paradoxical nature of light: zone plates

Light is the raw material of photography. Its nature is paradoxical, behaving as both wave and particle simultaneously. In this sense it is magical.

I prefer to play with light that is wild and wavy, unfettered by geometrical optics.

I have chosen zone-plate cameras that utilise the wave property of light, focusing by means of a Fresnel diffraction grating rather than a traditional lens (see appendix 2). The resulting images have a mysterious, characteristic glow with a central zone of focus surrounded by a halo of defocus, as sometimes seen around a full moon on a clear night. Could it be that



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Figure 5 Parker, C. (1996). *The collected death of images* From Blazwick, I., Ono, Y., Parker, C., & Ferguson, B. W. (2014). *Cornelia Parker*: London, England: Thames & Hudson, Limited.

defocused rays, traditionally discarded by image makers, can offer a further dimension to the visual world? After all, they are a demonstration of the paradoxical, magical nature of light itself.

Chapter 3: Finding a Place

Photographing nothing in particular, for no apparent reason

*Ring the bells that still can ring
Forget your perfect offering
There is a crack in everything
That's how the light gets in*

This quote from Leonard Cohen's song *Anthem* provided inspiration for this project. Perhaps magic can also be sought in the 'cracks in the pavement', places overlooked in the modern landscape, places of no particular purpose, abandoned or rejected, left alone to be themselves.

As the human in the project and the only element with the facility for locomotion, I have the responsibility for guiding the cameras in a chosen direction. Given that magic is resistant to

definition, insubstantial and prone to vanishing when sought, the issue of what and where to photograph is problematic. Magic is not a definable thing, and it is generally the impressions of things that enter cameras.

Scholar, Michel De Certeau defines places in terms of their accumulated strata, hidden layers of habitation over time. A place is not just defined by its surface but by its past and present. Time is not necessarily only linear (programmed time) but also subject to serendipitous glitches (casual time), "failures of reason" that have a profound effect on the fabric of a place (de Certeau, 1984, p. 202).

The term "Terrain Vague" was adopted by Ignasi de Sola-Morales to refer to marginal and overlooked land at the edges of cities, paradoxical areas of vacancy amidst urban sprawl, places of freedom and possibility. Cracks in the veneer of civilisation where nothing-in-particular occupies the present and the voices of the past may still be heard amongst the flotsam and jetsam of the now. Sola-Morales speaks of the introduction of urban architecture on vacant spaces as an intrusion on "the uncontaminated magic of the obsolete" (de Solà-Morales, 2013, p. 28).

Perhaps it would be possible to sense magic in places such as these. They provided a starting point for the project.



Figure 6 Hendeles, S. (2014). *Railway siding, Eastown Rd. Whanganui*. JPEG from scanned zone plate negative.

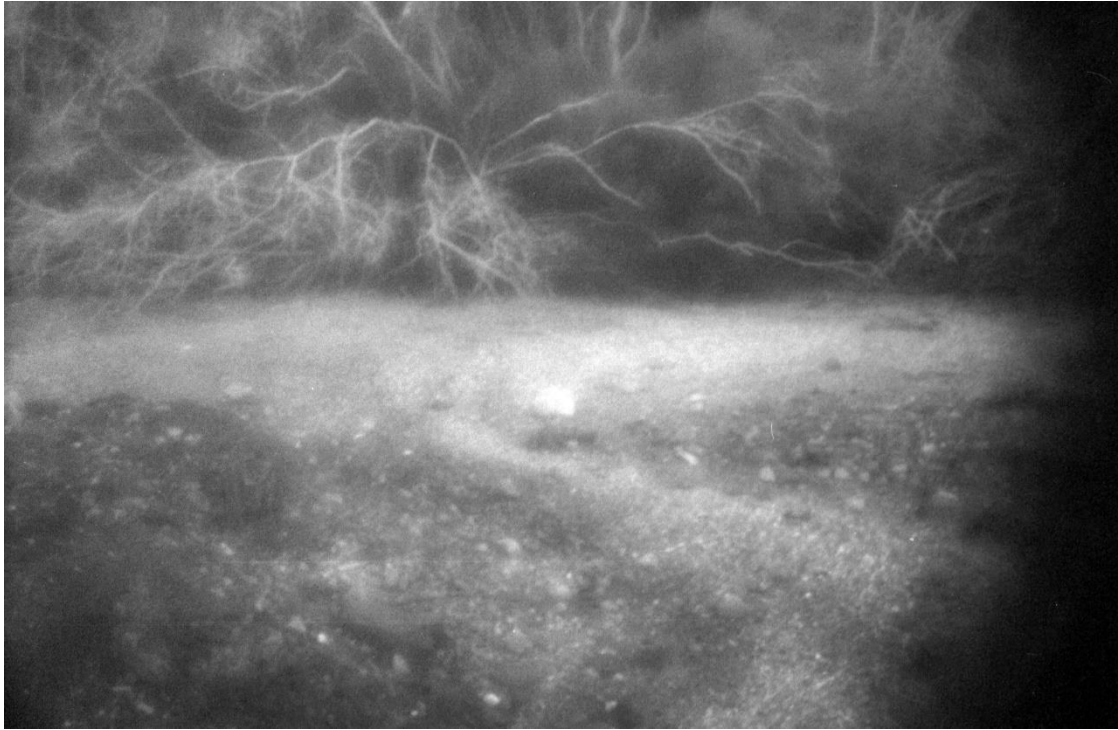


Figure 7 Hendeles, S. (2014). *Lake Rotorua*. JPEG from scanned zone plate negative.



Figure 8 Hendeles, S. (2014). *Felled forestry block, Tahorakuri Forest, State Highway 5*. JPEG from scanned zone plate negative.

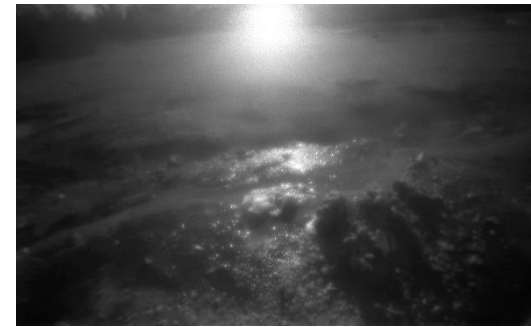


Figure 9 Hendeles, S. (2014). *Lake Rotorua*. JPEG from scanned zone plate negative.

Places that find us - and the photographers who find them

British photographer Jem Southam, when asked how he selected places to photograph, spoke of “places finding him” (Schuman, 2005). He allows himself to become attracted to a site and slowly develop a relationship with it, often over the course of many years. His series *Upton Pyne* is about a small, unremarkable pond near Exeter, much molested by human intervention. The magic of his images lies not perhaps in the qualities of each individual print but in the series, an unfolding journey of his developing relationship with the place, its people and its past.

Do places find us and allow us to tell their stories? Japanese photographer Nobuyuki Kobayashi subscribes to the Shinto belief that the gods dwell in everything. He seeks out places of natural beauty where he feels he is most likely to find them. He has adopted a magical praxis, allowing himself to be led by places, capturing spiritual moments with his camera and only taking a photograph when he feels in harmony with nature. He regards his photographs as portraits of the gods. His methodology is slow and painstaking, preferring large format analogue cameras which he carries up mountains in order for the gods to feel that he is doing them justice. His goal is to capture them for eternity (Tsuge, n.d.).

