Edith Cowan University
Research Online

Theses: Doctorates and Masters | Theses

2016

New Australian plants and animals. An exhibition - and - Physiology, phenomenology and photography: Picturing the indeterminate within an Australian art practice. An exegesis

Michael Gray

Follow this and additional works at: https://ro.ecu.edu.au/theses

Part of the Art Practice Commons, and the Photography Commons

Recommended Citation
Gray, M. (2016). *New Australian plants and animals. An exhibition - and - Physiology, phenomenology and photography: Picturing the indeterminate within an Australian art practice. An exegesis.* https://ro.ecu.edu.au/theses/1923

This Thesis is posted at Research Online.
https://ro.ecu.edu.au/theses/1923

Edith Cowan University

Copyright Warning

You may print or download ONE copy of this document for the purpose of your own research or study.

The University does not authorize you to copy, communicate or otherwise make available electronically to any other person any copyright material contained on this site.

You are reminded of the following:

- Copyright owners are entitled to take legal action against persons who infringe their copyright.

- A reproduction of material that is protected by copyright may be a copyright infringement. Where the reproduction of such material is done without attribution of authorship, with false attribution of authorship or the authorship is treated in a derogatory manner, this may be a breach of the author's moral rights contained in Part IX of the Copyright Act 1968 (Cth).

- Courts have the power to impose a wide range of civil and criminal sanctions for infringement of copyright, infringement of moral rights and other offences under the Copyright Act 1968 (Cth). Higher penalties may apply, and higher damages may be awarded, for offences and infringements involving the conversion of material into digital or electronic form.

New Australian plants and animals

An exhibition

- and -

Physiology, phenomenology and photography:
Picturing the indeterminate within an Australian art practice

An exegesis

This exegesis is presented for the degree of
Doctor of Philosophy

Michael Gray

Edith Cowan University

School of Arts and Humanities

2016

ABSTRACT

This practice-led research project investigates indeterminate aspects of perception related to human vision and postcolonial conditioning. Through an inventive range of lens-based artworks, the research draws parallels between preconscious visual phenomena and the subjective experience of non-indigenous Australians of multiple generations.

The resulting body of creative work, *New Australian Plants and Animals*, can be seen to approach preconscious visual phenomena derived from the physiology of the human eye through the use of primitive photographic lens technology. This process is applied to the subject matter: introduced plants and partially naturalised migrants. This synthesis of subject and materials creates new insights into preconscious vision whilst questioning aspects of *colonisation-in-reverse* (Tacey, 1995) where the colonised land immeasurably exerts itself on the coloniser's psyche. The partially naturalised migrant is metaphorically compared to introduced plants in Australia that are found inexplicably to evolve into new species.

The research highlights photography's historic role in falsely maintaining the view that the human eye views the world with a flat, sharp field of focus by revealing how images potentially appear at the back of the human eye before being processed by the mind. The photographic component of the research work can be seen to depart from the contemporary practice of representing cultured landscapes with highly refined technical processes. Instead, the photographs move towards picturing an indeterminate space where the physical world meets the embodied subject through the use of primitive photographic materials. Additionally, by inverting the power of the lens and photographing the coloniser instead of the colonised, this project enabled fresh insights into the postcolonial subject.

In line with Paul Carter's concept of *material thinking* (2004), this research relies on the 'intelligence' of materials to automatically reduce visual phenomena to a preconscious ocular quality whilst metaphorically operating as nineteenth-century colonial survey equipment. A broad range of artists has informed the research, ranging from late nineteenth-century European naturalist painters to contemporary Australian installation artists. The main theorists informing this project are Walter Benjamin, Maurice Merleau-Ponty and Edmund Husserl.

DECLARATION

I certify that this thesis does not, to the best of my knowledge and belief:

i. incorporate without acknowledgment any material previously submitted for a degree or diploma in any institution of higher education;

ii. contain any material previously published or written by another person except where due reference is made in the text of this thesis; or

iii. contain any defamatory material;

Michael Gray

Date: September 01, 2016

ACKNOWLEDGEMENTS

This research would not have commenced were it not for the support and expertise of the technical staff within the School of Arts and Humanities at Edith Cowan University. In particular I would like to thank Paul Godfrey and Ben Waters for their generosity and interest in the project. Together with Danielle Andree, Graeme Burge and Norton Flavel they were always willing to facilitate successful outcomes throughout the course of the research. Similarly I wish to thank Peter Reynolds and Graeme Richards for their skill in producing commissioned elements within the research.

I am very appreciative of the counsel provided by my principal supervisor, Doctor Paul Uhlmann. Throughout the research, his input was thought-provoking, productive and motivating. His dedication to the supervisory role resulted in positive outcomes beyond aiding this research. Paul's involvement has also greatly benefitted me as an artist and academic. I am especially thankful for the energy and patience he afforded me during the final stages of the research.

Working alongside Paul were Doctor John Ryan and Doctor Lyndall Adams. During his time as co-supervisor, John was able to engage enthusiastically with my developing ideas. I appreciate his humble approach to sharing his passion and knowledge and wish him well for any future wanderings. I would like to thank Lyndall for taking up John's role and rallying in the final push. Her expertise and attention to detail both expanded and sharpened the research. It is important to acknowledge Associate Professor Rod Giblett's role as my initial principal supervisor. His years of experience provided a solid base for the project during the proposal stage and beyond.

The role of my friends and colleagues was very important in terms of support and collaboration. I need to thank the people who volunteered to be photographed, discuss the project with me, and who also allowed me to construct improvised darkrooms in their bathrooms and spare bedrooms. This is especially true of my immediate family who never faltered in their support of the research, or me, during the many 'phases' of this project.

As is the experience of many who undertake a PhD, starting a family is an inevitable outcome. In this regard I need to thank Alexandra Neylon for collaborating with me

on my most ambitious creative project so far, Eli. Her stoicism and counsel during this research made a crucial difference. Her sacrifice, particularly towards the end of this project, was breathtaking. Thank you.

Professional editor, Bethany Andersson, provided copyediting and proofreading services, according to the guidelines laid out in the university-endorsed national policy guidelines, 'The editing of research theses by professional editors (available at http://iped-editors.org/About_editing/Editing_theses/FAQ _students.aspx).

TABLE OF CONTENTS

Abstract ii
Declaration iii
Acknowledgements iv
List of Figures viii
Research output xii

Introduction

Introducing to the project 2
Introduction 4
Geographical psychopathologies 4
Indeterminate experience and the noumenal world 6
Photography and contemporary arts practice 8
Applied phenomenology 11
Aims, objectives and significance 13
Research questions 16
Exegesis structure 17

Chapter One
Methodology

Introduction 21
Framing practice-led research 22
Creating new insights through creative practice 25
Isolating the researcher from the research 30

Chapter Two
Situating Concepts

Introduction 33
The unknown eye 34
Photography 38
Phenomenology 43
Terra Australis and geographical psychopathologies 50
Metaphors 57

Chapter Three
Situating Practice

Introduction 62

Part One – Two dimensions

Scale, depth and differential visual acuity 63
Photographs 73

Part Two – Three dimensions

Ocular obscura works 90
Video installation 104
Plastic bag works 107

Conclusions, outcomes and significance

Introduction 111
Convergence 113

References 119

Research Process Manual

2011 125
2012 129
2013 133
2014 140
2015 150

Appendix One

Exhibition Documentation 153

Appendix Two

Exhibited Works 175

TABLE OF FIGURES

Chapter Two

Figure 1: *Hypothetical ocular 'arc of focus' based on the formula for calculating focal length.* Graphic by Mike Gray 35
Figure 2*: Retinal cell structure*. Graphic by Mike Gray 36
Figure 3: *Approximation of retinal acuity*. Graphic by Mike Gray 37
Figure 4: *Achromatic lens*. Graphic by Mike Gray 39
Figure 5: *Camera 'arc of focus' based on the formula for calculating focal length*. Graphic by Mike Gray 40
Figure 6: Henry King (circa 1887), *Studio portrait of a man in a fighting pose*, glass transparency, 8.2 x 8.2 cm. 60
Figure 7: Unknown photographer (circa 1880) *Botanical Gardens, view at the Fern Tree Gully*, albumen silver, 13.5 x 18.5 cm. 60

Chapter Three

Figure 8: Jules Bastien-Lepage, (1878), *The potato gatherers*. Oil on canvas. 180cm x 196cm. 63
Figure 9: Peter Henry Emerson, (1886), *Coming home from the marshes*, platinum print, 20 x 29.1 cm. 68
Figure 10: Bernd and Hilla Becher, (1974), *Preparation Plant, Harry E. Colliery Coal Breaker, Wilkes Barre, Pennsylvania*, photograph. (Exception to copyright. Section: ss40, 103C. Exception: Research or study). 69
Figure 11: Sarah Mosca, (2014), *Untitled Walk #2 (vague silence)*, pigment print, 110 x 90 cm. (Exception to copyright. Section: ss40, 103C. Exception: Research or study)..... 70
Figure 12: Robert Ashton, (2015), *Opening*, Pigment ink-jet print, 60.0 x 95.0 cm. (Exception to copyright. Section: ss40, 103C. Exception: Research or study). 70
Figure 13: Andreas Gursky, (1999), *Rhein II*, C-print mounted to acrylic glass, 190 x 360 cm. (Exception to copyright. Section: ss40, 103C. Exception: Research or study). 71
Figure 14: Jules Bastien-LePage, (1878), *The potato gatherers* (detail), Oil on canvas. 180cm x 196cm. 72
Figure 15: Mike Gray (2014a), *Suzi and Nic* (detail), archival inkjet print, 140cm x 110cm.... 72
Figure 16: Mike Gray, (2014a), *Suzi and Nic*, archival inkjet print, 140cm x 110cm..... 74
Figure 17: *MKII camera and lens*. Photographer Mike Gray..... 76
Figure 18. Mike Gray *(2014o)*, *Unknown*, archival inkjet print, 140cm x 110cm..... 77
Figure 19: *Camera and ocular 'arc of focus'*. Graphic by Mike Gray 78
Figure 20: *Arc of focus example*. Graphic by Mike Gray based on:..... 79
Figure 21: Mike Gray, *(2014g)*, *Jen*, archival inkjet print, 100cm x 80cm 81

Figure 22: Mike Gray, *(2014b)*, *Alex*, archival inkjet print, 140cm x 110cm..... 81
Figure 23: Mike Gray, *(2014h)*, *Mike*, archival inkjet print, 140cm x 110cm 82
Figure 24: Mike Gray, *(2014d)*, *Dave*, archival inkjet print, 140cm x 110cm 83
Figure 25: Mike Gray *(2014q)*, *Vine*, archival inkjet print, 140cm x 110cm..... 84
Figure 26: Nicholas Caire, (1878), *Fairy scene at the Landslip, Blacks' Spur*, albumen silver photograph, 28.2 × 22.4 cm. 85
Figure 27: John William Lindt, (circa 1872), *Seated man holding a fishing net*, albumen silver photograph, 15 x 20 cm..... 85
Figure 28: Mike Gray, (2014c), *Dan*, archival inkjet print, 140cm x 110cm. 85
Figure 29: Mike Gray, (2014l), *Queens Crescent 05*, archival inkjet print, 140cm x 110cm... 85
Figure 30: Mike Gray, (2014a) *Sawn-off camera and Aborscopic study* (detail). Photograph by Mike Gray 86
Figure 31: Mike Gray, (2014a), *Aborscopic study*, archival inkjet prints, 110cm x 25cm..... 87
Figure 32: Thomas Gainsborough, (1750), *Mr and Mrs Andrews*, oil on canvas, 69.08 cm × 119.04 cm..... 87
Figure 33: Jules Bastien-Lepage, (1877), *Haymaking*, oil on canvas, 160 cm x 195 cm. 87
Figure 34: Frederick McCubbin, (1889), *Down on His Luck*, oil on canvas, 114.5 cm × 152.8 cm..... 87
Figure 35*:* Carol Jerrems, (1975), Vale St, *gelatin silver photograph*, 20.1 x 30.4 cm. (Exception to copyright. Section: ss40, 103C. Exception: Research or study.) 87
Figure 36: Fiona Hall, (1989-90), *Paradisus Terestris*, aluminium & tin, 25cm × 12cm × 3cm89
Figure 37: Mike Gray, (2014j), *Phenomoflex MKII*, wood, glass, and steel, 40cm x 40cm x 40cm. Photographer Mike Gray. 90
Figure 38: *Scheiner's experiment* (in Descartes *La Dioptrique)*, (Descartes, 1637/1988)..... 93
Figure 39: Ian Weir, (2006), *The Light of Gairdner #2*. media and dimensions unavailable. (Exception to copyright. Section: ss40, 103C. Exception: Research or study.) 94
Figure 40: Pia Arke, (1992) *Self-Portrait*, 30.5 x 25.5 cm 95
Figure 41: Pia Arke, (1993), *Untitled*, Ortho-lith print, 60 cm x 50 cm 96
Figure 42: Mike Gray, (2014e), *Double-Barrel Phenomoflex*, wood, ... 98
Figure 43: *Double-Barrel Phenomoflex optics*. Graphic by Mike Gray. 98
Figure 44: Mike Gray, (2014i), *Phenomoflex detail: backdrop with plants*..... 99
Figure 45: Mike Gray, (2014i), *Phenomoflex test installation*. Photographer Mike Gray. 100
Figure 46: Mike Gray, (2014i), *Phenomoflex installation detail*. Acrylic sphere, 67cm x 67cm x 67 cm. Photographer Mike Gray. 101
Figure 47: Mike Gray, (2015c), *Phenomoflex installation detail*. Wood, metal and acrylic, 240cm x 240cm x 240cm. Photographer Mike Gray. 102
Figure 48: *Ocular Obscura 'arc of focus'*. Graphic by Mike Gray..... 102
Figure 49: Mike Gray, (2014f), *Forest / Forrest walks*, 150cm fibreglass dome and video projector. Photographer Mike Gray. 105
Figure 50: David Hockney (1982), *Still Life Blue Guitar*, 62 x 76 cm, composite Polaroid. .. 106

Figure 51: Mike Gray, (2015b), *Lakeside*, glass, cardboard, plastic, monitor, electric fan, 60cm x 42 cm x 150cm. Photographer Mike Gray 107
Figure 52: Mike Gray, (2015a), *Backyard Bag Study*, back-lit transparency, 170cm x 107cm 108

Research process manual

Figure 53: *Lens testing*. Photographer Mike Gray. 126
Figure 54: *Lens mounted inside 'Camera MKII'*. Photographer Mike Gray 126
Figure 55: Mike Gray, (2011), *Juha*, archival inkjet print, 50cm x 40cm. 127
Figure 56: Mike Gray, (2011), *Initial tests*, archival inkjet prints, 50cm x 40cm 128
Figure 57: Mike Gray, (2014n), *Suzi and Nic*, archival inkjet print, 140cm x 110cm..... 129
Figure 58: *MKII camera*, wood, cardboard, glass, and steel, 90cm x 50cm x 40cm. Photographer Mike Gray. 131
Figure 59: Mike Gray, (2011), *Self-portrait tests*, archival inkjet prints, 50cm x 40cm..... 131
Figure 60: *Ocular obscura tests*, 2012. Photograph by Mike Gray 132
Figure 61: Mike Gray, (2012), *Floral tests*, archival inkjet prints, 50cm x 40cm 133
Figure 62: Mike Gray, (2013), *Kimberley portraits*, archival inkjet prints, 50cm x 40cm 134
Figure 63: Mike Gray, (2014c), *Dan*, archival inkjet prints, 100cm x 80cm..... 135
Figure 64: Mike Gray, (2014c), *Alex 02*, archival inkjet prints, 100cm x 80cm 135
Figure 65: Mike Gray, (2014q), *Vine*, archival inkjet prints, 140cm x 110cm..... 136
Figure 66: *Camera set-up*. Photograph by Mike Gray. 137
Figure 67: Mike Gray, (2014m), *Sonny*, archival inkjet prints, 100cm x 80cm..... 137
Figure 68: *MK III Camera*. Photograph by Mike Gray..... 137
Figure 69: Mike Gray, (2014l), *Queens Crescent 05*, archival inkjet print, 100cm x 80cm ... 137
Figure 70: *Phenomoflex MK I prototype construction and test*. Photograph by Mike Gray. . 138
Figure 71: Mike Gray, (2013*), Phenomoflex MK I*. Photograph by Mike Gray..... 139
Figure 72: Mike Gray, (2013), *Double-Barrel Phenomoflex prototype*. Photograph by Mike Gray..... 139
Figure 73: *Stereo lens optics.* Graphic by Mike Gray. 140
Figure 74: Mike Gray, (2014e), *Double-Barrel Phenomoflex*. Photograph by Mike Gray. 141
Figure 75: *Double-Barrel Phenomoflex optics*. Graphic by Mike Gray. 142
Figure 76: Mike Gray (2014) *Sawn-off camera and Aborscopic Study (detail).* Photograph by Mike Gray 142
Figure 77: Mike Gray (2014) *Stereoscope*. Photograph by Mike Gray. 143
Figure 78: Mike Gray (2014) *Stereo Images*, archival inkjet prints, 16cm x 6.5cm..... 143
Figure 79: *Stereo projection tests*. Photograph by Mike Gray. 144
Figure 80: *Weather balloon tests*. Photographs by Ben Waters and Mike Gray..... 145
Figure 81: *Sphere design and manufacture*. Graphic by Mike Gray, photograph by Manner Yu. 146

Figure 82: *Phenomoflex MK II construction*. Photograph by Mike Gray. 146
Figure 83: Mike Gray (2014j), *Phenomoflex MK II*. Wood, glass and steel. 40cm x 40cm x 40cm. Photograph by Mike Gray. 146
Figure 84: *Phenomoflex installation virtual mock-ups*. Digital illustrations by Mike Gray. 147
Figure 85: *Phenomoflex sphere fabrication and test*. Photographs by Mike Gray..... 148
Figure 86: *Phenomoflex installation lens and viewing room*. Photographs by Mike Gray. ... 148
Figure 87: *Phenomoflex installation backdrop progress*. Photographs by Mike Gray. 149
Figure 88: *Phenomoflex backdrop rig construction and test installation*. Photographs by Mike Gray. 149
Figure 89: Mike Gray, (2014f) *Forest / Forrest walks construction and installation*. Photographs by Mike Gray. 150
Figure 90: *Backyard bag study tests*. Photographs by Mike Gray. 150
Figure 91: Mike Gray, (2015a), *Backyard Bag Study*, back-lit transparency, 170cm x 107cm 151
Figure 92: Mike Gray, (2015b), *Lakeside*, Glass, cardboard, plastic, monitor, electric fan, 60cm x 42 cm x 150cm. Photographs by Mike Gray 152

RESEARCH OUTPUT

Exhibited material

2016 William and Winfred Bowness Photography Prize – finalist, group exhibition, Monash Gallery of Art, Melbourne, Victoria.

2016 CLIP Awards (contemporary landscapes in photography) – winning entry, group exhibition, Perth Centre for Photography, Perth, Western Australia.

2015 The Alchemists – group exhibition, Australian Centre for Photography, Sydney, New South Wales.

2015 City of Joondalup Invitational Art Prize – winning entry (celebrating Joondalup prize), group exhibition, Lakeside, Joondalup, Western Australia.

2015 Perth Fringe Festival – solo installation, various locations, Perth, Western Australia.

2014 New Australian Plants and Animals – solo exhibition, Perth Centre for Photography, Western Australia.

2014 New Australian Plants and Animals (Singapore International Photography Festival) – solo exhibition, Singapore National Museum.

2014 Of Spears and Pruning Hooks – group exhibition, Spectrum Gallery, Perth, Western Australia.

Publications / book chapters

Gray, M. R. 2014. "The unknown eye: Physiology, phenomenology and photography." In *Photography and fictions: Locating dynamics of practice*. Ed. V. Garnons-Williams, 93-103. Brisbane: Queensland Centre for Photography.

Conference presentations

Queensland Photography Festival / April 2014

Singapore International Photography Festival / October 2014

CHAPTER ONE

Introduction

Introduction to the project

The outcomes of this practice-led research project are expressed within the multidisciplinary artworks that constitute the series *New Australian Plants and Animals*. This body of work is informed by a synthesis of physiology, phenomenology and photographic technology whilst drawing on my personal experience as a non-indigenous Australian of multiple generations to provide contextual background for the creative work. The series comprises photographs, interactive sculptural pieces, immersive installations and video installations. Primarily, the intersection of research into physiology, photography and phenomenology is confined to the facticity of the human eye: how the physiology of the eye may unknowingly affect the experience of visual phenomena, and in turn, how you could possibly approach that 'unknown' aesthetic through creating works of art based on single element lenses.

Through the process of material experimentation, *New Australian Plants and Animals* attempts to bring the viewer closer to indeterminate visual phenomena and thereby re-introduce them to the fundamental, yet hidden, relationship between the physical self and the physical world. An analogous example of indeterminate phenomena is when you bring your forefinger and thumb together; it is difficult to describe where the touching ends and the being touched starts. In this light, the research aims to artistically approach the space where vision physically ends and perception psychologically starts. An adjunct aim of the research is to correlate that investigation with the liminal position, and indeterminate forces, that non-indigenous Australians of multiple generations experience on the migrant-indigenous axis. In this regard, the research aims to investigate indeterminate aspects of what Tacey (1995) describes as *colonisation-in-reverse*, where the colonised land influences the colonised.

In line with that aim, the title of the work, *New Australian Plants and Animals*, is metaphorically derived from scientific studies (Buswell, 2011) into the rapid evolution of certain introduced plants species to Australia, species that could be seen as becoming 'new' after going beyond adaptation. This reference serves as a poetic device to provide an analogic understanding of the subject matter, the partially naturalised migrant. This scientific metaphor aids in understanding the potential of continental Australia to exert itself on introduced species in ways that are beyond perception.

Several key concepts used in this exegesis need to be re/defined for their use in a practical arts-based investigation. Mainly, these concepts come from the tradition of Phenomenology[1], in particular concepts initially defined by Edmund Husserl and Maurice Merleau-Ponty. These concepts are discussed at length in the section on phenomenology (Chapter Two). For introductory purposes however, *parenthesising* (also referred to as *bracketing*), a Husserlian (1931/2012) term for intellectually isolating fundamental aspects of phenomena, is a method I apply materially to works of art that attempt to reduce visual phenomena and thereby isolate the ocular part of vision from the mind's role in perception. In doing so, I endeavour to reintroduce the viewer to aspects of *perceptual absence* and *indeterminate vision*, phrases coined by Merleau-Ponty (1945/2013) to describe the qualities of objects that are beyond our conscious sensing capabilities.

I also refer to *preconscious* phenomena to describe visual experience that is not recorded consciously but can emerge when viewing artworks that aim to replicate *ocular vision*. To distinguish between the hypothetical aesthetic experienced within the human eye and the aesthetic of the resulting artworks based on the eye, I use the terms *ocular visio*n and *ocular aesthetics* respectively. I employ the phrase *postcolonial disquiet* (McCann, 2005) in reference to a personally derived, subjective sense of partially naturalised migrants not belonging to Australia nor to an ancestral country.

Throughout the exegesis, I refer to the most simple of photographic lenses as *single-element lenses*. These are lenses that consist of a single piece of glass, as opposed to the more commonly used photographic lenses that employ multiple glass elements, *compound* lenses.

During the research period, the work has been exhibited in eight different contexts that have varied in the pieces shown, type of space used, geographic locations and mixture of media. The work has been curated into several group exhibitions within Australia and two significant solo exhibitions held at the Singapore National Museum and the Perth Centre for Photography. Together, these exhibitions form a continuum of research that tracks the progress of this project.

1 I use capital 'P' to refer to the twentieth century tradition of Phenomenology and not the descriptive method, (p) phenomenology.

Introduction

This exegesis traverses the space between the original context of the artistic series *New Australian Plants and Animals* and the concepts that emerged from it. From a starting point grounded in postcolonial disquiet, the series transitions from a personally sensed liminal position towards an examination of more universally experienced, preconscious visual phenomena. Enabling that transition is the primarily lens-based, material experimentation undertaken during the research period. In that regard, the introduction identifies and contextualises the work's central themes and establishes the *unfulfilled relations* (Carter, 2010) that exist between those themes. For introductory purposes, I interpret *unfulfilled relations* as a perceived absence that exists between the subject matter, materials and concepts addressed in this research. Later, I articulate how the concept of *unfulfilled relations* addresses the aims and significance of the research and operates within its methodological framework. In line with the aim of converging previously unrelated concepts, subject matter and materials investigated in *New Australian Plants and Animals,* the introduction is structured to address its constituent themes.

The introduction begins by outlining the context of this research, questioning the experience of partially naturalised migrants in Australia, before aligning that indeterminate experience with preconscious vision. As those two themes are united by the core topic of this research, questioning indeterminate sensory experience through arts practice, I subsequently locate my position within the field of contemporary arts practice before establishing how the core topic relates to established enquiries based on phenomenological reductions. Throughout the exegesis, popular culture quotations are inserted as poetic devices designed to illuminate the topics covered.

Geographical psychopathologies

> Our instruments have no way of measuring this feeling (The Church, 1988)

A pivotal concept within this research was derived from an unlikely source that later provided a metaphoric base for the series *New Australian Plants and Animals*. Relatively early in the project, I read a scientific journal article by Joanna Buswell

(2011) entitled 'Is rapid evolution common in introduced plant species?' The article outlined the results of her study into a number of introduced plant species in Australia, many of which had gone beyond environmental adaption to rapidly evolve into species found only in Australia. In other words, the plant species have become, or are becoming, indigenous. As explained in the article, the study of rapid evolution is relatively new and, therefore, the research could not explain if this phenomenon was a result of biotic or abiotic factors. Was it purely a change in nutrients and freedom from traditional predators that had made these plants distinct from their ancestors? Buswell asserts that the current scientific knowledge and instruments available limit the discovery of what causes rapid evolution. This leaves open the possibility of what the study describes as 'novel' factors within Australia being the cause for rapid change within these plants. As that novel factor was beyond the scope of Buswell's (2011) study, the article stops short of speculating what it might be, and subsequently, does not address the possibility it could ever be measured or observed though empirical methods.

Buswell's (2011) study describes an observable, significant change in certain plants introduced to Australia and asserts that science cannot yet explain the reason for these changes. This study metaphorically resonates with my research for two reasons: firstly, it indicates that it is possible for introduced species to rapidly evolve, and secondly, it states that the reason for rapid evolution in nature is currently unknown. In these respects, Buswell's (2011) rapidly evolving plants serve as an analogy for the photographic subjects of this research: non-indigenous Australians whose relationship with continental Australia could possibly be described as *colonisation-in-reverse* (Tacey, 1995), where the colonised land influences the coloniser in ways that are beyond our perceptual capabilities.

As a non-indigenous Australian of multiple generations[2], I cannot wholly relate to a European mindset nor completely to the land I live on. I have no sense of being at either extreme of the migrant / indigenous axis but at the same time am unaware of all the factors acting on that liminal position. Outside of cultural pressures influencing the experience of the partially naturalised migrant, are there novel factors similar to those acting on the rapidly evolved plants that have rapidly departed from their ancestors? For me, there are many questions arising from this personally sensed disquiet and I am aware that the importance of those questions increases in the

[2] Ranging from second generation to sixth generation depending on paternal or maternal lineage

vacuum of suitable answers. Unfortunately, I find that within the heavily researched topic of postcolonial Australia there are not many explanations that resonate with my subjective experience either within cultural studies or scientific discourses (Gelder & Jacobs, 1998; Gilroy, 2005; Hall, 1996; Tacey, 2009). One reason for this gap could be that these discourses are grounded in the 'public' and not 'private' sphere; in their attempt to develop generalised theories about the colonial and postcolonial condition, they do not resonate personally.

This could be seen as the initial impetus behind this research: reacting against the disquiet I felt, however, there was resistance to making that disquiet the main topic. By reflexively responding to emerging concepts throughout the research, it became clear that a sense of colonial disquiet, in itself, did not address all the concerns manifest in the practical component of this research. That component, the body of art resulting from this research, has meaning beyond that single constituent aspect of the project. Therefore, whilst the two concepts that most closely relate to the disquiet I discuss, -- *geographical psychopathologies* (Cohen, Slomkowski, & Robins, 1998) and *postcolonial melancholia* (Gilroy, 2005) -- support my research, it is important to state that they in themselves do not represent the core topic. During the course of this project, other complementary and divergent themes connected to the indeterminate nature of preconscious vision emerged that aligned with the indeterminate nature of postcolonial disquiet.

Indeterminate experience and the noumenal world

Broadly, the core topic of this research is somewhat 'unknown'; questioning the inaccessible, or indeterminate part of phenomena that are immediately absent from consciousness. In terms of vision, this refers to the qualities of objects that are hypothetically recorded by the retina although remain beyond our conscious viewpoint. I am not referring to the far side of a tree that we cannot physically see from our vantage point, but rather to the quality of the front side of the tree recorded unconsciously on the human retina, a registration that is hypothetically vastly different to conscious visual perception (Gregory, 1997). Later, I align this aspect of vision with two phrases derived from the work of Maurice Merleau-Ponty (1945/2013), *indeterminate vision* and *perceptual absence*, to describe the qualities of objects that are beyond our conscious sensing capabilities.

For introductory purposes, I can broadly state that the eye does not really see as we assume it does. Sight is the result of both the brain's immediate and remembered interpretation of the physical world electro-magnetically interfacing with the physical self through a sensory organ incapable of creating the clarity of perception by itself. The information gathered inside the eye is a preconscious phenomenon, as opposed to the conscious interpretation of that phenomenon that we call perception (Gregory, 1997). We perceive the world as uniformly sharp but the human eye by itself is optically and physically incapable of rendering a uniform level of clarity. Given the relatively poor optical and sensory ability of the eye, it is the mind that is mostly responsible for perception through processes that I discuss in Chapter Two. What the eye actually sees is not immediately known to us and we can only make an educated guess as to the quality of the image the eye passes to the brain (Teller, 1997). The only visual 'truth' we can discuss is what the mind produces. It is this visual truth that we use primarily to make sense of the world around us.

When making judgements on the true nature of 'the world' using visual information, this could be seen as problematic. If we rely on visual data augmented by the mind instead of relying on the primary source of that data recorded by the eye, how can we be sure our judgements are accurate? To address this question, I put forward the case that there are significant unknown factors within the sensing process that do not reveal their function. Subsequently, questions arise as to the eye's role in mediating or re-constituting the noumenon (Kant's posited object that exists prior to perception) into phenomenon (Kant, 1885/2016).

Never being completely aware of the eye's role in vision is not dissimilar to the experience of the subjects in Plato hypothetical cave, a highly cited example of this problem. In Plato's cave (Wright, 2016), people had their backs turned permanently from a source of light and certain moving objects that together created shadows on the cave walls. If those people could only see the shadows on the wall and not their origins, they could not describe the objects that made them or even know if they existed in the first place. For all they knew, the shadows were objects in themselves and this allegory suggests that, "provability is a weaker notion than truth" (Hofstadter, 1999, p. 19) when arrived at through the senses.