But if the gods dwell in everything, could they be found in places less noble? Could they be sensed rather than captured by a simple, insignificant photographic event that they would barely notice? Do the gods live in Dog Town?

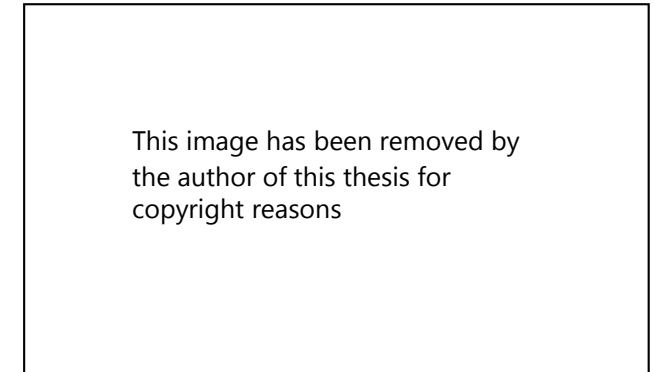


Figure 10 Southam, J. (1996). *Upton Pyne*. Chromogenic dye coupler print. Courtesy of Charles Isaacs Photographs and Robert Mann Gallery.

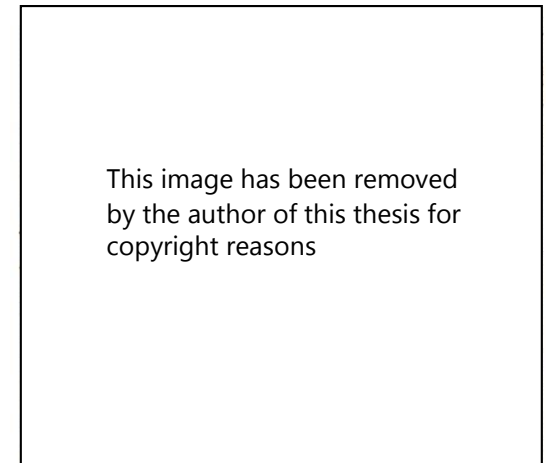


Figure 11 Kobayashi, N. (n.d.). Platinum/palladium print. Retrieved from <http://yishuzs.com/2014/08/photographer-nobuyuki-kobayashi/>

Unlike Southam and Kobayashi, I am a sloppy photographer, exerting little control over the process other than opening the shutter for an ill-defined pocket of time and sampling the air. This laissez-faire approach leaves more of the creative process to the other protagonists, namely camera, media and outside world, whose murky relations largely determine the outcome of the photograph. The image is no longer normalised according to predetermined rules but, instead, incorporates random chance and the agency of others. My methodology is unlikely to impress the gods or entice them to be captured for eternity. My hope is that my presence will go unnoticed allowing them to enter my camera if they so choose.

Places of designated magic

Before retreating to the unloved abandoned places close to my locale, I had the opportunity to visit Britain and investigate some sites of magical renown. Neolithic stone circles and burial sites litter the British countryside, perhaps randomly, perhaps laid out meaningfully along invisible ley lines of ancient spiritual significance. Many are popular tourist destinations, helpfully signposted by the National Trust.

Some of us, myself included, photograph such places with a wish to evoke something magical. There is an underlying idea of an outcome, a vision of how the picture ought to look, even though an accurate outcome often disappoints. Is magic found by choosing antique tools of engagement that produce an inherently ancient feel, or lost by sharing agency with cameras designed to emulate modern vision?

*Standing in a
circle of ancient
stones I wonder
where to point
the camera? It
has no
viewfinder.
Every direction
is equally
magical. Or not.
I stop thinking
and make the
photograph.*

Is it possible for a photograph to convey something more than a surface likeness, to steal a soul as some of us have always suspected? If magic does reside in the photographic image, is it inherent in the medium itself, the indexical traces of time and place, or perhaps in the intimate relationships established during the photographic journey?



Figure 12 Hendeles, S. (2014). *Greycroft Stone Circle, Seascale, Cumbria*. JPEG from scanned zone plate negative.

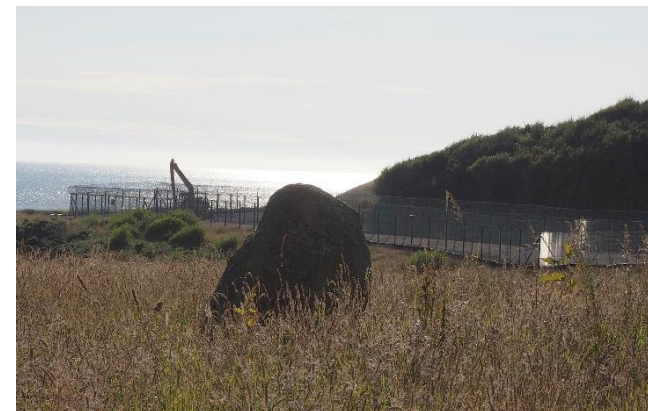



Figure 13 Hendeles, S. (2014). *Greycroft Stone Circle, Seascale, Cumbria*. Digital photograph.

Is the evocation of magic contingent upon a beautiful present or knowledge of a magical past?

Joyce Campbell makes photographs using antique processes that connect the past to the present. She often chooses places of wairua, sites of ancient mythologies: Te Reinga where a Taniwha dwells, sacred Whakapunake maunga that bears the legend of Maui (Joyce Campbell, n.d.). The magic evoked in her imagery is apparent even without this knowledge, residing in the shadows of a silver gelatin print or glimpsed at a certain awkward angle of a boxed daguerreotype. The product perhaps of a magical journey and its relationship with process, place and time.



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Figure 14 Campbell, J. (2010). *Te Taniwha*. Daguerreotype. Retrieved from <http://www.joycecampbell.com/collections/view/23>

Searching for Magic in Dog Town: The Mangaone Stream

Walking along the banks I am aware of the watery vein connecting now and then. A forlorn link with the past. This is not my land and these are not my people. Nevertheless I am drawn to wander here. It is undisturbed, left alone to ponder its own history.

Some places are uneasy. I am guilty, loitering with intent behind abandoned houses adorned with tags. Shredded plastic clings to half submerged branches. Assorted urban debris collects in small piles under the bridges.

Others loiter here from time to time. People gather here and do stuff. A place to dump the bodies?

My presence is announced by barking dogs, smug and secure behind their fences. I surreptitiously open and close a shutter and move on.



Figure 15 Hendeles, S. (2015). *Botanical Road Bridge, Mangaone Stream*. Digital photograph.

The place that finally found me was a minor waterway that traverses my own back yard. It is not renowned for its magic.

For three days a week I inhabit a small unit in Highbury, Palmerston North. The section adjoins the Kawau Stream, a meagre channel feeding into the Mangaone Stream and thence to the Manawatu River. In 1907 the Mangaone Stream was diverted into the Awapuni Lagoon, once an important bird harvesting area and eel fishery for Rangitane. The lagoon was subsequently drained into the Manawatu River to provide flood protection and land for urban development. This process destroyed the wetland, its ghost remaining as a network of polluted drainage channels crisscrossing the back yards of suburbia. The small settlement of Awapuni once stood on the water's edge, where Pioneer highway now crosses the stream. Its meeting house, Kikiwhenua, was destroyed by fire in 1925 ('Food basket to floodway: the story of Awapuni Lagoon and Mangaone Stream', 2011).