This research, then, partially questions physiology's role in perception and speculates on the space between the noumenal world and visual phenomena. Its questions, which are discussed in length later in the phenomenology section of

Chapter Two, centre on how that unknown quality may mediate or re-constitute the noumenal world in ways we are not immediately conscious of. The primary visual phenomenon that takes place on the surface of the retina, however, is both known and unknown to us. It is arguably how infants perceive the world, sharp in the middle and blurry towards the edge (Gregory, 1997; Teller, 1997). Gradually the brain's sophisticated processing of vision gives us conscious perception (a flat field of sharp focus) and the visual qualities derived from the limitations of the eye (an arc of sharp focus that gives way to softer information) become unknown.

It is this 'unknown eye' that I am interested in, a place where the physical world meets the physical self in a process that is not part of our consciousness. Through material investigation based on single element lenses, this research's creative outputs approach the limits of ocular optics, thereby re-presenting an approximation of indeterminate visual phenomena.

Photography and contemporary arts practice

There is another part of my experience that influences this research, that of a photographer and practicing artist who primarily employs photography. I make the distinction between photographer and practicing artist due to the many modes of photographic experience I respond to in this research. The experience derived from these two independent modes of photography contributes directly to the material and conceptual outputs of this research.

Reflecting on the motivation behind instigating the material experiments of this research, I establish two main sources: a reaction to both digital technology and trends within contemporary fine-art photography. As a commercial and fine-art photographer who trained in the analogue era prior to professional digital technology being available, I had become infatuated with digital imaging technology as it made the photographic process easier and more immediate whilst pushing the boundaries of what was possible. However, this project could be viewed as a reaction against digital technology, as, after spending fifteen years appreciating its ease and convenience, I gradually became dissatisfied with what both professional digital and analogue technology offered.

Beyond my twenty-year commercial and fine-art photographic experience, I have previously worked as a professional digital post-production technician and also within university photography departments. Together, this experience enables me to be well aware of conversations grounded in the analogue / digital dichotomy. I had come to disregard the argument about which is better as the subtle differences between the two media, when using professional equipment, can be largely bridged with a blend of analogue-based visual literacy and digital editing skill. Further to that, and citing Roland Barthes, the only thing that really matters in a photograph is the *punctum* (1981). Punctum describes the quality of certain photographs that allow the viewer to engage in profound ways that are not necessarily immediately obvious. For me, the punctum does not usually rely on film-grain or a purely analogue tonal palette. Therefore, in the context of professional photographic technology, the resulting difference between a digital and analogue aesthetic is marginal.

In this light, part of the motivation behind experimenting with a highly devolved analogue process based on single element lenses was to leverage the difference between digital and analogue technology and see if an analogue process could produce its own punctum well beyond the subtleties of professional analogue technology. Further to that, I wanted to amplify the analogue aesthetic to create a significant difference between it and the digital aesthetic in ways that may not have previously been attempted. For example, I did not want to make pinhole cameras or recreate daguerreotypes as has others have done; rather, I wanted to move somewhere beyond purely historic investigations. I wanted to devolve photography to a fictitious point in history where the recording media were more sophisticated than lens technology

Another motivation for investigating a devolved process was to move away from the post-media trend within contemporary fine-art practice of using photography to document a concept. This research can be seen as diverging from the objective aesthetic synonymous with New Topographics (Giblett & Tolonen, 2012) and the Dusseldorf School (Gronert, 2009). In Chapter Three, I argue that this predominantly, northern hemisphere-based aesthetic may be not be the most appropriate approach to address Australian concerns. Sceptically, I find photographs of deserted urban car parks do not adequately address Australian experiences. This viewpoint aligns with ideas already raised concerning the migrant / indigenous axis. Here, I align objective modes of contemporary photography with the northern hemisphere's cultured

landscapes rather than the landscapes of Australia that potentially offer something 'wilder'.

From this position, one way to summarise the impetus behind the experimental photographic process employed in this research is that it is diametrically opposed to high-end digital technology and objective, contemporary photographic aesthetics. To arrive at this position, the photographic portion of *New Australian Plants and Animals* is based on single-element lenses that produce a particular aesthetic, which I discuss at length in Chapter Three. For introductory purposes this aesthetic approaches what is hypothetically experienced pre-consciously in the eye and departs from the aesthetic consciously experienced in the mind, a distinction I articulate in Chapter Two.

Photography, as experienced by most, has always strived to produce a uniform, sharp plane of focus (Kingslake, 1989) that is aesthetically close to conscious perception. The use of single element lenses, however produces an 'arc of focus' that I align with the hypothetical quality of ocular vision. Commercial lens manufacturers call this aberration 'field curvature' and go to great lengths to minimise its effects. The camera's reputation as 'the mechanical eye', therefore, is somewhat of a misnomer as photography has always strived to go beyond the physiological limits of the eye and replicate the aesthetic produced by the visual cortex which is sharp all over as opposed to blurry on the edges (Wright, 2016).

To recreate the qualities of ocular vision, I initially built cameras large enough to accommodate 16" x 20" negatives, with the image being focussed by a single lens borrowed from a pair of reading glasses. Using a single-element lens to produce photographs is surprisingly novel in the history of photography as the two main technologies involved in photography, optics and recording media, were not developed simultaneously. Lens technology was more advanced than that of silver-halide recording media so, by the time Daguerre was creating the first viable photographic process in the 1830s, he had compound, achromatic lenses (multiple elements) at his disposal. These lenses reduced optical aberrations towards the edges of the image and, hence, became the basis of the uniformly sharp photographic aesthetic we are familiar with (Kingslake, 1989). My use of single-element lenses could then be seen as a devolution in photographic technology, invoking a fictitious point in history where the recording media were far more sophisticated than the lens technology. The medium I use is extremely large, fine-

grained, analogue negative material that records the image focused by a single piece of glass. In this research I have been constrained to using black and white media as photographic colour paper (type 'c') is difficult to source in these dimensions. Another issue is that type 'c' paper is difficult to expose in daylight conditions as it is calibrated to accommodate tungsten light and the tone of colour film's base. Further, this material requires a finely tuned development process that is not offered in this format by modern commercial laboratories. Regardless of the images being colour or black and white, the result of this is a photographic aesthetic where the detail captured in the middle of the image is comparable to that produced by a high-end digital camera[3] with the edges of the image displaying qualities hypothetically similar to ocular vision.

Another feature of these photographs, one that I argue is potentially novel, is a slight three-dimensional effect that I hypothesise is contingent on single-element lenses having an 'arc of focus' rather than the flat 'plane of focus' produced by traditional compound photographic lenses. In Chapter Three I discuss how the aesthetic combination of single-element lenses and hi-fidelity recording media can become more pronounced when reproduced as large-scale prints.

Applied phenomenology

In the context of photography, questioning the hegemony of conscious perception over preconscious ocular vision could be seen as novel; however, this is not the case with particular painting movements. Robert Hughes illustrates how certain painters transitioned from aesthetics based on conscious perception to that of the body: he says, "perspective painting stated, 'this is what I see' whereas cubist paintings asked, 'is this what I see?'" (1979). I align 'naturalist' and 'impressionist' painters alongside the cubists in this category. In particular, I refer to the naturalist painter, Jules Bastien-LePage, as his varying fields of clarity correlate to the photographic aesthetic produced in this research. I hypothesise that the sense of depth perceived in his work is dependant on the image being large. I liken this to the photographs produced through this research that display a more pronounced three-dimensional effect when printed to similar dimensions. This is discussed further in Chapter Three together with relevant, contemporary art practices.

[3] During this research I compared the results of this devolved process to a professional 50MB medium format camera.

From initially being purely a photographic body of work, this project expanded into a multi-disciplinary body of work based on single-element lenses that followed the aim of the photographs: to isolate potential visual ocular qualities and thereby introduce the viewer of those works to an unknown sensory place within themselves. Aside from the photographs, the other major artistic development from this series is the translucent spheres the viewer interacts with, either as inter-active sculptures or immersive installations (Figures 37, 42 and 45). These devices look much like a camera obscura from the outside because of the simple lens mounted to a housing, however, there is a crucial difference: a translucent sphere housed inside that captures the image. Instead of the image being projected onto a flat rear plane, the image captured inside the sphere is viewed from behind. From this position, the viewer is looking at the world from the equivalent of the back of their eye. They are looking out at the noumenon and the phenomenon at the same time. In this regard, a phenomenological reduction has occurred where vision is automatically reduced to the limits of the eye's physiology.

In this research, phenomenology serves two main purposes: to provide a possible theoretical understanding of the subject matter and secondly, to appropriate and abstract certain intellectual reduction methods employed by phenomenology into works of art. Another way to describe this is that on a theoretical level, certain concepts emerging from the phenomenological tradition serve as a good starting point for discussions relating to this research and, quite separate to that, certain phenomenological methods are taken out of an intellectual context and embodied physically into artworks. An example of these two applications is my use of Maurice Merleau-Ponty's (1945/2013) conception of the *embodied subject* to provide an understanding of the mind/body relationship and how it affects perception, and secondly, my application of Edmund Husserl's (1931/2012) intellectual method of *bracketing* to art works that aim to partially remove the mind's role in vision and thereby isolate the quality of vision experienced inside the human eye.

In this light, the ocular obscura works, and other lens-based works produced through this research, automatically reduce vision to fundamental elements based on human physiology to reveal aspects of Merleau-Ponty's (1945/2013) *perceptual absence*. This mode of automatic reduction differs from other art movements that also aimed to reduce visual phenomena (Merleau-Ponty, 1964). There is a notable difference between the lens-based work created for this enquiry and the works of painters such

as Cézanne, however: the lens-based works rely on materials to reduce phenomena as opposed to the embodied reductions employed by artists who rely on their bodies to intuit, reduce and translate phenomena. In Chapter Three I discuss how that difference situates the lens-based works within the history of artistic reductions and applied phenomenology.

I align this approach with the practice-led research methodology (Barrett & Bolt, 2010; Sullivan, 2010) employed for this research by incorporating aspects of Carter's (2004) conception of *material thinking*. Broadly, my application of material thinking within the creative component of the research relies on materials having their own 'intelligence' (Carter, 2010), which critically intersects with the conceptual concerns manifest. Together, these methods contribute towards experimental research of indeterminate subject matter in ways that contribute to new understandings of the subject.

In this research, materials such as single-element lenses allow for experimentation that aims to approach certain indeterminate phenomena in ways that move beyond the ability of purely positivist or social constructivist methodologies. This principle relies on the materials employed to partially articulate tacit knowledge and antecedent meaning beyond that which can be communicated through language.

Aims, objectives and significance

The original context for this research was a personally felt and indeterminate sense of postcolonial disquiet. Whilst the research aims to address that topic, it reflexively extrapolates the investigation into other areas, namely, lens-based artworks that approach the visually indeterminate. The main objective of this project is to unite those two discrete themes by questioning certain indeterminate sensory experiences through artistic, material investigations.

By initially addressing aspects of postcolonial disquiet, the research proposed to frame non-indigenous Australians of multiple generations within natural settings of introduced and native flora, using primitive photographic technology with the aim of poetically locating the subject's position and experience on the migrant-indigenous axis. As that investigation progressed, new threads emerged that pointed the research towards investigating the 'unknown' eye.

A connection between the primitive optics employed in that initial aim produced a result that I aligned with preconscious visual phenomena. Driving the aim of further investigating preconscious visual phenomena was the odd realisation that the human eye, in itself, does not see in a way that we think it does. Further to that, photography presents and supports a similar false view of how humans truly see the world. This disconnect, explained in Chapter Two, resulted in creative experiments whereby materials were adapted to comprehend the human eye and gain insights into perception and how we see the world.

Importantly, there remains a significant overlap between the original and that emerging topic. As the project was refined, the indeterminacy of a colonial experience was aligned with the indeterminacy of vision. Throughout the project, several material and conceptual outcomes occurred unexpectedly that together gradually promoted the 'unknown' eye in importance. It should be noted that this research aims to address the topic of indeterminate visual phenomenon and postcolonial disquiet using the practice-led research methods outlined in Chapter One.

The gradual progression from the 'original' to the 'emerging' topic was signified by the transition from a purely photographic enquiry into exploring complementary media based on single-element lenses. The resulting multi-disciplinary works share a similar aim to the photographs: to isolate an ocular aesthetic in order to question aspects of indeterminate vision and postcolonial disquiet; however, certain media and subsequent works diverge slightly to address corresponding and over-arching concerns. Those complementary aims are:

1. To create sphere-based works that manifest a further pronounced phenomenological reduction in order for the viewer of the artworks to witness an approximation of the rear of the human eye whilst looking out at a scene. Here, the aim is to parenthesise the role of the mind in visual perception to a greater degree than the photographic process allows.

2. To create video installations that aim to remove the 'blind spots' produced unconsciously by the mind when the eye scans a scene. Known as saccadic eye movements, their role in interrupting perception is discussed in Chapter Two.

3. As the aims above are arrived at through employing Husserl's (1931/2012) intellectual method of *bracketing* and embodying it physically in works of art, this research subsequently aims to extend discussions on material, intellectual and embodied phenomenological reductions that aspire to rediscover the possibilities of "a direct and primitive contact with the world" (Merleau-Ponty, 1945/2013, p. vii).

4. To introduce consumer-based materials to question how consumer culture intersects with postcolonial concerns in contemporary Australian society. This aspect of the research is sympathetic with another over-arching aim of the project: to question aspects of technological progress in line with the ideology of the *slow movement* (Honore, 2010).

5. To initiate questions regarding photography's role in maintaining the view that the human eye views the world with a flat, sharp field of focus. Following on from those questions, the research aims to manifest, in material ways, Walter Benjamin's (1936/2008) theory of the *optical unconscious* through reintroducing a preconscious aesthetic to the viewer in the works created.

The significance of this research lies in the synthesis of the materials employed, the subject matter, and the conceptual concerns raised. In terms of the artistic series *New Australian Plants and Animals*, the constituent parts of that newly formed relationship are, broadly, single-element lenses applied photographically and sculpturally, to plants and partially naturalised migrants, in order to approach indeterminate vision and colonial disquiet.

This aim is in line with *unfulfilled relations* (Carter, 2010), a phrase that I interpret as forming new relationships between the subject matter, materials and concepts in ways that do not add "another object to an already crowded world...[because] the impulse to make or invent something stems from a growing sensation of silence, of loss, lack, incoherence or absence" (p. 21). This position is articulated further in Chapter One.

RESEARCH QUESTIONS

This exegesis aims to address these questions:

1. In what ways could lens-based artworks approach, link to and intersect with aspects of the post-colonial psyche and preconscious ocular phenomena?

2a. How might material thinking assist in applying phenomenological understandings to preconscious ocular phenomena?

2b. How might experimental processes lead to bodies of artwork that address my primary concerns regarding the postcolonial psyche and preconscious ocular phenomena?

EXEGESIS STRUCTURE

The structure of this exegesis is designed to articulate the intersection of what may initially seem to be quite discrete themes derived from material, subject, and conceptual concerns. In this regard, the exegesis is designed to address those discrete themes individually before articulating how they manifest within the creative outputs of this research. As there are important inter-related concerns, however, there is an amount of cross-referencing between several convergent themes throughout the exegesis.

In line with this aim, the exegesis introduces the topic, articulates the methodological approach, situates concepts derived through critical discourse analysis, before situating the outcomes in contemporary practice and arriving at its conclusions. To accommodate the subjective and objective themes, both personally sensed through practice and derived from the literature examined, this exegesis is written to express those concerns in a variety of 'voices'. The two primary 'voices' used can be characterised as the 'context' or the 'commentary' model (Hamilton, 2014) depending on whether the text assumes the voice of academic objectivity or the reflective tone of the insightful artist.

A summary of the exegesis structure is as follows:

Chapter One / Methodology

This chapter introduces the related methodologies that have driven both the exegetical and creative outputs of this research. Initially, I frame practice-led research methodology (Sullivan, 2010) before introducing key concepts arising from phenomenology (Husserl, 1931/2012; Merleau-Ponty, 1945/2013) and Carter's (2004) conception of *material thinking*. This chapter is limited to framing the methodology. As the experimental methods applied throughout the material investigations undertaken for this research were extensive, documentation of that process forms a discrete section entitled the Research Process Manual.

Chapter Two / Situating Concepts

This chapter is designed to situate the applied understanding of relevant theoretical concepts derived from critical discourse analysis. By defining my interpretation of existing academic knowledge, I establish part of the theoretical framework supporting this research.

The concepts discussed in this chapter have been drawn from a number of sources that include philosophical, anthropological, psychological, historical and scientific texts. Their role within the research varies in function: from directing the actual substance of the creative work to aiding the interpretation of the work and its significance. For example, certain phenomenological methods are abstracted from an intellectual paradigm into physical works of art (Husserl, 1931/2012) that automatically reduce visual phenomena, whilst scientific studies into rapidly evolving plants provide an artistic metaphor (Buswell, 2011) that addresses aspects of geographical psychopathology.

Chapter Three / Situating Practice

The aim of this chapter is three-fold: firstly, to position the work within a cultural context specific to historic and contemporary art practice; secondly, to link the work to key concepts and methodologies; and finally, to articulate how the work addresses the aims of the research. In this regard, the chapter describes how the practical outputs of this research emerge from an existing body of knowledge and addresses perceived *unfulfilled relations* (Carter, 2010) concerning the topics discussed in the previous chapter.

To interpret these research aims, I reflexively draw on a number of key case studies that serve multiple functions. Importantly, these case studies allow for the methodological and material concerns manifest in *New Australian Plants and Animals* to be discussed in relation to past and present arts practice.

Conclusion, outcomes and significance

The concluding chapter synthesises new understandings that are largely derived from the themes and methods discussed in the previous three chapters. In relation to the research's questions and aims, the outcomes are addressed as an integrated whole where the *unfulfilled relations* (Carter, 2010) between the materials employed, the subject matter depicted, and the conceptual concerns addressed intersect. In the case of this research, that intersection broadly represents: single-element lenses applied photographically and sculpturally to plants and partially naturalised migrants, in order to create artworks which approach and interrogate indeterminate vision and postcolonial disquiet. This chapter also discusses the scope for longitudinal research derived from addressing the initial aims and unexpected outcomes.

CHAPTER ONE

Methodology

Introduction

This chapter introduces the related methodologies that have driven this research. The constituent methods employed were primarily experimental, reflexive, reflective, and hermeneutic, and together constitute a heuristic, practice-led research methodology (Barrett & Bolt, 2010; Carter, 2004; Sullivan, 2010).

For introductory purposes, I align the practical experimentation undertaken in this research to ideas associated with Carter's (2004) formation of *material thinking* where the role of the materials employed in the creative component of the research critically intersect with its conceptual concerns. Also, I rely on phenomenological methods (Husserl, 1931/2012; Merleau-Ponty, 1945/2013) to address the move from an initial reflective, personal position to a more reflexive one by discussing that transition in terms of *bracketing* (Husserl, 1931/2012*)*. The use of bracketing in this context is distinct from later discussions on the material-based phenomenological reductions attributed to physical works of art that isolate the eye's role in perception.

Throughout this research, I have complemented my creative practice by hermeneutically incorporating critical discourse analysis derived from a variety of sources. Driving the application and order of methods is the notion of heuristic enquiry (Moustakas, 1990) where the emphasis is "on the investigator's internal frame of reference" (p.12). As a large part of this research is based on previously undocumented experimental processes, it is the role of the investigator to process emergent understandings and provide the direction and form of further investigation. Similarly, to establish the significance of the research, I rely on the term *unfulfilled relations* (Carter, 2010) to identify an absence of understanding that exists between the subject matter, materials used, and conceptual concerns addressed within the context of existing contemporary arts practice and academic literature. As articulated in the introductory chapter, I am responding to my understanding of these convergent themes based on a commercial photographic, academic and artistic career spanning over twenty-five years.

In this chapter, I have limited discussions on individual instances of applied methods to those required to address the aims of the chapter. The Research Process Manual provides detailed documentation and discussion on the chronological application of these methods as they presented themselves throughout the course of this research.

Framing Practice-led Research

> "There are many pathways to god" (Kavanaugh & Forbes, 2012, p. xvi)

As the quote above suggests, an important reason for applying practice-led research methods within creative research is the need to reach new understandings of a subject using heterogeneous methods that may sit outside more constrictive methodologies (Young, 2011). This accommodating aspect of practice-led research is grounded in the accepted view that further knowledge can be derived from the experimental creative process of an individual artist. In contrast, creative processes may not be viewed as a primary method in purely positivist or social constructivist methodologies, as Sullivan (2010) asserts:

> If a measure of the value of research is seen to be the capacity to create new knowledge and understanding that is individually and culturally transformative, then criteria need to move beyond probability and plausibility to possibility. (p. 185)

For Carter (2004), this 'possibility' is often signified by complexity in regards to creative-based research artefacts. To address the complex nature of creative enquiry, Carter argues that the materials employed can in part articulate tacit knowledge and antecedent meaning beyond that which can be communicated through language. Broadly, this is how I interpret Carter's (2004) idea of *material thinking*, the application of which is expanded on later in this chapter.

Another feature of practice-led research is the potential for the personal experience of the artist during the creative process to be directly incorporated into the outcomes. Sullivan (2010) makes the case for personal experience and creative practice forming the basis of new understandings:

> It can also be argued that the process of making art and interpreting art adds to our understanding as new ideas are presented that help us see in new ways. These creative insights have the potential to transform our understanding by expanding the various descriptive, explanatory, and immersive systems of knowledge that frame individual and community awareness. These forms of understanding are grounded in human experiences and interactions and yield outcomes that can be individually liberating and culturally enlightening. (Sullivan, 2010, p.97)

By adopting Sullivan and Carter's positions, this research purposefully engages in a practice-led research methodology as the role of materials and the creative

experience of the practitioner can be articulated in terms of responding to the aims of the research.

When considering the idea of knowledge produced through creation, a commonality exists between my application of practice-led research methodology and phenomenology, the philosophical methodology that assists to frame this research. Estelle Barrett (2010, p. 1) states, "We propose that artistic practice be viewed as the production of knowledge or philosophy in action...our exploration of artistic research demonstrates that knowledge is derived from doing and the senses". The 'doing' and 'sensing' described here is not dissimilar to how Edmund Husserl (1931/2012) and Maurice Merleau-Ponty (1945/2013) respectively describe intentionally acting within the world and experiencing phenomena. I discuss the work of Husserl and Merleau-Ponty at length in Chapter Two; however, for the purposes of highlighting this overlap between phenomenology and practice-led research, it is sufficient to acknowledge that both hierarchically elevate and include the personal experience of the researcher as a means of generating knowledge.

Marshall (2010) points out another similarity between the two methodologies: both seek to identify and isolate the subjective point of view of the researcher within the research. Later in this chapter, I expand on this by aligning Husserl's (1931/2012) concept of *parenthesizing* (*bracketing)* with the term *reflexivity*.

In responding to the academic demands of this research, I rely on Sullivan's (2010) view that practice-led research needs to have a rigorous framework that ties in theory and practice; however, he highlights the possible tension that the relationship creates within the academy by stating:

> Those who seek academic status for the [arts] profession invariably have to respond to the challenge of setting creative practice on a more grounded discipline foundation. As such, the university exerts its own institutional power. The challenge is how to accommodate these demands yet also maintain integrity about what constitutes visual arts as a field of study. (2010, p. 184)

McNamara (2012) supports this view, saying there is no doubt "that it is possible to uphold rigorous academic standards without compromising or stifling the creative component. Of course, this is an ambitious and unique research task, which makes practice-led research a compelling, though sometimes precarious, mode of research"

(p. 2). Carter (2004) argues that this is not dissimilar to other institutional demands placed on creative output from institutions such as art galleries, museums and media outlets. These demands increase the need for artists to discuss what the work is 'about' rather than what it communicates in a material form. In this light, creative work has to be reduced to a digestible, descriptive form that potentially displaces how the work may be interpreted through experience.

In moving beyond discussions that concentrate on what creative works are 'about', Sullivan (2010) argues that a practice-led research framework must be distinguished from academic interpretations of visual culture that are interested only in outcomes, not processes. He contends that new knowledge is also derived from the processes of the "artistic practitioner" instead of the sole enquiry of the "editor researcher" (p. xv). An example of the "editor researcher" approach is John Berger's (1972) interpretation of advertising photography within a social context to illustrate a semiotic construct that politically subjectifies certain individuals. In this example, the artefacts (the photographs) are completely separate from the researcher and the dialogue between the two flows only one-way: the artefacts inform the researcher and not vice-versa.

Contrary to that approach are the practice-led research methods that have allowed me to incorporate new understandings derived from the experimental processes that produced the work. In basic terms, this represents the core theoretical framework that underpins practice-led research: knowledge is derived from both the creation and the critique of cultural artefacts, rather than critique alone, through the methods employed by the creative practitioner (Sullivan, 2010). In this context, the methodology enables the researcher to create work, reflect critically on the work produced, and then distil that critique into actionable outputs that are reworked into the creative process. This process is documented chronologically in the Research Process Manual.

In navigating the roles of researcher and artist, the exegetical and artistic outputs of this research reflect a synthesis of these dual roles and, as such, both display evidence of the academic and the artist at work. Building on that synthesis is the complementary dialogue that emerges between the exegesis and the creative work, where new insights arise.

This is in line with Barrett (Barrett & Bolt, 2010) who describes the exegetical component of practice-led research as serving multiple functions beyond describing what the creative work is 'about' in academically acceptable terms. Barrett equates the exegesis with the function of a meme, augmenting the creative outputs by "reflect[ing] and map[ping] the logic from which a particular model of representation has emerged" (p. 160).

In the following section, I articulate the process of discovering new material and conceptual understandings within this research through a critical/creative position that involves a continuous action/reflective cycle.

Creating new insights through creative practice

The heterogeneous and heuristic methods employed within this research can be broadly defined as material investigations, critical discourse analysis, and phenomenological enquiry. In this section, I outline methods associated with materials, as the research significantly gathered momentum only after certain critical material experiments succeeded.

The primary material concern in this research centred around single-element lenses: how the optical quality, and aesthetic, produced intersects with the research topic in a number of varying applications. Secondary material investigations connected to single-element lenses ranged from light-sensitive photographic media to the construction materials used to build cameras and house sculptural elements. Importantly, the materials employed have inherent properties that intersect with the project's conceptual concerns and subject matter. That intersection is discussed in Chapter Three where, for example, the properties of single-element lenses are linked to preconscious visual phenomena.

As the majority of the outcomes and processes underpinning this research were not previously documented, experimenting with materials became an essential method in addition to providing an initial impetus. Brad Haseman posits that

> Practice-led researchers construct experiential starting points from which practice follows. They tend to 'dive in', to commence practising to see what emerges. They acknowledge that what emerges is individualistic and idiosyncratic. This is not to say these researchers

> work without larger agendas or emancipatory aspirations, but they eschew the constraints of narrow problem setting and rigid methodological requirements at the outset of a project. (Haseman, 2006, p. 4)

In line with Haseman's view, this research began as an experiment, similar to many photographic processes I was exploring at the time: processes that were unlikely to progress due to their novel nature and previously undocumented success. Something changed in relation to this research, however, and the experimentation produced a result that resonated personally. Even though I could not articulate exactly what was resonating at the time, I was aware something 'new' was being introduced to me. This type of resonance occurred many times throughout the research, where 'new' material and conceptual qualities presented themselves as the beginnings of new understandings, which drove the research.

In this light, Carter (2010) aligns 'invention' with 'discovery' and employs an analogy likening creative-based researchers to explorers: unsure of the path, willing to sacrifice themselves if any 'pitfalls' present themselves so others will have a smoother transition into uncharted territories. In this regard, there is no guarantee of success and, therefore, it should be recognised that in creative research, the process of invention is as important as the outcomes. According to Carter: "In the real world it is more important that a proposition be interesting than that it be true" (2010, p. 18). Carter substantially relates invention to the term *material thinking* (2004) in his book of the same title.

Material thinking is a mutable term. According to Fairfax and Rosenberg (2008) that mutability results in awkwardness as it "defeats an agreeable definition and is conditioned by the author's preoccupations" (para. 1). They surmise that since Carter wrote *Material thinking* (2004), many subsequent research projects produced by others can be seen as "responses to, developments of, or exceptions to what Carter has written" (para. 5). Evidence of this can be appreciated when examining the various disciplines it has been applied to outside of Carter's original design context. These include creative writing (Brein, 2005), embodied fine-art practice (Heimer, 2016) and the critique of public spaces/places (Vaughan, 2008).

Within this research, the use of material thinking can be seen as a 'development of' Carter's original writing as it is applied in a purely fine-art context. From this viewpoint, my application of material thinking is grounded in appreciating materials in

a combination of two ways: firstly, that they can reveal qualities outside of how they are usually understood, and secondly, that they can provide access to complex issues that language and thought processes struggle to articulate. Within this research, those two qualities operate both separately and jointly. For example, a single-element lens from a pair of reading glasses produces a unique aesthetic quality when applied photographically, providing access to an understanding of pre-conscious phenomena, particularly in relation to the human eye as discussed in the context of this exegesis. Reading glasses are not usually understood as photographic lenses; however, when they are, possible new understandings within the realm of traditional thought-based phenomenological enquiries emerge.

Carter (2010) describes the first quality mentioned above as a material 'double movement': when materials emit a signal outside their traditional use or signification, a 'surplus' of meaning is provided. He writes, "Invention begins when what signifies exceeds its signification-when what means one thing, or conventionally functions in one role, discloses other possibilities" (p.15). In this research I have endeavoured to isolate and amplify that surplus 'emission' through creative experiments, continuously reflecting on and refining them. In order to address the aims of this research, those experimental outcomes are then brought together with adjunct concepts and subject matter to crystallise into a single artefact.

This process is articulated by Carter as, "decontextualisation, in which found elements are rendered strange, and of recontextualisation, in which new families of association and structures of meaning are established" (p. 16). In this research, recontextualisation takes the form of producing creative artefacts, and new structures of meaning are established through experiencing and examining those artefacts. Later, I make the connection of this method to another term derived from Carter's (2004) writing, *unfulfilled relations*.

This approach to materials hinges on appreciating that they have an 'intelligence', or tacit knowledge that lies beyond our received conception of them. Through experimentation, that intelligence is allowed to speak, becoming a collaborator in the research. Barbara Bolt (2007) relies on Heidegger to support this view; she says, "objects have agency and it is through the establishing conjunctions with other contributing elements in the art that humans are co-responsible for letting art emerge" (p. 1). In this regard, the material shifts from being an 'object' or 'tool' to collaborator.

In this research, material thinking has also aided an understanding of aspects of historic works of art and artistic movements. In Chapter Three, I analyse a late nineteenth-century painting by Jules Bastien-Lepage and conclude that evidence of simple-lens technology can be witnessed in that work. Bastien-Lepage may have not widely admitted using optical technology as an 'observation tool', as one criticism of his work is that the subject 'freezes' much like a photograph. Distinct from that manifestation of photography's materiality, however, is the sense of depth derived from simple-lens technology, similar to that employed within this research. From this observation, questions arise as to how conscious Bastien-Lepage was of this material 'surplus of meaning', where it came from, and how deliberate he was in exploiting it.