The Mangaone Stream of today traverses low flat land with few trees and little remaining native vegetation. An unremarkable place with an often repeated New Zealand history of European settlement and deforestation (See appendix 3). The Mangaone Walkway follows the stream from the landfill abutting the Manawatu River, past the Awapuni racecourse, past sparsely peopled suburbs and substantial homes, through the state housing areas of Highbury, now partly abandoned to dogs and taggers. From there it cuts a trench under the railway track, behind the warehouses of Bennett Street, and out into the cattle-ridden paddocks by the airport. My attraction to the place was unexpected and inconvenient. It was not where I normally chose to spend time, but I was curious to explore this underused



Figure 16 Aubrey, C. (1893). *Awapuni Lagoon*. Courtesy of Palmerston North City Library ref. (2015SL_Awa4_00938).

waterway that connects the city with its past and the cycles of human intervention that had shaped it. I had discovered a secret world, dissociated from the working day.

I developed a routine of walking the nine sections of the Mangaone Stream, with the camera crew and a light tripod. I did not make photographs if the moment didn't feel right. Nor did I make multiple photographs of the same spot. Film is expensive and time consuming, encouraging careful consideration of each exposure. My aim was to facilitate the encounter between camera and landscape and remain open to my surroundings.

Using the Zero 69D, I imagined myself as the 'eye' of the camera. I followed the sun and the long shadows, often pointing the camera directly into the light, bleaching out the highlights. Low dynamic range allowed the shadows to keep their secrets.

Would another photographic medium see things differently? Experiments with mammography film, abandoned by the medical imaging industry, yielded an alternative view. Its spectrum is unfamiliar to the human eye. Recording shorter wavelengths and subject to interference from random radiation, it imparts a flickering, dreamlike quality to the image. I don't know why this is and a search for information yielded little of value. It is no longer in production and my use of it was not as prescribed. Artefacts of this process feature prominently in the resulting images, often overwhelming place and telling a different, unrelated story. The mammography film images were eventually excluded for this reason.

The colour digital image (fig. 17) approximates what I see in the way that I think I see it. The diffraction based image of the zone-plate camera (fig. 18) offers a more random, although narrower spectrum of visual information. Murky shadows and scattered light leave much to

*Loitering under
Botanical Road I
am discovered by a
group of kids
Wotcha doing?
Making
photographs
Is that a camera?
Yup
Old school?
Old school

Sweet*

the imagination, or perhaps just ask a different question of nature. All is not revealed. There remains a liminal zone where magic may reside.



Figure 17 Turner, T. (2014). *Mangaone Stream between Tremain Ave. and Amberley Ave.* Digital photograph.

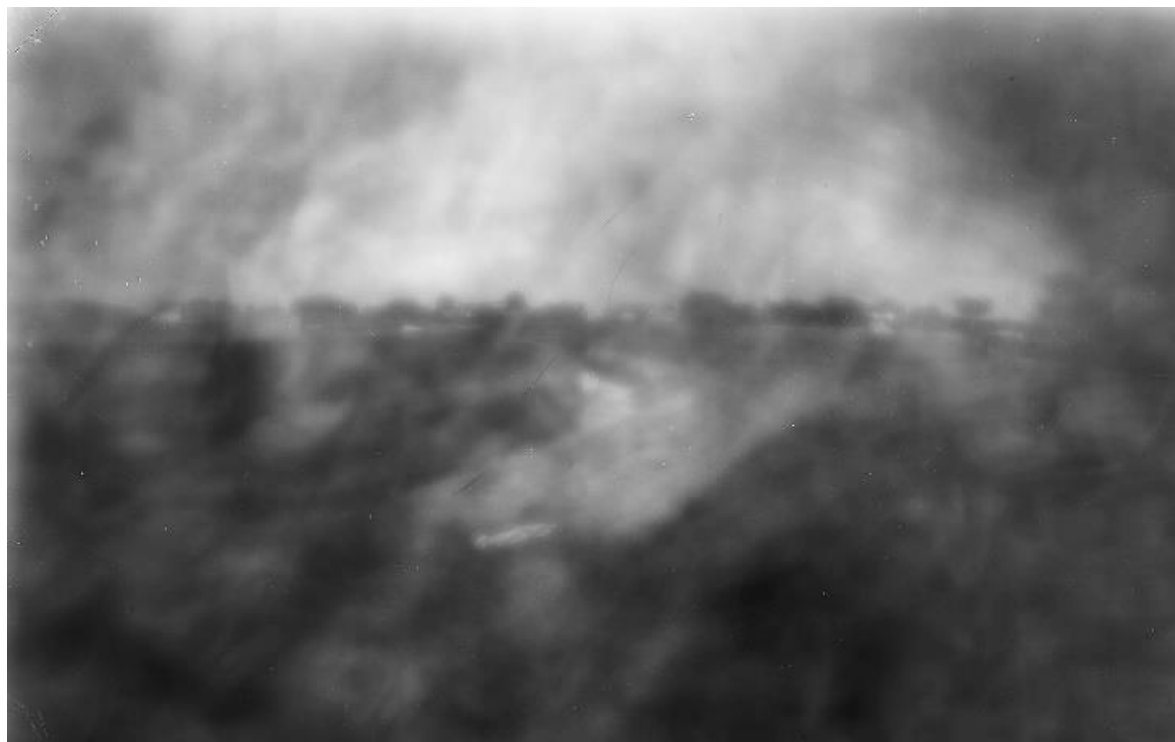


Figure 18 Hendeles, S. (2014). *Mangaone Stream between Tremain Ave. and Amberley Ave.* Scanned, inverted, zone plate negative on mammography film.

The ability to hand-hold the Diana F+ made it possible to closely engage with life forms at the water's edge. Movement artefact often resulted in meaningless blur. At other times, random movements of sunlight on water put on a dazzling display. The primordial life of the stream, peeking through the baggage of civilisation, transcends the suburban landscape. Same location, different worlds.