Returning to Carter's idea of recontextualisation, my methodological approach is to contextualise disparate 'components', materials, concepts and subject matter that I perceive as having complementary qualities to address the project's aims. For example, previously unrelated concepts such as postcolonial disquiet and phenomenological methods are brought together with material agents such as reading glasses and translucent spheres acting as 'components' in order to create immersive artefacts. These artefacts are designed to isolate, and enquire into, aspects of indeterminate experience outlined in the introductory chapter.

The term I use to describe this feature of the research is derived from the writing of Paul Carter (2010). In a passage describing the 'right attitude' towards research involving materials he uses the words, 'unfulfilled relations'. Initially I use quotation marks here as it is important to note that 'unfulfilled relations' is not a term that Carter has necessarily coined; they are only two words he uses in this sentence: "To speak personally, I would say the right attitude is characterised by unfulfilled relations" (p. 21). I define 'unfulfilled relations' here to mean the absence of a personal sense of understanding, which in itself drives the will to better understand the "forming situation" (p.21) emerging between forming concepts and relations to materials employed.

For Carter, there is space for the artist's intuition to establish an 'absence' of knowledge. Importantly, from this method, the creative practitioner resists adding similar creative works to a cultural space because, as Carter (2010) points out: "The impulse to make or invent something stems…from a growing sensation of silence, of

loss, lack incoherence or absence" (p. 21). In this research, the perceived unfulfilled relations are broadly between concepts, materials, the subject matter and certain indeterminate phenomenon. These concerns, as they manifest within individual circumstances, are further discussed in Chapter Three and the concluding chapter.

This perceived absence resulted in a curiosity that provided the catalyst for a studio process of trial and error, working from a position of not knowing how to proceed and yet proceeding in any case with anything at hand: cardboard, light globes, tape, lenses. In this regard, 'unfulfilled relations' provoked an experimental process of engagement with diverse materials in order to articulate complex concerns. This point also relates back to *material thinking* (Carter, 2004). I now realise I was exploiting the 'surplus of meaning' emitted from materials such as single-element lenses and relating it to concepts and phenomena of indeterminate nature.

There are other tangential relationships that I explore metaphorically through materials. Instead of exploiting the 'surplus of meaning,' I rely on juxtaposing traditional views of certain materials and historic art practices. For example, in returning to the materials of colonisation such as wood, glass and metal, I am reconstituting the past into the present. Similarly, I incorporate the colonial art practice of John Glover into the creative outputs, relating the colonial past to contemporary artworks. This aspect of certain works is expanded upon in Chapter Three where I make multiple references to the social relations of colonial art practices in order to reflexively engage with how those historical art practices might be reengaged to create new meanings in the content of my work.

Another important source of reflection was the role of visitors to either one of the several exhibitions held or the studio. For example, it was not until I printed a large format image (110cm x 75cm) that the slight three-dimensional effect evident in the photographs was pointed out to me. Through informal dialogue, a significant shift in the research occurred.

In this section, I have broadly outlined the methods related to material investigations. In the following section I discuss how the research's aims and significance were reflexively directed away from a personal position grounded in postcolonial disquiet, towards examining more universally experienced, preconscious visual phenomena.

Isolating the researcher from the research

Practice-led research methodologies are often employed by researchers in personally grounded inquiries (Marshall, 2010). Marshall (2010) presents two significant issues for the creative practitioner/researcher as a consequence: during the research, objective outcomes may not reveal themselves to the subjective position of the researcher and any new knowledge gained needs to be extrapolated from the original, personal context into a more accepted public form. Parallel to this concern is the need not to present the inquiry as a narcissistic endeavour (Crouch, 2007).

In response to this, and as stated in the introductory chapter, it is important to note that whilst the impetus for this research began with the sense of disquiet I experienced in relation to continental Australia, that experience is not the only topic addressed. Later in the research, certain indeterminate visual phenomena more universally experienced became a prominent theme. Indeterminate phenomena are detailed extensively in Chapters Two and Three; however, for the purposes of this chapter, it suffices to say that preconscious visual phenomena are hypothetically experienced by most people. Consequently, the research moved from being centred on a personally derived sense of *postcolonial melancholia* (Gilroy, 2005) towards more publicly accessible aims.

In describing the process of transitioning from a reflective, personal position to a more reflexive one, I rely on the phenomenological method of *bracketing* (Husserl, 1931/2012). I find this philosophical method not dissimilar to the practice-led research term, *reflexivity*, as in both, the principal researcher attempts to identify and isolate innate attitudes that could possibly influence the research. Morwenna Griffiths (Griffiths, 2010, p. 184) states that reflexivity "involves paying explicit attention to the specific perspectives of the researcher. Perspective refers to the context which influences what a person can see and how they interpret it." In a similar fashion, Husserl believes that for any data collected to be considered indubitable it needs to be free from the natural assumptions of the world that we may generate through sensory perception (as cited in Hammond, Howarth & Keat, 1991). Husserl formulated a method of parenthesising these assumptions, termed *bracketing*, from influencing inquiries (Husserl, 1931/2012). Again, it is important to state that this reference to bracketing is distinct from discussions in Chapter Two and Three where I align it with artwork-based phenomenological reductions.

My reference to parenthesising is not an argument for the creative output of this research being free of subjectivity, as the “the self is inescapable, because the person creating it, responding to, working on, developing or evaluating performances, artefacts and practices is central to those activities” (Griffiths, 2010, p. 185). In this light, it is important to both recognise the role of the self and still attempt to prevent it from becoming dominant. Inevitably, as explained previously (Carter, 2010), the subjective position of the researcher is responsible for charting a course and choosing the order and application of methods; however, there is a need to produce understandings that resonate more broadly than just with the researcher.

Through a process of reflexivity, I have endeavoured to define, isolate and amplify the possible, more universal themes within the research in order for the creative outputs to resonate with a wider audience. For example, from a starting point grounded in post-colonial disquiet, the series transitions from a liminal position based on personal experience towards examining more universally experienced preconscious visual phenomena. In this regard, the original subjective position that was not universally accessible gave way to works that re-introduce a hypothetical aesthetic most people experience in some form. Inversely, by aligning the inaccessible nature of my sense of disquiet (described in the Introduction) to the inaccessible part of vision (discussed in Chapter Two) I have created an extra dimension to the research, which sits outside of my personal viewpoint, thus allowing for the viewer to experience analogous phenomena.

In this chapter, I have introduced the related methodologies that have driven both the exegetical and creative outputs of this research. It is important to note that this chapter is limited to providing a practice-led methodological framework. I have purposely omitted the extensive application of methods within the research, as the Research Process Manual is dedicated to documenting and discussing individual instances in detail.

In the next chapter, I aim to situate the applied understanding of relevant theoretical concepts derived from critical discourse analysis. By defining my interpretation of existing academic knowledge, I establish part of the theoretical framework supporting this research.

CHAPTER TWO

Situating concepts

Introduction

The creative body of work that resulted from this research was broadly informed by three main sources: my lived experience, existing art practices and text-based investigations specific to the research. This chapter is designed to situate the concepts of the text-based investigations, by defining my interpretation of existing theoretical knowledge with a view to establishing, in part, the theoretical framework supporting my practice-led research.

The concepts discussed in this chapter have been drawn from a number of sources that include philosophical, anthropological, psychological, historical and scientific texts. Their role has varied in terms of how they influenced the final research output, from directing the substance of the creative work to aiding the interpretation of the work and its cultural significance. For example, texts on human vision informed the design of the cameras used in the research (Gregory, 1997) whilst scientific studies into rapidly evolving plants provided an artistic metaphor (Buswell, 2011).

I have endeavoured to order the ideas discussed here into discrete sections that cover:

1. The unknown eye — the physiology of the eye mediating perception
2. Photography — single-element-lens photography
3. Phenomenology — a phenomenological approach to isolating ocular vision
4. Geographical psychopathologies — the relationship between the colonial psyche and continental Australia
5. Metaphors — the use of metaphor in visual arts practice

It is difficult to unify these heterogeneous concepts, but in the context of my arts-based research they become interrelated. It is important to note that my aim in referencing these concepts is not to redefine them in scholarly terms per se, but to establish the role they play in informing the research. Beyond that aim, however,

[4] *Introductory note:* a portion of this chapter formed the basis of previously published material that arose from this research. That published work was titled, “The unknown eye: Physiology, phenomenology and photography” (Gray, 2014p).

through the course of the project, the research revealed new insights that I discuss in the concluding chapter. For introductory purposes, the most notable contributions question both photography's and phenomenology's ability to produce indubitable knowledge based on visual data.

The relationship between these concepts is best approached in terms of how the physical self interacts with the physical world to produce perceived phenomena in ways of which we are not completely aware. In my research, that relationship is confined to only one of the senses, vision and, more specifically, to the optics of the eye and how it can be applied to art works that employ single-element lenses to focus light similar to the optics of the eye. Overlaying this investigation is the idea of *colonisation-in-reverse* (Tacey, 1995) specific to the Australian experience, where the colonised environment colonises the coloniser. Again, this is best approached in terms of how the physical self interacts with the physical world in ways of which we are unaware.

Broadly, this chapter discusses the conceptual themes within my artistic series *New Australian Plants and Animals*. As my research starts by isolating visual phenomenon specific to the colonial psyche and ends with visual artworks, there is a consequent need to investigate the unknown eye and how it mediates our relationship with our environment. Therefore, the human eye is a good starting point for this chapter, as investigating the biological facticity of the eye sets up relevant ontological and phenomenological discussions and locates my particular photographic technique within the research.

The unknown eye

> Seeing is so easy, apparently so easy, it takes a leap of imagination to appreciate that the eyes set extremely difficult problems for the brain to solve for seeing to be possible. (Gregory, 1997, p. 1)

We humans carry the ocean within our eyes. The marine creatures we evolved from first developed receptors that were sensitive to light in small depressions or pits on the surface of their body. Gradually these began to close, forming basic pin-hole lenses that still let the sea water in to flush out the ocular cavity. Seawater became essential to maintaining pressure within the cavity and it is because of this that all

vertebrates still have clear, saline liquid in their ocular cavities. In humans these are called the vitreous and aqueous humours (Gregory, 1997).

When light enters the human eye it is refracted by cellular material that has a refractive index similar to water, roughly 1.30 – 1.35, meaning light travels through a vacuum 1.30 times faster than water. For the purposes of this research, I have adopted the 'reduced eye' model (Khurana, 2008) that combines the cornea and lens into one refracting medium. As the cornea and lens have roughly the same refractive index, they behave as one lens; it is in this context I refer to ocular vision as relying on a single-element lens.

Hypothetically, the image quality projected onto the retina is quite high, considering this basic lens. This is especially true for the image projected onto the fovea, the middle region of the retina. Moving further away from the fovea, around the concave curve of the retina where we gather peripheral information, the image becomes gradually more blurry as the light passing through the lens has a shorter distance to travel and therefore would demand a shorter focal length lens if it were to be focused. Whilst this is a simple explanation of what happens when looking at a relatively flat subject, there are some significant yet subtle characteristics of the physics involved which need to be discussed further as they become relevant to my practice later on (Bass et al., 2009).

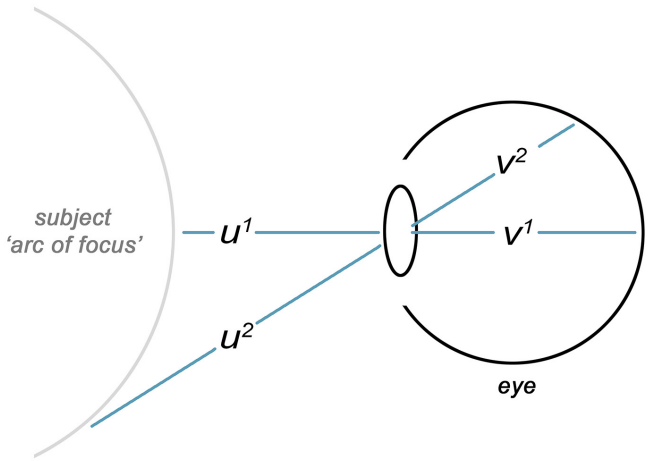


Figure 1: *Hypothetical ocular 'arc of focus' based on the formula for calculating focal length.* Graphic by Mike Gray

The formula for calculating the focal length of a single element lens is dependant on two distances: the first is that between the subject and the lens (u), the other

between the lens and the focal plane (v). The problem with this is that the distance between the lens and the focal plane (v) is not constant, as the lens of the human eye is not placed in the centre of the ocular cavity and hence is not equidistant to the curved surface of the retina. In Figure 1, I have approximated how this hypothetically manifests; the distance between the lens and the middle of the eye (v^1) is longer than the distance towards the edge of the eye (v^2) and, as such, the resulting focussing distance changes: u^1 and u^2 respectively. This effectively produces an 'arc of focus' where, for example, the eye might focus 3m away in the centre and 5m away towards the edge. D'alessandro (2008) refers to this as 'spherical vision'.

Importantly, this arc of focus is the reverse of what a camera with a single-element lens produces. The camera's arc of focus (Figure 5), dictated by the flat recording surface making v^2 longer than v^1, would have the centre focussing further away than the periphery. This phenomenon is also referred to as 'field curvature' in the context of photographic lenses and becomes important later in this chapter when discussing the three-dimensional aesthetic in my photographs (Greene, 2013).

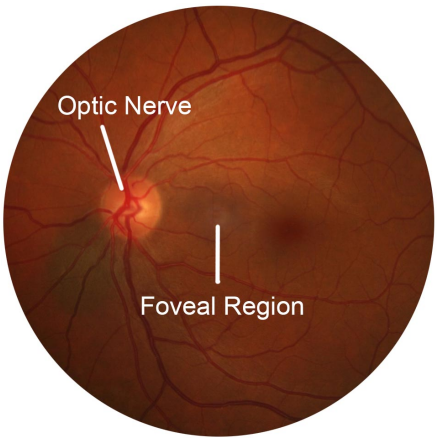


Figure 2*: Retinal cell structure*. Graphic by Mike Gray

Another factor contributing to the image inside the eye only being sharp in its middle is the uneven distribution of the nerves that service its receptors (the rods and cones). This fact dictates that whatever is projected onto the edges of the retina is not recorded with the same fidelity as the image falling in the middle of the retina. In the foveal region, there is one nerve for every receptor, as opposed to the periphery where it drops to one nerve for every ten receptors. The image would also be inverted as the light crosses through the lens (Gregory, 1997).

Further to this, light has to travel through a complex structure of cells, nerves and veins before reaching the light sensitive receptors that are similar to pixels in a digital camera (Snowden, Thompson, & Troscianko, 2012). This structure is what is seen when a photograph is taken of the retina (see Figure 2). Most of the material making up this structure is optically translucent and the receptors in the eye adjust their sensitivity to make up for the diminished light recorded underneath this material.

From this series of observable and reproducible optical limits of the eye, we could start making educated guesses as to the quality of the image falling on the receptor cells. It would be: inverted, unevenly sharp, have information partially blocked by nerve structures, and have information missing where the optic nerve is. In Figure 3, I have visually approximated those optical limits into a photograph taken with a digital camera.

Figure 3: *Approximation of retinal acuity*. Graphic by Mike Gray

The exact quality of the visual information passed on to the brain from the eye is unknown but, for the purposes of discussion, it is sufficient to say it is vastly different to perception and the important question is how do the mind and body transform this information into what we visually perceive?