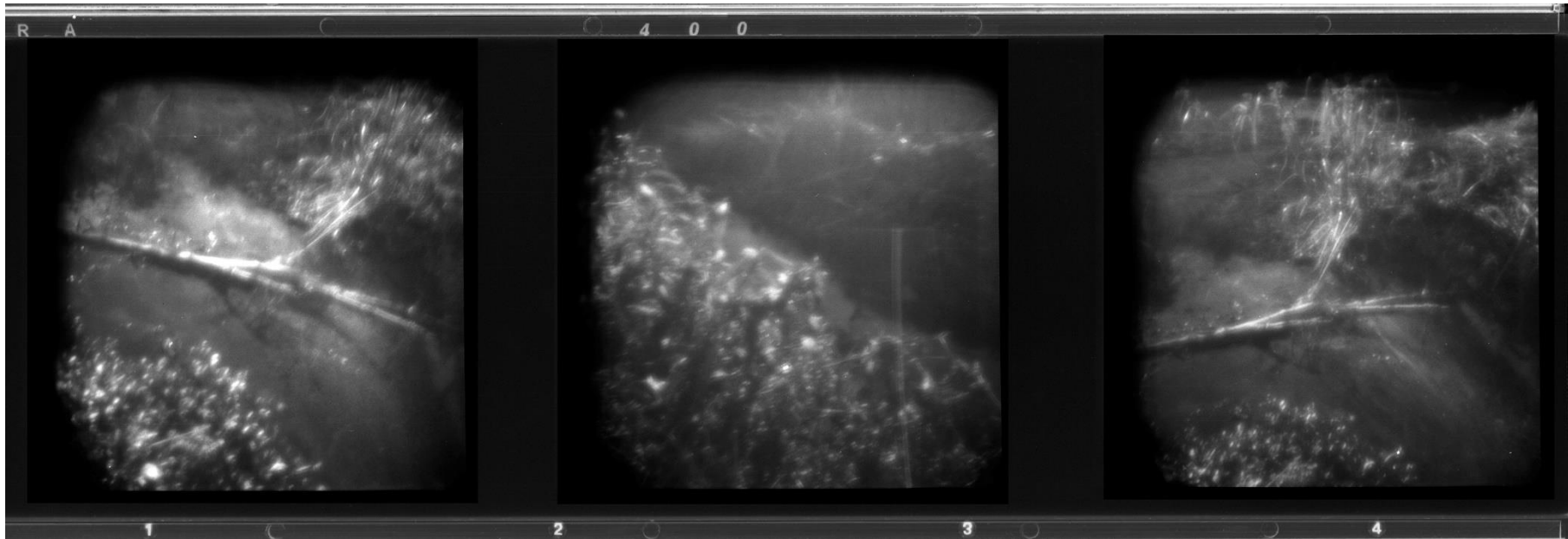


Figure 19 Hendeles, S. (2015). *Mangaone Stream between Amberley Ave. and Botanical Road*. Scanned, inverted, zone plate negative strip.

There were indeterminate zones of illicit human habitation. Sites of rendezvous beneath the railway bridges, bearing their stigmata of RTD bottles and burger cartons. Hidden from the greater world. Strangely attractive to small cameras.



Figure 20 Hendeles, S. (2015). *Mangaone Stream, Tremain Ave. Underbridge*. Scanned, inverted, zone plate negative.



Figure 21 Hendeles, S. (2015). *Mangaone Stream, Amberley Ave. Underbridge*. Scanned, inverted, zone plate negative.



Figure 22 Hendeles, S. (2015). *Kawau Stream, Highbury*. Scanned, inverted, zone plate negative.

Three different strands of work began to emerge, partly defined by the particular viewpoints and characteristics of the cameras, partly by the subject matter selected. They formed concurrently rather than sequentially as the cameras settled into their preferred roles of landscape or close engagement.

Chapter 4: Making pictures

Silver Gelatin Dry Plates

I adopted this printing technique during my postgraduate diploma year. It is a lengthy process involving careful preparation and sticky fingers (see appendix 4). I have continued to use it for its materiality and for the seductive play of light on glass that changes with the angle of view, inviting close engagement.

The finished plate is mounted on a glass mirror, producing an elusive, reflected-refracted image situated deep within the plate. Each plate is unique, bearing the serendipitous imperfections of the emulsion and subtle variations in process⁷. As photographic objects they are paradoxical, neither products of the past nor completely of the present, their nature evoking the natural magic of the analogue process.

The images of silver gelatin glass plates shown in this document are JPEGs taken with a digital camera. They fail to convey the aura of their physical presence or the subtle nuances of light playing on emulsion.

⁷ Bubbles in the emulsion are difficult to avoid when pouring larger plates. they result in small lucent spots in dark areas of the plate. Such imperfections are generally embraced, although plates with defects that distract from the image may be discarded. Emulsion at the edges of the plate is often uneven and frilled due to handling or partial retraction during cooling.

*Back in the safety of
the darkroom I attend
to the week's film. I
measure my chemical
cocktail carefully into
a clean beaker. I
calculate
development time
and correct for
temperature. I want
the best for my
children. I agitate in a
precise pattern for 8
min. 45 sec.
Then I continue for
an extra minute or so.
Just because*

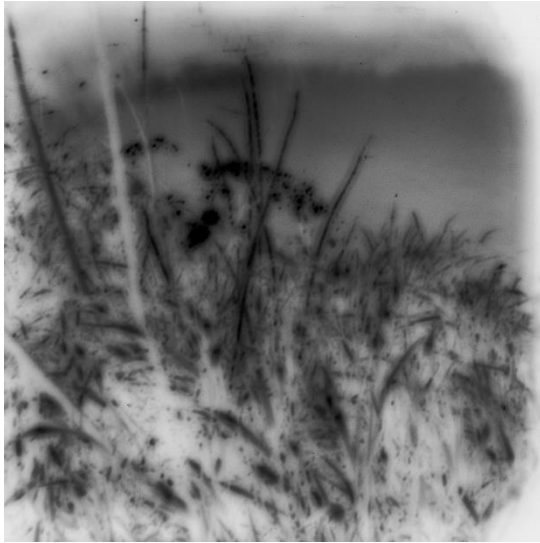


Figure 23 Hendeles, S. (2015). *Mangrove Stream flora*.

A. zone plate negative.



B. scanned, inverted negative.



C. silver gelatin glass plate print.

Pigment prints

In order to produce large scale prints worthy of a looming landscape with a big sky I explored digital processes. Negatives were scanned and converted into digital files for printing. I selected Epson Matte paper for the prints. Its deep velvety blacks, seductive surface and lack of reflection reminded me of the texture of old salt prints, an unexpected evocation of the ancient processes. But still, I found them intimidating, their magical potential uncertain.

Alchemical Silver at Space Gallery

As a part of my thesis study, I held an exhibition at Space Studio and Gallery, Whanganui in November 2014. *Alchemical Silver* explored the indexical, silver based art forms of photography, silver casting and shadow sculpture. At this time a 'place' had not yet found me and the photographs were a somewhat disparate collection of vague terrains and places of designated magic that had, for various reasons, attracted me.

I used the opportunity of an exhibition to experiment with different photographic formats and modes of presentation. I also expanded on the ideas of indexicality and alchemical process by including handmade silver castings of exotic weeds taken from the places I had photographed, siting them in obscure nooks and crannies of the gallery. I eventually discarded them as they distracted attention from the photography which was the main focus

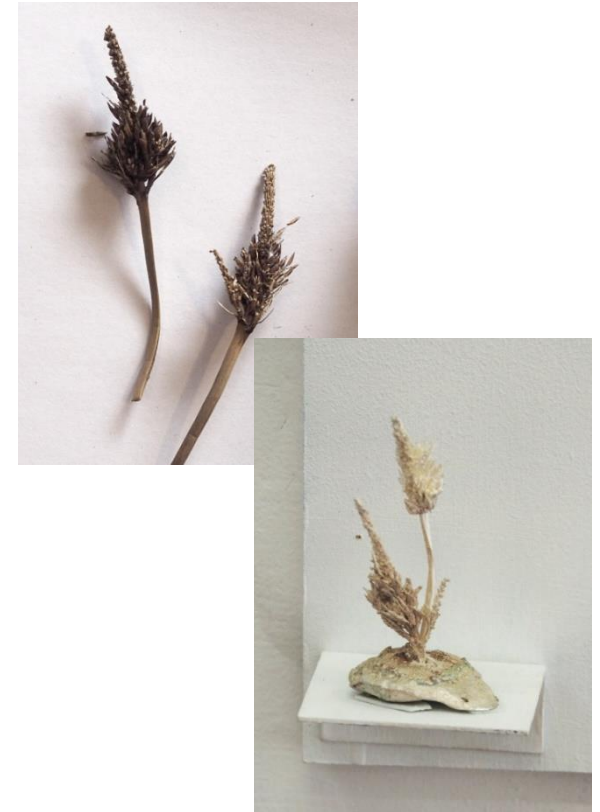


Figure 24 Hendeles, S. (2015).