To answer this we have to acknowledge that sight is not wholly an immediate phenomenon. Part of what we perceive is rendered from old information ranging from milliseconds old to years old hypothetically. The visual cortex combines ‘sharp’ data gathered from a quick scan of a scene and with remembered information to create perception. In a process known as saccadic eye movements, the eye jumps from one spot to the next and quickly takes a sharp ‘snap-shot’ before moving on. A typical saccadic eye movement lasts for 20-30 milliseconds, with the mind filling in the gap

with a ‘freeze frame’ of the last ‘snap-shot’ before the eye moves. Typical saccadic eye movements are so fast that we are not immediately conscious of them (Leigh & Zee, 2015).

Also added to the mix of data is remembered or implied sharp information. If we look at a natural scene that involves flora, for example, we do not have to direct our gaze at every tree to render all the leaves as sharp. The visual cortex fills in the information where needed and this presents a significant ontological problem where our visual relationship to reality is concerned: perception is somewhat virtual. That is to say, if you are concerned with the nature of something and rely partially on visual information to investigate its ontology, your investigation will be compromised. There are some indicators that allude to this ‘virtual’ portion of perception. Most notably is the basic fact that when you close your eyes you can still conjure up visual information; another is hallucination where the rendering process breaks down and data moves (Niiniluoto, Sintonen, & Wolenski, 2004).

In this virtual process, the act of perception is an unconscious one in which the initial data from the eye is not revealed. However, the fundamental visual phenomena that take place on the surface of the retina are both known and unknown to us. As stated previously, it is arguably how infants perceive the world at one stage of their development (Teller, 1997). Teller’s research collates multiple studies into the many ‘psychophysical’ aspects of infant vision that include testing for contrast, colour, spatial, low light and stereo acuity. As knowing exactly how or what infants see is essentially impossible, Teller qualifies her conclusion by stating, “however, it is equally possible that despite their performance as psychophysical subjects, infants have no perceptual world at all. Perhaps they are zombies” (p. 2197).

Putting that caveat aside, the research suggests infants register contrast earlier (1 month) than colour (2 -3 months) but only in bold, distinct patterns. Gradually, over the first year, those functions mature to allow high levels of detail to be recorded in the foveal region of the eye. From there, the brain’s sophisticated processing of vision gradually gives us perception as we know it and the visual qualities derived from the limitations of the eye become unknown (Teller, 1997).

Photography

This section discusses the difference between single-element and compound (multiple element) lenses and how they correspond to the different aesthetics produced by the eye and the mind. From this discussion, I frame my research as a departure from the established photographic aesthetic produced by compound lenses towards an aesthetic unknown to us, both perceptually and photographically. Cultural and artistic applications of photography are discussed in Chapter Three.

In the beginning of photography's history, a number of experiments were conducted using a variety of simple single-element lenses similar to ocular optics; however, none of these were used widely and the aesthetic they produced, therefore, did not become part of our photographic visual literacy. Instead, lens technology borrowed from the camera obscura and telescopes were used as the starting point for many camera manufacturers as such devices produced sharper images overall (Kingslake, 1989). The inventor of the first commercial photographic process, the Daguerrotype (Gernsheim, 1986), used an achromatic lens (Figure 4): a piece of crown glass married to a piece of flint glass that combines to produce a sharper image (Kingslake, 1989). Achromatic lenses are the simplest form of compound lenses, multiple glass elements working in concert to reduce the aberrations that contribute to field curvature.

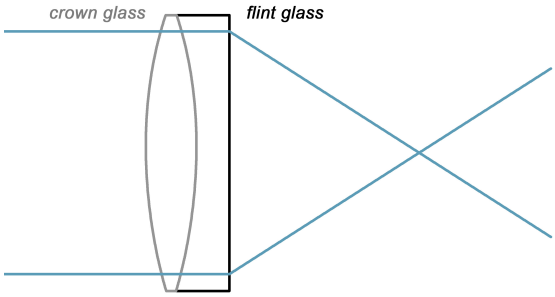


Figure 4: *Achromatic lens*. Graphic by Mike Gray

There are some examples of single-element lenses being commercially produced in the past but they could not be described as deliberately aiming, or succeeding, in emulating an ocular aesthetic as they usually employed meniscus lenses in conjunction with small apertures some distance from the lens to improve overall sharpness. Besides the very limited Wollaston lens of the mid-nineteenth century (Wright, 1999) the most notable of these are Kodak's Box Brownie and the plastic Diana medium-format camera. The lenses employed in these cameras are optically inferior to the human eye due to the plastic lens material used (Warren, 2005). Whilst

they do display lens aberrations towards the edge, they are not very sharp in the middle and in that regard do not replicate ocular vision.

These examples, along with all commercial cameras, still strived to produce an overall sharp image with varying degrees of success. The majority of cameras, however, use compound lenses with many glass elements working in concert to refract light to achieve a flat plane of focus over the whole image (Kingslake, 1989). This aesthetic is not dissimilar to our perception of the world: uniformly sharp. Therefore, I align the photographic aesthetic we are accustomed to with visual perception, rather than ocular vision. Photography strives to re-present the world in terms of our own conscious visual experience, beyond the capacities of the human eye. In this regard, photographic 'sight' is super human and takes on much of the post-sensing processing the brain would have to undertake to view the world as sharp all over.

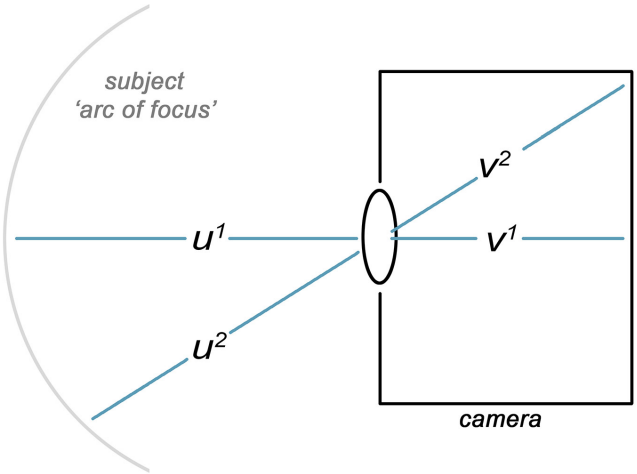


Figure 5: *Camera 'arc of focus' based on the formula for calculating focal length*. Graphic by Mike Gray

Optically, single-element lenses produce an aesthetic similar to the quality of information sent to the visual cortex after being projected onto the surface of the retina. It is important to acknowledge some key differences in the way they produce an image that is sharp in the middle and blurry towards the edge. Single-element lenses achieve this because of the refractive aberrations of a single medium in combination with a flat recording surface that is not equidistant to the lens. The eye produces a similar effect for two reasons: an uneven distribution of receptor nerves (Snowden et al., 2012) and a curved surface that is only relatively equidistant to the lens but still not capable of recording an in-focus image over its whole surface (d'Alessandro, 2008).

Based on this information, the camera's designation as 'the mechanical eye' is a misnomer and the camera should instead be called the 'mechanical visual cortex' because cameras do not recreate vision as experienced in the eye; they emulate vision as perceived by the mind. Another conclusion is that, by representing the world with a flat field of focus, photography's aim has always been to record visual 'truth' as perceived by the mind and not as experienced by the body, or more specifically, the eye. This is an important point in the context of my research as I aim to divert the photographic aesthetic away from the flat field of focus experienced in the mind towards what is hypothetically experienced in the eye (d'Alessandro, 2008).

The technology employed in this research can be best described as the devolution of photographic technology to a fictitious point in history where recording media are far superior to the optics. The combination of unsophisticated lenses and high-fidelity, yet relatively insensitive, recording media produces an effect that can be discussed in theoretical terms as well as aesthetic ones. Of particular relevance to any theoretical discussion of these effects are Walter Benjamin's (1931/2005) concepts of *aura* and the *optical unconscious*. Benjamin's aura correlates to the long exposures caused by the slow recording media and his idea of the optical unconscious is invoked by the lens employed to focus the image.

Aura, as theorised by Benjamin, is a contested and somewhat mutable term. Benjamin applies it to a number of phenomena related to the visual arts in a number of scholarly works, most notably *The work of art in the age of mechanical reproduction* (1936/2008) and *A little history of photography* (Benjamin et al., 1931/2005). In another text, he describes aura as "the unique phenomena of a distance, however close it may be" (Benjamin, 1936/2015, p. 216). He also partly attributed the effect to long exposures in early photographic portraiture. He says of the procedure, "[it] caused the subject to focus his life in the moment rather than hurrying on past; during the considerable period of the exposure, the subject (as it were) grew into the image, in the sharpest contrast with appearance in a snap-shot" (2005, p. 514).

Giblett (2012, p. 32) refers to Benjamin's aura as "akin in this respect to Freud's concept of the uncanny, a strange, spectral presence / absence." Whilst the exact meaning of Benjamin's aura is not easily explained, there is, however, a consensus

that the sensation of aura is not initially a conscious one. In this light, aura is similar to Benjamin's optical unconscious:

> It is another nature that speaks to the camera rather than the eye…other in the sense that a space informed by human consciousness gives way to a space informed by the unconscious…It is through photography that we discover the existence of the optical unconscious. (1931/2005, p. 510)

Single-element lenses, as used in this research, are lenses that emulate ocular vision in humans. As discussed already, ocular vision is what the eye is actually capable of recording in one instance before the brain can stitch it together with other 'instances' to produce perception. This photographic effect may be aligned to Benjamin's (1931/2005) concept of the *optical unconscious*. Benjamin was interested in how photography arrested time or increased detail, which in turn provided a remote flicker of optical recognition subconsciously in the viewer. He hypothesised that the mind could unconsciously record faster action and increased detail beyond what was consciously experienced. He went on to say that viewing photographs that displayed these qualities 'unlocked' aspects of those phenomena for the viewer. In Chapter Three, I discuss how Benjamin's optical unconscious might be aligned with the photographs and sculptural works produced in this research. Broadly, I suggest that an aesthetic déjà vu, derived from the physiology of the eye, emerges when viewing these works. In this regard, the preconscious aesthetic experienced on the retina is made available to the viewer through single-element lenses. In the next section I discuss how this aesthetic, in the context of phenomenology, constitutes a more 'pure' visual phenomena as the mind's role in visual perception is removed.

Further to the theoretical discussion based on the aesthetics of the images, and also discussed in Chapter Three, is the idea of technological protest. Unlike an economically driven 'Luddite' opposition to technological progress, this is a cultural one. Whilst the benefits of advances in communication technology are obvious to most, to me they don't necessarily equate to an enriched human experience. Far from being a 'technophobe', I have gradually become resistant to the urge of 'technophillia', the state of being obsessed with using the latest technology. The camera used in this research is the conceptual opposite of an iPhone in terms of ease and time, but also for some, in terms of quality. A longer, more difficult and less result-oriented photographic process constitutes an interrogation of rapid advances in communication technology. This can be aligned with the 'slow movement' (Honore,

2010), which promotes a modern lifestyle where people consciously decide to slow the tempo of many everyday activities in order to live a richer life, to value the qualitative over quantitative. Slowing down the exposure time invokes Benjamin's aura (1931/2005) as the subject/s have to invest more than a fraction of a second in the creation of the image. Another way to think of this is of the subject's 'performance' for the snap-shot being replaced with something novel; when asked to be still for up to two minutes, they have to go somewhere else in their mind.

Phenomenology

> Nothing is more difficult to know than precisely what we see.
> (Merleau-Ponty, 1945/2013, p. 59)

In our everyday lives, seeing 'is' believing, and with our eyes open, the visual 'truth' of the world is unquestionably presented. To use a Husserlian term, this is our 'natural attitude' (1931/2012) towards what we visually perceive; if we look at a scene, then generally, as discussed already in this chapter, we consciously perceive all the objects in that scene as sharp and we accept that as an accurate visualisation of the 'truth' of those objects, unaware that the human eye by itself is incapable of rendering everything we see as sharp.

The quality of 'sharpness' is not the only questionable aesthetic quality we take for granted. A bee, for example, can see ultra-violet light but not the colour yellow; a yellow flower that we perceive could potentially have a two-tone colourless pattern revealed only to bees (Dillard-Wright, 2009). Therefore, any single object theoretically contains multiple truths or phenomena and we are only aware of one truth, as Rodmeyer argues:

> On the one hand, the object of our perception is always given—and taken—as the same thing. On the other hand, though…[the] object is also consistently and necessarily given in varying modes of givenness. Thus we have, in the same object, both a stable core and a necessarily fleeting nature. (n.d., para. 3)

From this observation, an important question arises: does the yellow flower, with sharp curved edges, have a set of determinate qualities, with any given being only having access to a subset of those qualities? Or is it a case of whatever qualities the flower has being re-constituted into something 'other' by the physiological facticity of

the experiencing being's senses? To put it another way, are 'sharpness' and the colour yellow inherent in the flower or are they products of the being perceiving them?

Whilst these questions could, and have, been discussed through the lens of many historic philosophical viewpoints, my research will primarily concentrate on only one, phenomenology, and how it can aid in exploring the unknown qualities of ocular aesthetics. Initially, I employed phenomenology within my research in two ways: firstly, to provide a possible theoretical understanding of the subject matter, and secondly, to appropriate and abstract intellectual methods employed in phenomenology into works of art. Another way to describe this is that, on a theoretical level, I find aspects of the phenomenological tradition serve as a good starting point for discussions relating to my practice-led research and, separate to that, I have taken other phenomenological concepts out of context and applied them to an artistic framework. Examples of these two applications are using Maurice Merleau-Ponty's (1945/2013) conception of the *embodied subject* to provide an understanding of the mind/body relationship and how it affects perception, and secondly, transposing Edmund Husserl's (Husserl, 1931/2012) intellectual methods of *parenthesizing* (also referred to as *bracketing*) to art works that aim to partially remove the mind's role in vision and thereby isolate the quality of vision experienced inside the human eye. Primarily, neither of these applications is aimed at expanding, adding to or critiquing phenomenology; however, due to my research, there is scope for comment on aspects of phenomenology centred on two main areas: the reliance of visual data for apodictic claims, and the potential to incorporate phenomenological methods into works of art. I discuss these critical points in reference to both my research and other practicing artists in Chapter Three and in the concluding chapter.

Before expanding on my application of phenomenology, it is important to broadly map the theoretical viewpoints within phenomenology, articulating my understanding of and subsequent use of phenomenology. As this involves referencing how these viewpoints relate to significant philosophical figures outside the phenomenological tradition, it is also important to note that this part of the exegesis does not provide a comprehensive account of the contributions of those related figures, but only describes how their ideas may support my understanding and use of phenomenology.

What is phenomenology?

It is indicative of the many competing theoretical viewpoints concerning phenomenology that the question, 'what is phenomenology?' is still asked. The literal meaning of phenomenology according to Hammond (et al, 1991) is the 'study' or 'description' of phenomena; however, this rather dry and generic interpretation does not invoke the complexities and contested points of view held within this relatively new philosophical tradition. I use the word 'tradition' here and not the phrase, 'method of enquiry,' as phenomenological methods have been attributed to many philosophical traditions and philosophers prior to the early twentieth-century conception of phenomenology that I employ.

> When Hindu and Buddhist philosophers reflected on states of consciousness achieved in a variety of meditative states, they were practicing phenomenology. When Descartes, Hume, and Kant characterized states of perception, thought, and imagination, they were practicing phenomenology. When Brentano classified varieties of mental phenomena (defined by the directedness of consciousness), he was practicing phenomenology. (Smith, 2013, para. 36)

The word 'description' is very important word for phenomenologists as it represents a significant point of difference between themselves and other philosophers and disciplines, most notably the accounts of Descartes and of empirical science respectively, which seek to rationally 'explain' phenomena rather than 'describe' them. In broad strokes, phenomenology's description of personal experience is counterpointed by 'objective thought', a defining feature of rationalist thinking. I will return to this counterpoint later in this section as it is challenged in two separate and significant ways by phenomenologists who are relevant to my research (Hammond et al., 1991).