Top: *Seed heads of cyperus ustulatus.*
 Bottom: *Seed heads cast in sterling silver.*

of the project, although, like all successful weeds, they have a tendency to reappear in unexpected places.

I experimented with the effects of size and scale. Large landscape pigment prints, derived from mammography film negatives, were placed high on a wall. Small silver gelatin glass plates were displayed at waist height on the opposite wall, inviting close inspection. The size and position of the pigment prints made them hard to ignore. They gazed down on the viewer, providing a context within which smaller works could be discovered, juxtaposing small with large, 'that-which-invites-looking' with 'that-which-looks-at-you'.

I learnt that presentation of the glass plates was problematic as they require display at a specific angle to the ambient light in order to shine. The shelf system that I had installed was not ideal, and carried connotations of its own. I would need to design a suitable mounting system for future use.



Figure 25 Hendeles, S. (2015). Silver gelatin glass plate print held in incandescent lighting.



Figure 26 Hendeles, S. (2014). *Alchemical Silver* at Space Studio & Gallery, Whanganui. Installation view.

Chapter 5: The Process of Selection: who gets to choose?

I do not wish to critique the photographs or intercede on their behalf. They are their own masters and speak with their own voices. I like to think that they convey something of the aura of a place to those who wish to engage with them. That their blurry monochrome exteriors hint at a magical past glimpsed through half closed eyes and a sidelong glance. For magic is not reason and cannot be interrogated.

As ringmaster of the troupe I am, nevertheless, required to select images after other agencies have had their say. Many images just fail to engage at a particular moment in time. Often I will revisit old negatives and discover a certain quality of light and shadow, overlooked on a different day in a different mood.

Not every exposure results in a viewable image. There are many technical issues that can result in wastage, making the survivors all the more precious. The universe doesn't always cooperate. There are moody, windy days. Sometimes I'm amazed that the camera sees anything at all. It doesn't see what I see. It's always a surprise. Often there is magic in the journey with its potential for failure and astonishment of success.

It seems to me that the paradoxical relationship between light and dark, positive and negative lies at the heart of the natural magic of Talbot's process.⁸ I try to pursue images that

⁸ In contrast, Daguerre's process is a direct positive.

harness the seductive power of light and the mystery of shadow. Formal qualities aside, they have to glisten.

By winter 2015, two different types of photograph were emerging:

- ❖ Square-format images made with the Diana F+ depicting close encounters with muddy water, soggy undergrowth and assorted detritus.
- ❖ 6x9 landscape images made with the Zero 69D.

The Landscapes

A landscape photograph cannot be dissociated from its own point of view, the intentions of the photographer or the history of the place. Photographs made within a few metres of each other may conjure up an idyllic country scene or a wasteland of urban decay. The Mangaone Stream has elements of both.

The stretches of the Mangaone Stream where I found myself loitering the longest were those nearest my home base, Rangitikei Line to Pioneer Highway. They were the places that most embodied "terrain vague": areas of strangeness and uncertainty, neither industrial nor rural, close to suburbia but not of it. Their distant warehouse sheds, big skies and unpeopled stopbanks spoke of a forgotten space where a past could be imagined, magical connections made.



Figure 27 Hendeles, S. (2015). *First Commercials Depot, looking south-west from Rangitikei Line*. Scanned, inverted, zone plate negative.



Figure 28 Hendeles, S. (2015). *Mangaone Stream, Presidential Drive*. Scanned, inverted, zone plate negative.



Figure 29 Hendeles, S. (2015). *Mouth of the Mangaone Stream at Higgin's Quarry*. Scanned, inverted, zone plate negative.

Figures 28 and 29 may conjure up illusions of utopia to those unfamiliar with the area. Around the corner in Fig. 28, cattle graze unhindered by the water's edge. Over the right bank in Fig. 29 is Higgin's Quarry and beyond that, the council landfill. The image that I keep returning to was made by the railway bridge between Tremaine and Benmore Avenues. The Mangaone Stream is seen disappearing into the afternoon sun, flanked by the Linfox Distribution warehouses on Bennett Street. For me, this conjures up the essence of the place.



Figure 30 Hendeles, S. (2015). *Linfox Distribution warehouses, looking north-east from Rangitikei Line*. Scanned, inverted, zone plate negative.

If there is magic to be found here, it lies with the quotidian, the contemporary reality of the urban environment. This is an image that I would consider selecting as a large pigment print for the final exhibition, to loom large over the viewer and set a context for magical encounters.

The Glass Plates

The quiet magic that I experienced around the stream resided in the liminal spaces of the water's edge where swamp life coexisted with the debris of humanity and sunlight played uncritically on both. The medium of glass plate had the potential to evoke the experience of peering into murky water where shadowy life forms might lurk. Glimpses of the other that could transport the viewer into a magical world.



Figure 31 Hendeles, S. (2015). *Mangaone Stream flora*. Silver gelatin glass plate.

Chapter 6: Decisions on Presentation

The challenge of the final exhibition was to convey to the viewer the sense of magic that I experienced during my meanderings in Dog Town. I wanted to create an enclosed, elongated exhibition space with a sense of intimacy and seclusion from the external environment, evoking the experience of walking along the Stream and, at the same time, journeying back in time. Reviewing the range of landscape photographs made during the course of this project, I felt that only one, perhaps two, would be required to set the scene for this encounter, anchoring it in a specific time and place.

Presentation and lighting of the glass plates would be critical to the installation. The development of a hinged display bracket allowed the plates to be tilted to best reflect ambient light. Experiments in my home studio suggested that dark walls would focus light on the plates, allowing them to 'float' in front of the walls and minimising distraction. They would be mounted below eye level to invite inspection from different angles, as one might do when peering into a stream, searching for something precious.

There are many ways to organise and select a sequence of images. Sequential documentation of the nine sections of the Mangaone walkway would be logical though inherently unmagical. I could never be fair, lingering longer in some places than others.

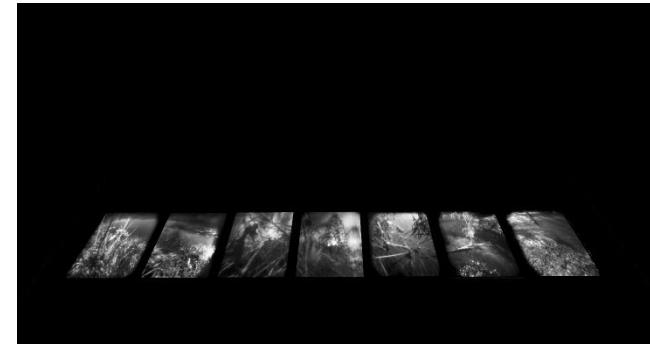


Figure 32 Hendeles, S. (2015). Photoshop mock-up exploring ideas for presentation of glass plates.

Selection based purely on formal aesthetic considerations, light and dark, structure and balance, felt constrained and over-thought. After a desultory attempt at logic, I arranged the plates as a filmstrip, a sequence of pockets of time that had caught my attention and caused me to freeze them forever in time and space.

Then they huddled together in threes.

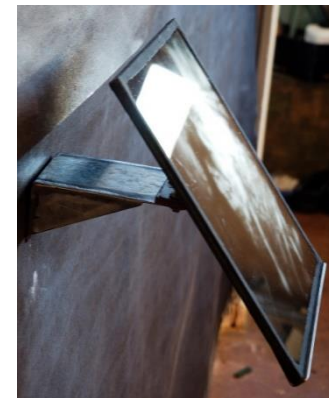


Figure 34 Hendeles, S. (2015). Glass plate mounted on tilting galvanized iron bracket.

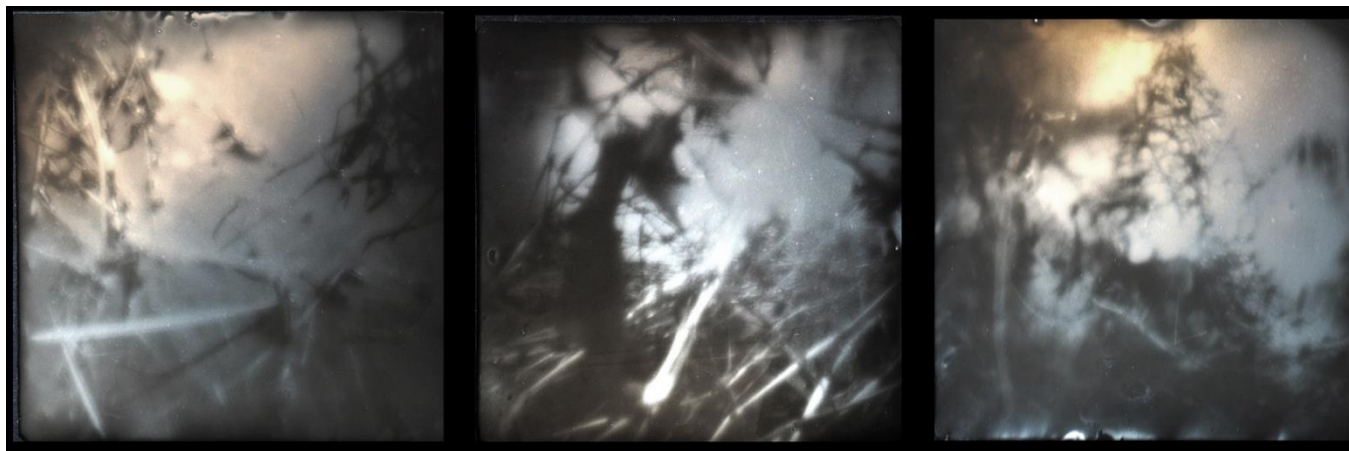


Figure 33 Hendeles, S. (2015). *Mangaone Stream flora, Tremain Ave. to Benmore Ave.* Digital photographs of silver gelatin glass plates in incandescent lighting.

Viewer Experience

My intention is to create an intimate, otherworldly environment that evokes my experience of walking along the banks of the stream. The walkway is suggested by a narrow, dark walled space. Although an open ended corridor would be an ideal way of suggesting a journey, it may be of greater importance to create a sense of separation from the outside world by means of an enclosed space. Glass plate photographs of the waterside vegetation are mounted on tilting brackets, placed below eye level, along the walls. They are angled to catch the light from the overhead fluorescent tubes that run in parallel with the walkway. They are small objects and demand close engagement.

One or more large vistas of the stream and its wider environment confront the viewer. They dominate the scene, unwilling to be ignored, establishing a context for the project and a backdrop against which the microcosm of the water's edge can be viewed, hopefully in a different light.



Figure 35 Hendeles, S. (2015). Scale models of exhibition options.

Chapter 7: Final Exhibition

This was held on Level 5, WM Building, 40 St. Paul Street, AUT University, as part of the AD15 graduating exhibitions. The layout of the installation followed the original plan of a dark-walled inner room housing the glass plates, mounted low on metal brackets, with a large-scale pigment print setting the scene on the outside wall.

The building's sweat-shop ambience, harsh fluorescent lighting, rough crumbling walls and substance encrusted floors was evocative of Dog Town, an environment in which the magical had to be attentively sought within the presented work.

In addition to four triptychs of the Mungaone Stream, images of the underbridges punctuated the narrative, reminders of the changes wrought by human activity.

A silver-cast *Datura* pod, a local weed reincarnated in precious metal, stood in the lower corner of the inner front wall. Its presence served as an unexplained, random element in an otherwise logical presentation. It went unnoticed by most viewers, which was perhaps as it should be.



Figure 36 Hendeles, S. (2015). Installation view.

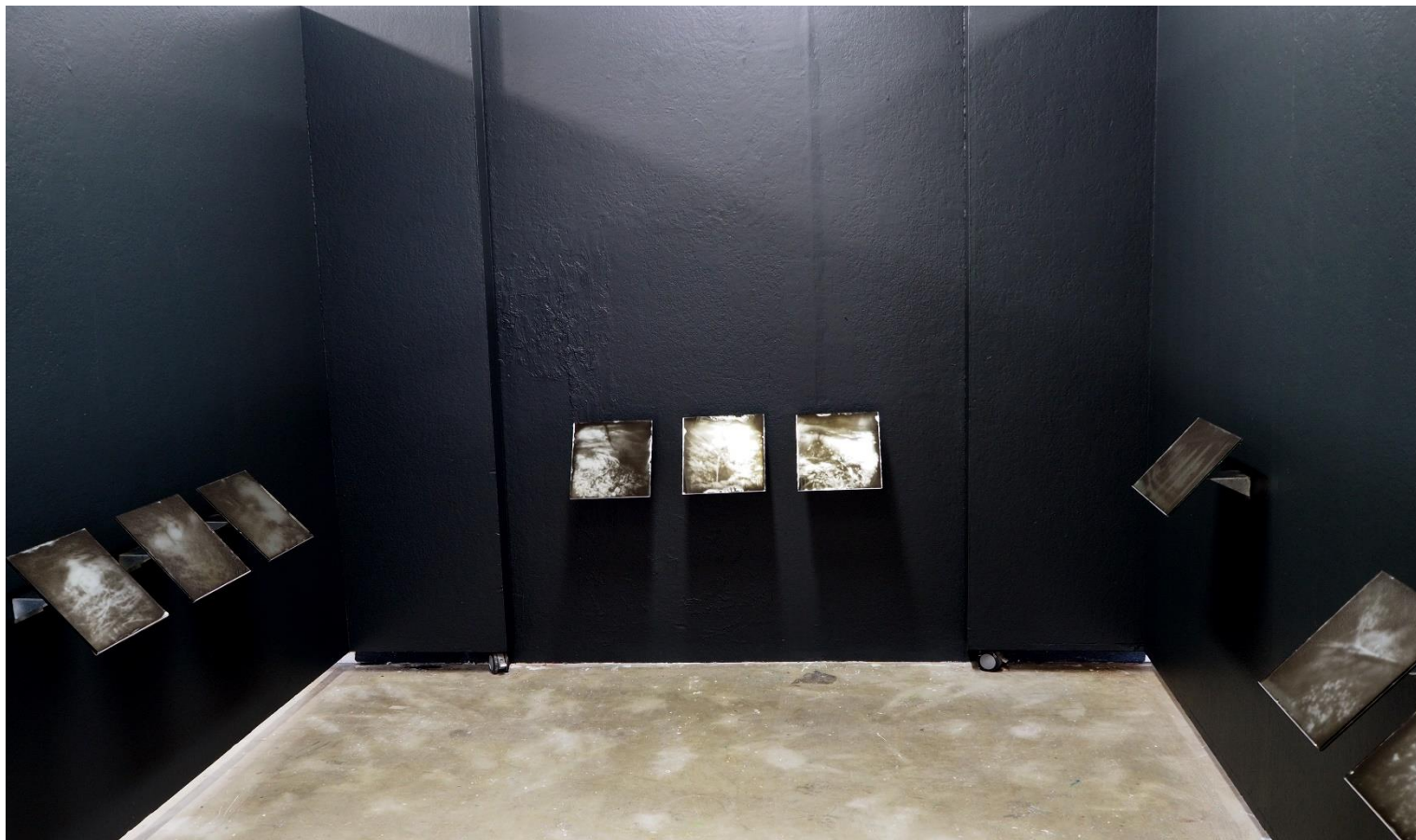


Figure 37 Hendeles, S. (2015). Installation view.