Whilst 'description' is an important methodological feature, the guiding principle of phenomenology has been, "to return to things themselves" (Merleau-Ponty, 1945/2013, p. ix).

> all [of phenomenology's] efforts are concentrated upon re-achieving a direct and primitive contact with the world, and endowing that contact with a philosophical status. (Merleau-Ponty, 1945/2013, p. vii)

Therefore, the answer to the question, 'what is phenomenology?' is best answered by discussing the descriptive methods used for the individual to 'return' and achieve 'direct and primitive' contact with the world. Unfortunately, there is more than one

method proposed by the main figures within the tradition to do this. In very broad strokes, these methods are defined by the conceptual difference that divides the two main branches of phenomenology, 'transcendental phenomenology' and 'existential phenomenology': whether or not you believe consciousness resides in the mind alone or in the mind and the body. Examples of these methods can be discussed through introducing the two philosophers that I conceptually apply to this research, Edmund Husserl and Maurice Merleau-Ponty.

Edmund Husserl is often credited with being the originator of the modern phenomenological method, after applying Brentano's idea of *intentionality* and Descartes' *method of doubt* to his conception of the individual 'Ego' (1931/2012). His aim was to create a philosophical science whose methods produced basic, apodictic (beyond doubt) knowledge derived from personal experience as opposed to 'public' knowledge, which for him was the foundation of empirical knowledge. Central to this aim was his method of the phenomenological *epoché*, where the individual attempts to bracket (or *parenthesize*) their 'natural attitude' towards perception, to suspend the belief that what they experience exists as real objects outside of their consciousness, leaving only description of phenomena as indubitable evidence to work with. In this regard, Husserl does not mean to say the world does not exist outside the mind, only that phenomena of the world, as experienced by the 'ego' provide a more solid philosophical foundation than the 'real' world itself as that 'real' world is never completely revealed to the 'ego'. Husserl (as cited in Hammond et al., 1991, p. 29) says, "…in this respect, therefore, the ego and its cogitations are 'prior' to the world".

This statement has two terms that need clarifying, ego and cogitations. Husserl's ego differs from the Cartesian ego and, as such forms, the basis of Husserl's criticism of Descartes' *method of doubt* where Descartes identified the sensing being, the ego, as an object being in the world. Cogitations are what Husserl termed conscious acts or pieces of indubitable evidence based on descriptions of phenomena that had survived the parenthesising (bracketing) process intact. Cogitations are the sum of *cogitio*, the process of experience, and *cogitatum*, the object of experience. Through the descriptive process, the ego transforms from being part of the world (similar to Descartes' 'ego') to emerging as what Husserl describes as the *Ego*, a state of being that sits outside of the world and has no basic assumptions regarding the existence of the world, a purely intellectual state of being (Hammond et al., 1991).

According to Smith (2007), there are conflicting interpretations of Husserl's concept of bracketing as a phenomenological methodology, but his own interpretation of it starts with Husserl's basic theory of intentionality. He states "an act of consciousness is intentionally directed via a meaning toward an object" (p. 243); the role of bracketing is to isolate the experience of the object from the intentional meaning. Whilst intentionality and Husserl's conception of the *Ego* being primary in the world are defining features of transcendental phenomenology, they are also the ideas that existential phenomenologists, such as Maurice Merleau-Ponty, largely reject.

Merleau-Ponty's (1945/2013) main point of criticism is the intellectual nature of Husserl's methods, which he aligns with the rationalist thinking behind empirical science. Both rationalist and intellectualist methods cannot account for the indeterminate nature of the world as experienced by the individual. He (1945/2013) stresses that consciousness resides partially in the body, and not in the mind alone. This is the basis of his criticism of the objectivist standpoint of empirical science and rationalist philosophers. As Stephen Priest points out, Merleau-Ponty avoided the doctrine that reality may be discerned through thought rather than through experience by saying:

> Merleau-Ponty argues that … our subjective embodiment, our sensory and cognitive apparatus and our practical purposes inescapably structure the way the world strikes us. It follows on Merleau-Ponty's view that if we wish to understand the world it is not enough to study the world. We have to study ourselves. (1998, p. 6)

In summary, the main difference between Merleau-Ponty and Husserl is whether you start from a position of the transcendental *Ego* or the *embodied subject*. For the purposes of my research, maintaining that dichotomy is not necessary as my position synthesises these two positions; I subscribe to Merleau-Ponty's notion that the body is partially a site of consciousness; however, I aim to 'bracket' the mind's role in perception and, in doing so, create a divide between the mind and body, a methodology not dis-similar to Husserl's.

It is from these two positions that I have applied aspects of both Husserl's and Merleau-Ponty's conception of phenomenology to my research. I rely on Merleau-Ponty's (1945/2013) idea of the *embodied subject* to theoretically discuss my research and, separately, I abstract Husserl's (1931/2012) intellectual method of

parenthesizing into works of art that bracket the mind's role in perception. I will articulate these applications further, beginning with Merleau-Ponty.

A term that relates to what I describe in this research as the ocular-based 'unknown' is a phrase translated from Merleau-Ponty's work, *perceptual absence* (as cited in Carman, Hansen, & Hansen, 2005): the qualities of noumenal objects right in front of us that are not revealed in phenomena for various reasons. As stated previously, being unaware of certain qualities an object has could be due to the facticity of our physiology. The previously cited example of the yellow flower that appears to have a black and white pattern revealed only to beings that register ultra-violet light illustrates this. An important distinction arises, however, between this interpretation of 'perceptual absence' and the possible nature of the 'unknown' I refer to. *Perceptual absence* points towards being altogether alienated from certain qualities that objects possess; however, my conception of the 'unknown' concentrates on hypothetical ways our physiology may mediate or re-constitute qualities outside awareness. Another way to articulate the subtleties of this difference is that whilst both 'perceptual absence' and the 'unknown' ocular aesthetic deny that the 'sensing being' can completely perceive an object, the 'unknown' leaves room for the possibility of certain qualities being mediated or re-constituted into something 'other': as Kurt Koffa's famous quote indicates, "The whole is other than the sum of the parts" (as cited in Harris, 2014, p. 6). It would be convenient to conceptualise the eye's role in perception as 'adding' to or 'subtracting' from the perceived object, but that type of objective viewpoint does not leave room for possible indeterminate relationships that mediate or re-constitute the world into something other, as Koffka's quote above suggests.

Merleau-Ponty (1945/2013) also approaches the empirical conception of values and their relationship as way of illustrating his position. He describes the empirical use of values as 'external' as they are most often defined without reference to other values. The opposite of this conception he describes as 'internal' values, ones that cannot be independently defined. He uses the scientific equation for gas pressure to illustrate this and his subsequent criticism of empirical science: pressure x volume = temperature. For scientific researchers, pressure, volume and temperature are separate values but for Merleau-Ponty, the reality that none of these qualities can exist on their own is more important.

Applying that idea to human bodily perception is my understanding of Merleau-Ponty's *embodied subject*. It is a mistake to theorise the mind and the body as separate values when investigating perception. Having established that theoretical viewpoint, my research, in the form of artworks, attempts to move into the indeterminate space between the object and the subject, between the transcendent and immanent. The aim here is not to definitively determine the 'unknown' or to reveal the *perceptual absence*, but to simply provide a space where the viewer can physically experience the parenthesizing process rather than the phenomenological and intellectual description of parenthesizing. In the introduction to this section, I described phenomenology as a descriptive method of returning to the essence of things themselves; however, my research outputs are not descriptive but immersive. Having physical, interactive phenomenological outputs in my research is a departure from the phenomenological methods of Merleau-Ponty and Husserl, whose works were ultimately text-based descriptions. In this light, the role of materials becomes important as they convey tacit knowledge in ways that written language may not. The consequences of this are discussed further in Chapter Three and the concluding chapter.

By isolating the ocular part of vision, I am abstracting Husserl's bracketing method to parenthesise the mind's role in perception. My approach is to reduce visual evidence to an even more base, or indubitable, form. Ironically, this use of bracketing leads to a criticism of phenomenology's reliance on perceptual evidence as being indubitable. Husserl, for example, used what he saw with his eyes as the basis of many apodictic claims, but how could that evidence be indubitable if the visual data did not take into account the physiological properties of the eye? Husserl's method of phenomenology was to first identify the noematic qualities of 'objects of consciousness' to form cogitatum, a set of descriptive experiences one has within an intentional relationship with an object (Hammond et al., 1991). For example, one description of experiencing a building could be, 'the building appears to have sharp edges'. It is my assertion that this could not constitute apodictic evidence of the building having sharp edges because the human eye is physically incapable of rendering the whole world as sharp. Therefore, I argue that part of our natural attitude, relying on conscious visual data, should be parenthesised if our aim is to produce apodictic visual evidence.

My assertion that this research is not aimed a producing apodictic knowledge concerning ocular vision or how the eye's physiology mediates perception is couched in a fundamental paradox well known to philosophers. How can the mind completely

investigate the mind? Hammond et al (1991) points out the paradox in the context of Husserl's unity of experience, "the experience of reflecting upon this unity is itself one of the elements of this unity" (p. 51). This type of paradox is described by Hofstadter (1999) as a *strange loop*. In my artwork, I cannot claim to totally parenthesize the mind's role in perception when the artworks are perceived by the viewer's mind.

My artworks mainly concentrate on one aspect of how the eye / mind relationship mediates reality; however, there are other mediating aspects also investigated, namely, saccadic eye movements. These unconscious bodily actions illustrate another example of the eye's physiology predicating perception, as a person cannot smoothly transition their eyes in a scanning motion across a scene. Instead, saccadic eye movements force the eye to jump from one spot to the next with the mind blocking any visual data from being recorded during that time. If a phenomenon happened during the time it took the eye to move from one point to the next then we would not perceive it. If a typical saccadic eye movement lasts for 20 -30 milliseconds, then we are blind to phenomena that occur more quickly than the movement of our eyes (Leigh & Zee, 2015).

This phenomenon illustrates another way in which the mind compensates for our physiology. This dualism could be seen as physiology and psychology working in concert. My research does not aim to separate the physiology and psychology of sight, as I doubt that this is feasible. I have, however, made artistic works based on isolating parts of ocular vision that go some way to questioning the body / mind relationship involved in sight and that sufficiently illustrate that fundamental phenomena are hidden from us and we may never know their nature. This is one indubitable piece of phenomenological evidence I have collected through my research.

Terra Australis and geographical psychopathologies

Australia. What fresh hell is this? (O'Sullivan, 2005)

This quote from the film *The proposition* (2005) poetically imagines one extreme reaction that colonial settlers formed when arriving in Australia. From settlement, non-indigenous Australians have both consciously and unconsciously adapted to the antipodean environment of Australia. When comparing the precarious state of settler

health at the beginning of colonisation to the, albeit contested view of a relatively well-adjusted contemporary society, a question becomes apparent: what happened to colonial Australians and their relationship to the environs?

Warwick Anderson (2005) writes that early medical anxieties about British colonial migrants had three possible narratives: colonising Britons would succumb to new diseases, prove resilient and overcome, or develop into a new biological form. To contextualise this, Anderson examines the medical profession operating in colonial Australia for his data. He explores the role and relationship that science and medicine had in the identity-building process of colonial Australians in the nineteenth and twentieth centuries. Through his study of medical journals and the private correspondence of doctors, he identifies many instances of mutating Anglo-based pathologies, which were unique to Australia. These changes, whilst both physical and psychological, were not confined to Anglo-based pathologies but also their imported diseases. For example, typhoid became 'Colonial Fever' when its pathology and associated symptoms changed from those experienced in Europe.

Anderson (2005) cites many colonial physicians who observed the psychological effect that migration had on Britons. Although it is hard to draw a consensus on the cause of these effects, it is fair to say many were particular to the experience of colonial Australians:

> Under Australian skies, the most sober and reliable British immigrants frequently developed a nervousness and irritability that might even shade into an evanescent mania…In geographically sensitive medical narratives, the new land in all its particulars was an object of fear and desires, and to inhabit it was to experience a range of physical and mental states. (Anderson, 2005, pp. 24, 40)

Due to the state of medical science at the time and the lack of formal research these observations cannot provide conclusive evidence for this phenomena or its causes. There are other possible explanations and theories to explain what was happening to the colonial psyche.

The 'range of mental states' that Anderson speaks of is the subject to which David Tacey applies Jungian theory in his book, *Edge of sacred* (1995), which he revised in 2009. Both books deal with how "transplanted colonial societies always experience a destabilization in the psychological sphere" (1995, p. 35). For Tacey, this is both a

positive and negative phenomenon, as the conscious gives way to the unconscious in the collective settler psyche due to the pressures of basic life struggles.

Tacey (2009) argues that the ego is a product of the psyche and that the psyche largely resides outside the body and, therefore, is partially collective and influenced by the (Australian) environment. He writes, "the colonizing project was the work of the heroic ego, and the opposite process, colonization-in-reverse or indiginization, was operating on the unconscious level" (p. 33). Through that statement Tacey raises an important question, similar to Anderson's: have non-indigenous Australians ever entertained the possibility that continental Australia could exert itself on their psyche in a way that changes their fundamental psychological and physical make-up? Anderson's research suggests the medical profession came close to attributing changes in the colonial psyche to climate, stating "many immigrant Europeans seemed out of balance with the new climate, while some of those whites born locally, developing in ill-matched circumstances, appeared gradually to diverge from the ancestral type" (Anderson, 2005, p. 11).

However, a problem for the medical profession was the difficulty of differentiating between the effects of "atmosphere and soil" and the effects of "excess and indulgence" (p. 14). Anderson cites many examples of positive experiences for colonising Britons of the Australian climate and, he argues that in some instances, it may have saved them from themselves:

> …Syder [Dr Mingay Syder] suspected that intemperate habits and a bad diet did more damage than any number of hot winds. Given the extent of drunkenness, self-pollution, gluttony, uncleanliness, and poor ventilation in Victoria, it was indeed fortunate that the climate was so good. (p. 23)

For Tacey, environment and self-destructive behaviour could be linked to demonstrating how the psyche may contend with the antipodes. Anderson's and Tacey's books parallel each other in that they explore two similar themes: mania within the colonial psyche and continental Australia as a potential cause of that mania. This notion of the Australian interior is described by Ross Gibson (as cited in Giblett & Tolonen, 2012) as the trope of a mythical *badland*.

An Australian-based geographical psychopathology is the subtext for many fictional characters; however, many are based on non-fictional people. For example, the

movie *Wolf Creek* draws on convicted killer Bradley Murdoch to inform the lead character's persona. In describing that archetypal person, Toohey says (as cited in Giblett & Tolonen, 2012):

> Brad Murdoch is not just Brad Murdoch. He's a breed, a kind. There are Murdochs all across northern Australia and they run to type: fastidious men with pissed-off, resentful minds, white or beige Toyota Land Cruiser HZJ75 utility, non-standard, all-terrain oversize 16-inch tyres on wide, non-standard white Sunraysia rims, amphetamines, dope, full survival toolkit in the back, maybe a winch, definitely a kangaroo jack, compressor for pumping tyres, three kinds of heavy rope, towing chains, long-range tank, don't mind a cup of tea, prefer a beer, whack your nose over this, Jim Beam on ordinary nights but Jacks to celebrate. Love their mates but always disappointed with women. (p. 174)

Rodney Ansell is another famous example, the original 'Crocodile Dundee' on whom Paul Hogan based his character in the film of the same name. Rather than finally succumbing to a wild buffalo's horn, Rodney 'Crocodile Dundee' Ansell "was shot dead by police after a drug-crazed rampage that saw a police officer killed and three other men wounded" (Turner, 2014, para. 3). Ansell's 'Crocodile Dundee' persona draws on his years hunting feral buffalo in the north of Australia and the fact that he famously survived for two months alone in the bush after his boat capsized in the crocodile infested Fitzmaurice River. Part of the myth of that event, according to Turner (2014) was "He slept in the fork of a tree, out of reach of crocodiles, at night, but shared the branches with a brown tree snake" (para. 77). Twenty years later, after becoming addicted to amphetamines, he developed a drug-induced paranoia that saw him wound two people with a gun before killing a policeman in order to resist arrest. Both Bradley and Ansell roamed the interior and both committed crimes that could be seen as the results of a disturbed psyche. Tacey (1995) describes the root cause of Australian-based psycho/macho behaviour as the necessity for the colonising psyche to adopt a defensive 'masculine' exterior to deal with the "enormous psychic gap between the consciousness of Europeans and the primal reality of Australian landscape" (p. 82).