Figure 38 Hendeles, S. (2015). *Mangaone Stream Triptych, Tremaine Ave. to John F. Kennedy Drive*. Installation view.



Figure 39 Hendeles, S. (2015). *Mangaone Stream Triptych, Amberley Ave. to Pioneer Highway*. Installation view.

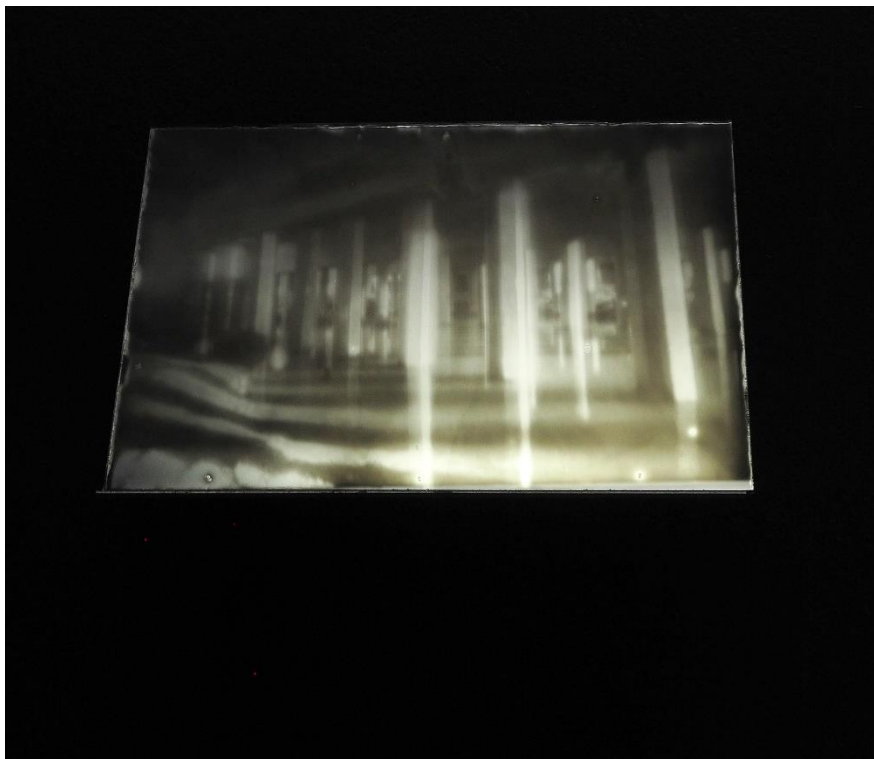


Figure 40 Hendeles, S. (2015). *Mangaone Stream, Railway Underbridge*. Installation view.



Figure 41 Hendeles, S. (2015). *Datura Stramonium Pods*, cast in sterling silver. Installation view.

Chapter 8: Concluding Thoughts

During the course of this project I have investigated the magical potentials of the photograph by attempting to develop a magical praxis, and by incorporating the agency of the camera and other conscious entities in the making of the work. I sited the project in a place that I had little connection or empathy with, partly because it happened to be my back yard, but also as a challenge to see if magic and enchantment could be found in the quotidian.

Over the two years of the thesis project spent lurking around the Mangaone Stream, I have observed its seasonal changes and moody ways. I am often geographically challenged but have finally developed a sense of the topography of the land. I feel comfortable in this place and with the denizens that hang out there. Perhaps not the dogs.

The photographs produced by the cameras continue to surprise me. I sense their personalities and relationships within the images. Objects perceiving objects, non-human persons expressing their mysterious views of the world.

Participating in their making has allowed me to experience the magic that first excited Henry Talbot when he developed his process for fixing shadows. They have taken me on a journey, showing me alternative ways of looking and relating to this place.

Appendix 1: The Camera Crew



Figure 42 Hendeles, S. (2015). Participating cameras.




Figure 43 Turner, T. (2015). Cameras on location.

1. Havana coffee tin fitted with 90mm zoneplate. 'Blu-Tack' shutter. Medium: Expired Min-R mammography film. Exposure time 45 -60 seconds.
2. Diana F+ Reproduction plastic camera manufactured by Lomography. Fitted with 40mm zoneplate after plastic lens broke. It leaks light and requires black tape. Medium: Black & White, 400 ASA 120 roll film. Exposure time 1 – 2 seconds approx. Used hand-held.
3. Zero 69D, mahogany and brass zoneplate camera designed and manufactured by Mr. Zernike Au of the Zero Image Co., Hong Kong. It has no viewfinder. Format is adjustable, I use it in 6x9 landscape mode. Medium: Black & White, 400 ASA 120 roll film. Exposure time 1 – 2 seconds approx. Due to heavy use, it now requires taping.


Zone plate images often produce low contrast negatives and I attempt to increase contrast by prolonging development time. After experimenting with many different films and developers, my favourite combination is TMax developed in X-tol 1:1.

Appendix 2: Zone Plates



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Figure 44 Zone plate optics. Retrieved from http://www.esco.co.kr/v3/product/p_content_d.php?mt=2&dt=8&st=145



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by the author of this thesis for
copyright reasons

Figure 45 Edwards, K. (2003). *Lunar corona produced by diffraction of light by water droplets*. Retrieved from <http://www.nightskynation.com/objects/phenomena/lunar-corona>

Zone plates utilise the waveform property of light, focusing by Fresnel diffraction rather than refraction. Diffraction is the tendency for light waves to bend when they pass around an edge or through a slit.

A zone plate consists of a series of radially symmetrical rings with alternate opaque and transparent zones. Light hitting the plate will diffract around the opaque zones, producing a series of ripples that constructively interfere at the desired focus to create an image.

Unlike pinholes, zone plates can be focused but have a very large depth of field. Zone plate cameras let more light in than pinhole cameras, often allowing them to be handheld - just!

Appendix 3: Mangaone Stream Walkway



Figure 46 Palmerston North - Mangaone Stream Pathway. Retrieved from <http://www.pncc.govt.nz/facilitiesandparks/walkways/mangaone-stream-pathway/>

Appendix 4: Recipe for a silver gelatin glass plate

- ❖ Cleaning: dishwasher cycle followed by chemical cleaning with alcohol, calcium carbonate and detergent.
- ❖ Sub with photo-grade gelatin + chrome alum. This helps the emulsion to adhere to the plate. Dry in rack.
- ❖ Warm plate, heat emulsion in waterbath at around 55°C until liquid.
- ❖ Under red safe light, pour liquid emulsion on to plate, draining excess. Cast a spell for an even coating!
- ❖ Clean up sticky mess on floor, benches and clothing.
- ❖ Dry plates flat in ventilated, light-free drying cupboard for one to two days.
- ❖ Direct or contact print. Exposure is by trial and error. It will vary according to thickness of emulsion and age of the coated plate.
- ❖ Develop in standard film developer e.g. D76 or ID11.
- ❖ Fix with standard fixer until milkiness disappears, and then a bit longer.
- ❖ 3 minute rid-fix bath.
- ❖ 1 hour cold water wash.
- ❖ Dry in rack.

References

- Al-Khalili, J., & McFadden, J. (2014, October 26). You're powered by quantum mechanics. No, really... *The Guardian*. Retrieved from <http://www.theguardian.com>
- Barthes, R. (2000). *Camera lucida*. London, England: Vintage Books.
- Batchen, G. (1999). *Burning with desire: The conception of photography*. Cambridge, MA: The MIT Press.
- Batchen, G. (2004). 'Ere the substance fade. In J. Hart & E. Edwards (Eds.) *Photographs objects histories: On the materiality of images* (pp. 32-46). New York, NY: Routledge.
- Benjamin, W. (1999). *Illuminations*. London, England: Random House.
- Bennett, J. (2010). *Vibrant matter*. Durham, NC: Duke University Press.
- Bennett, J. (1997). The enchanted world of modernity: Paracelsus, Kant, and Deleuze. *Cultural Values*, 1 (1), 1–28. doi: 10.1080/14797589709367132
- Berman, M. (1981). *The reenchantment of the world*. Ithaca, NY: Cornell University Press.
- Blazwick, I., Ono, Y., Parker, C., & Ferguson, B. W. (2014). *Cornelia Parker*. London, England: Thames & Hudson Ltd.
- Cantor, S. (2005). *What remains: The life and work of Sally Mann*. [Video file]. Retrieved from <http://video.yandex.ru/users/alexey-mischiha/view/86/>
- Chanan, M. (2003). *The dream that kicks: The prehistory and early years of cinema in Britain*. London, England: Taylor & Francis.
- Croy, O, R. (1959). *The Retina way* (9th ed.). London, England: Focal Press Ltd.
- de Certeau, M. (1984). *The practice of everyday life*. (S. Rendall, Trans.). Berkeley and Los Angeles, CA: University of California Press.
- de Solà-Morales, I. (2013). Terrain vague. In *Terrain vague: Interstices at the edge of the pale*. M. Mariani, & P. Barron, (Eds.) (pp. 24-30). Retrieved from <http://reader.ebib.com.au>.

- Deleuze, G., & Guattari, F. (2004). *A thousand plateaus: Capitalism and schizophrenia*. London, England: Continuum.
- Elbow, P. (1993). The uses of binary thinking. *Journal of Advanced Composition*, 13 (1), 51–78. doi: 10.2307/20865892
- Flusser, V. (2000). *Towards a philosophy of photography*. (Anthony Mathews, Trans.). London, England: Reaktion Books.
- Food basket to floodway: the story of Awapuni Lagoon and Mangaone Stream*. Retrieved May 18, 2015, from <http://envirohistorynz.com/2011/11/05/food-basket-to-floodway-the-story-of-awapuni-lagoon-and-mangaone-stream>
- Frazer, S. J. George. (1978). *The illustrated golden bough*. M. Douglas, (Ed.) London, England: Macmillan. (Original work published 1922)
- George Eastman*. (n.d.). Retrieved 6 September 2015, from http://www.kodak.com/ek/US/en/George_Eastman.htm
- Griffin, M. (1987). *Amateur photography and pictorial aesthetics: Influences of organization and industry on cultural production*. (Dissertation.) University of Pennsylvania. Retrieved from https://www.academia.edu/182481/amateur_photography_and_pictorial_aesthetics_influences_of_organization_and_industry_on_cultural_production
- Harman, G. (2011). The road to objects. *Continent*, 3 (1), 171–179.
- Harvey, G. (2005). *Animism: Respecting the living world*. Adelaide, Australia: Wakefield.
- Joyce Campbell*. (n.d.). Retrieved 18 September 18, 2014, from <http://www.joycecampbell.com/collections/view/23>
- Latour, B. (1993). *We have never been modern*. Cambridge, MA: Harvard University Press.
- MacAulay, S. P. (1999). 'Keeping taonga warm': Museum practice and Maori guardianship. *The Journal of Museum Education*, 24 (3), 14–17. doi: 10.2307/40479506
- Martin, S. (2011). *Alchemy and alchemists*. Retrieved from <http://reader.eblib.com.au>.
- Mauss, M. (1972). *A general theory of magic*. London, England: Routledge Classics. (Original work published 1902)
- McCabe, H. (2013). *Photography and the non-human*. (Dissertation.) National College of Art and Design, Dublin. Retrieved from <https://itb-dublin-ireland.academia.edu/HughMcCabe>

- Nickel, D. R. (2001). History of photography: The state of research. *The Art Bulletin*, 83 (3), 548. doi: 10.2307/3177242
- Nickel, D. R. (2002). Talbot's natural magic. *History of Photography*, 26 (2), 132-140. doi: 10.1080/03087298.2002.10443287
- Reinhardt, T. (2014). Fixing shadows: Photography beyond the indexical. In G. Genge, & A. Stercken, (Eds.) *Art history and fetishism abroad: Global shiftings in media and methods* (pp. 235-248). Retrieved from <http://www.ebib.com>
- Robertson, N. (2012). 'Can I take a photo of the marae?' dynamics of photography in Te Ao Maori. In S. Blokland & A. Pelupessy, (Eds.) *Unfixed: Photography and postcolonial perspectives in contemporary art* (pp. 95-103). Amsterdam, the Netherlands: Jap Sam Books.
- Sally Mann. (2015). Retrieved January 29, 2015, from <http://sallymann.com/selected-works/battlefields>
- Schuman, A. (2005, February). Landscape stories - An Interview with Jem Southam. *Seesaw Magazine*. Retrieved March 6, 2015, from http://seesawmagazine.com/southam_pages/southam_interview.html
- Sontag, S. (1977). *On photography*. New York, NY: Picador.
- Talbot, W. H. F. (2010). *The pencil of nature*. (Original work published 1844). Retrieved from <http://www.gutenberg.org/ebooks/33447>
- Taussig, M. (2012). The stories things tell and why they tell them. *e-flux*, (36). Retrieved from <http://www.e-flux.com/journal/the-stories-things-tell-and-why-they-tell-them/>
- Tsuge, Y. (n.d.). *Portrait of nature - Myriads of gods on platinum palladium prints* [video file]. Retrieved from <https://vimeo.com/91495217>
- Verwoert, J. (2011). The devil inside the thing speaks to the devils outside. In J. Heiser & E. Grubinger, (Eds.), E. Florenkowsky (Trans.), *Sculpture Unlimited* (pp. 83-97) Berlin, Germany: Sternberg Press.
- Warner, M. (2004). Introduction. In M. Haworth-Booth, (Ed.), *Things: a spectrum of photography, 1850-2001* (pp. 7-11) Jonathan Cape in association with the Victoria and Albert Museum.

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