Gelder and Jacobs (1998) reference the important place that Tacey's book has achieved outside of purely academic circles, where it may be viewed as marginal. They illustrate this importance by noting that the then Labour Prime Minister, Paul Keating "was said to have recommended this particular book to his cabinet as required reading" (p.9). They go on to describe Tacey as a "Jungian commentator who describes the national condition in terms of the psychic relationship between the

unconscious and the ego", which in turn manifests itself as the "modern world versus the sacred" (p. 9). The modern world's interaction with the 'sacred' is the subject of Gelder and Jacob's 1998 book, *Uncanny Australia* and, as the title suggests, they look at the relationship through a Freudian rather than a Jungian lens.

As Tacey's Jungian observations of the colonial psyche are one of many competing and convergent theories applied to the postcolonial Australian condition, it is necessary to identify other theories, which support, align with or exclude his. Before exploring this widely researched area, however, the term 'postcolonial' should be defined. As Hall says (as cited in Hall, 1996), "If postcolonial time is the time after colonialism, and colonialism is defined in terms of the binary division between the colonisers and the colonised, why is postcolonial time also a time of 'difference?" (p. 242).

For Stuart Hall (1996) the term *postcolonial* becomes problematic when there is still a 'difference' between the colonised and the colonisers. Hall says the term "dissolves political resistance" (p.243) and collapses the real history by suggesting there has been a definable end to colonialism. On the other hand, Hall also points out that despite the incorrect application of *postcolonial,* its use, or rather overuse, may give too much weight to the effects of colonialism on modern Australia over that of capitalism and the global economy, for example.

For the purpose of this exegesis, I will put that criticism aside and return to discussing the approaches towards hypothesising and understanding the postcolonial experience that I engaged in throughout this research. The theories discussed do not necessarily represent current debate on the topic but were the ones that resonated with my experience of colonial disquiet.

Missing home but not knowing what you're missing, or having your idea of home rendered unfamiliar are two concepts applied to the individual in two of Freud's (1957) essays, "Mourning and Melancholia" and "The Uncanny". Applying similar concepts to non-indigenous Australians of multiple generations may possibly illuminate the psychopathology behind the postcolonial experience for that particular sub-section of society. For Australians, overlaying these concepts is the lurking knowledge that our colonising history engenders unacknowledged guilt over the illegitimate displacement of indigenous peoples from their homeland.

According to Freud (1919/1957) the psyche can manifest a sense of melancholia when it registers a loss, in this case of non-indigenous Australians this relates to a dislocated sense of maternal connection to the land. Different from mourning where the loss is a conscious one, the source of melancholia is harder to define as there is no conscious memory to which to attach the loss. In terms of a motherland, migrants, and possibly their children, still have an idea of what they are missing and can attach their sense of loss to that place consciously and still feel a connection to the maternal. For the partially naturalised Australian of multiple generations, there is no memory of a motherland and therefore no conception of the maternal loss, which according to Freud, could unconsciously turn inwards.

Freud differentiates mourning from melancholia by saying, "in mourning it is the world which has become poor and empty; in melancholia it is the ego itself" (p. 246). He goes on to explain that melancholia can manifest itself in destructive ways as the ego is unconsciously damaged as 'object-loss' becomes identified with the self, not the actual loss.

A similar application of melancholia to a sense of place is made by Glenn Albrecht (2012), who attributes certain disturbances of the psyche to the rapidly changing natural and built environments. He coined the term *solastalgia* to define this phenomenon. His starting position for solastalgia is that the established sense of place that non-indigenous Australians feel is significant enough to be disrupted when the modern industrial world exerts itself over their environs.

For Albrecht (2012), solastalgia relates to his personal experience of the Upper Hunter Valley region in New South Wales, to which he first formed an attachment and later researched as an academic. He contends that the population of the Upper Hunter experienced adverse affects due to the rapid degradation of their environs. This disruption manifested itself as a mixture of melancholia or homesickness and nostalgia for the past. He writes, "As a result of my own background and the testimony of citizens in the Hunter region, I defined 'solastalgia' as an emplaced or existential melancholia experienced with the negative transformation (desolation) of a loved home environment" (para. 7).

Whilst Albrecht's 'loved home environment' functions on a conscious level, it is important to note that it is not spiritual, nor does it provide a replacement for the maternal loss. Where Albrecht's view differs from mine is in his assertion that the

level of disquiet experienced comes from a dislocation from a place you have connected with but have not left. In contrast, my contention is that the disquiet could be attributed to a sense of loss over not being connected to any place significantly.

Another way to view the different approaches it is that solastalgia references industrialisation more than colonisation. From my experience, a level of disquiet associated with the modern Australian environment could be attributed to both equally, although solastalgia does not recognise our colonising history, which displaced other (indigenous) people's loved home environment; nor, importantly, does it address the question of fundamentally belonging in the first instance.

One way to approach the question of belonging is through the lens of Freud's uncanny (1919/1957): the colonial experience can be a visceral one when there is a sudden realisation that our 'home' can be 'unhomely'. The sense of the uncanny is similar to melancholia, as both operate on an unconscious level. According to Gelder and Jacobs (1998), "an 'uncanny' experience may occur when one's home [familiar] is rendered, somehow and in some sense, unfamiliar; one has the experience in other words, of being in place and out of place simultaneously" (p. 26).

The binary existence of coloniser and colonised, us and them, is evident to most Australians and, according to Gelder and Jacobs (1995), could be the underlying source of national anxiety centered on belonging, and in turn related to the sense of 'home' Australia provides. Was Australia colonised or invaded? And then, how can Australia be 'ours' when it is 'theirs'? If a place you have known all your life is designated someone else's sacred space, the familiar becomes unfamiliar.

Gelder and Jacobs (1998) explain that in a wider Australian discourse, Aboriginal 'sacred' is described in prohibitive terms, not inclusive, and as such one could argue this creates a further divide between the colonised and colonisers. They argue, "one comes to know about sacredness by knowing about those prohibitions, about what not to do and where not to go – sacredness is known negatively, in other words" (p. 43). This acknowledgement of how the modern world intersects the 'sacred' in Australia shows us two important things: deep down we know 'our' modern Australia lies over 'their' 'sacred' home; the two views have a long way to go before being reconciled, before the Aboriginal 'sacred' is known in positive, instead of negative, terms.

Aboriginal ‘sacredness’ takes on opposing meanings in Australia as it can be viewed as ‘other-worldly’ or ‘worldly’ in relation to the modern world. It can be ‘other-worldly’ because of its spiritual aspect, or conversely, thought of as ‘worldly’ because modern cultural institutions, such as the courts, make determinations on it. Sacredness can also be seen to block the progress of industry, making it ‘other’, or it can be seen as a way to unblock the path to spiritual enlightenment. For Gelder and Jacobs (1998), this uncanny phenomenon manifests itself in the complex issue of reconciliation through granting native title to indigenous peoples.

For McKenna (2004), reconciliation with indigenous people must be central to any meaningful attempt at creating an Australian republic. He says the 1999 referendum on a republic failed to capture the nation’s imagination because it narrowed the focus of a ‘republic’ to replacing the head of state with an Australian, rather than trying to embrace all of our history in a defining moment. Reconciliation was once high on the public agenda but during the 1990s it stalled. McKenna (2004) places the blame for this on both the conservative Howard government and the media, which largely accepted conservatism as the prevailing public sentiment and in turn depicted reconciliation as a “now marginalized left liberal ‘elite’ agenda” (p. 14).

In his book, *This country*, McKenna starts with the semiotics behind the words ‘country’ and ‘nation’ as a way of explaining his position. He says (2004) “country is a word that goes deeper than nation. It carries a sense of land, sea and environment….It embodies a sense of place, a possibility of belonging” (p. 13). It is this sense of belonging that, for McKenna, non-indigenous Australians are quietly hoping for. Ironically, he argues, through not acknowledging the belonging of indigenous Australians, non-indigenous Australians block a legitimate sense of belonging for themselves.

Metaphors

As way of approaching the subject of indigeneity and belonging, I have incorporated scientific findings as metaphors within my creative work. I draw on two main sources in this regard: recent research into introduced flora within Australia, and photography-based colonial studies. The rigour of empirical investigation ranges greatly between these two sources, however: recent studies are supported by rigorous empirical methods whereas it could be argued photography-based colonial

studies are not. In this regard, and for the purposes of my creative work, they can be seen to both speak of colonisation and the limitations of scientific research. As discussed previously in this chapter, the unknown influence continental Australia has on the colonial psyche is unperceivable and immeasurable, making it difficult to be understood in its own terms. The metaphor becomes a potential method of understanding its nature. To define metaphor, I rely on Lakoff and Johnson (2008) who say, “the essence of a metaphor is understanding and experiencing one kind of thing in terms of another”(p. 104).

Using metaphors to grasp an elusive subject is a function of language according to Lakoff and Johnson (2008). In language, metaphors are arbitrarily constructed concepts that achieve consensus within a particular culture. My art practice partially relies on metaphors but, unlike those in language, the metaphors come from a personal connection instead of a cultural consensus. Similarly, Freud (1919/1957), in a novel way, employed the semiotics of the German words *hiemlich* and *unhiemlich* (home / unhomely) as a metaphor when studying the ‘uncanny’. He applied the subtle meanings of these words to explain a sensation of something being familiar and yet unfamiliar at the same time.

Within this research, metaphor becomes a research tool that aids in understanding indeterminate subject matter by metaphorically aligning it with other, more easily understood, subjects. In this regard, Ortony (1993 p. 5) says “something new is created when a metaphor is understood”. I metaphorically rely on previous empirical scientific studies to provide some illumination on the forces acting on the partially naturalised migrant. As discussed in the introductory chapter, I reference Buswell’s (2011) study into introduced plants that have gone beyond adaptation and evolved into new species indigenous to Australia. I argue it is easier to approach the topic of *colonisation-in*-reverse (Tacey, 2009) through understanding the indeterminate forces acting on introduced plants. Simply, my position is that continental Australia possibly exerts itself upon the psyche of the partially naturalised migrant in indeterminate ways best understood through the use of a metaphor.

As a metaphor for the colonial condition, this approach sits outside of academic discourses but can be aligned with Tacey’s (1995) idea of *indiginisation*; continental Australia exerts itself over the psyche to fundamentally change the colonial condition. To continue the analogy to introduced plants, there are biotic conditions particular to the Australia environment that results in change, and there are abiotic conditions that

could be linked to colonial Australians being freed from the class system of Britain, resulting in change.

Besides the metaphor of *colonisation-in-reverse* (Tacey, 2009) *arrived at through the rapid evolution of plants,* I also employ established quasi-scientific based aesthetics (figures 6 and 7) to operate as metaphors: those of certain colonial botanical studies and the *noble savage* (Maxwell, 2000). Whilst I acknowledge that the use of the noble savage aesthetic could be seen as contentious, it is not my intention to use it in any way that diminishes the colonising experience of indigenous people nor to re-interpret their story. My motivation is to employ the metaphor of 'quasi-scientific study' in my arts practice and, in doing so, change the narrative of colonisation to one that studies the coloniser and not the colonised.

Initially a product of public interest under the guise of scientific inquiry, the noble savage aesthetic developed during the nineteenth-century practice of colonial photographic exhibitions for European and Anglo-Australian audiences (Maxwell, 2000). The style was to depict indigenous peoples in 'natural' choreographed environments in an attempt to anthropologically document their way of life. This was considered essential because, at the time, it was believed Aboriginal Australians would not survive colonisation. The aboriginals depicted were thus afforded a 'noble' status as there was no need for the 'ignoble' or savage narrative to be continued .The aesthetic performed two important functions in the colonising project. It relegated the colonised peoples to a lower/fixed position whilst shifting focus away from the realities of the colonising process. Depicting the colonised peoples to a wider European audience as uncivilised and unharmed diminished any protest about their treatment and the colonising project as a whole. The association that the photographic aesthetic had to scientific study helped form a more acceptable narrative for European audiences concerning the plight of indigenous peoples:

> No less than botanical and zoological specimens that preoccupied Victorian scientists, colonized peoples were exposed to hierarchical systems of classification…By converting the spectacle of the Aborigines' displacement into an object of beauty, Lindt [colonising photographer] ensured that their distress was kept at arms length. (Maxwell, 2000, pp. 2, 140)

Photography as an illustrative medium aligned with scientific enquiry was also employed in colonial Australia to document flora. The botanical study aesthetic was well established by painted depictions of floral specimens before photography could

be used. Where this traditional aesthetic would usually isolate a specimen and break it down into its parts, leaves, stems and flowers, for example, photography could quickly sample wide areas of flora in a natural state. This potential saw photography used in many scientific expeditions into the unsurveyed parts of Australia during colonisation and in studies of cultivated native flora.

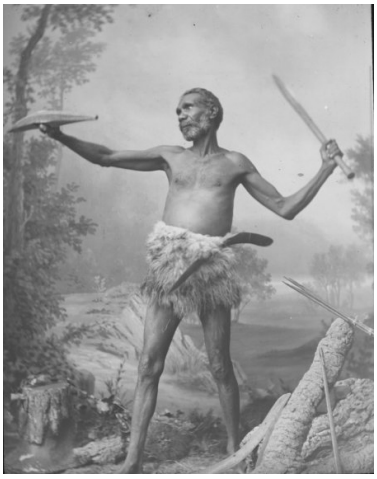


Figure 6: Henry King (circa 1887), *Studio portrait of a man in a fighting pose*, glass transparency, 8.2 x 8.2 cm.
Figure 7: Unknown photographer (circa 1880) *Botanical Gardens, view at the Fern Tree Gully*, albumen silver, 13.5 x 18.5 cm.

For my arts practice, these two aesthetics (the noble savage and botanical classification) are important as they connote a colonial scientific study. Making introduced peoples and flora the subject of a redundant, quasi-scientific aesthetic promotes a degree of irony as the survey equipment is aimed at the coloniser, not the colonised.

In this chapter I have introduced and discussed the application of relevant hermeneutic enquiries in order to establish the theoretical framework supporting this research. The following chapter situates the creative artefacts produced through this research within a cultural context specific to historic and contemporary art practice. It also links the work to the key concepts and methodologies discussed in the previous two chapters.

CHAPTER THREE

Situating practice

Introduction

As outlined previously, the multi-disciplinary body of creative artwork that resulted from this research, *New Australian Plants and Animals*, comprises photography, interactive sculptural works, installations and video installations. The aim of this chapter is three-fold: to position the work within a cultural context specific to historic and contemporary art practice, link the work to key concepts and methodologies, and finally position the work to address the aims of the research. In this regard, I describe how the practical outputs of this research emerge from an existing body of knowledge and address perceived *unfulfilled relations (Carter, 2010)* concerning the topics discussed in the previous chapter.

To interpret these aims, I reflexively draw on a number of key case studies that serve multiple functions. Importantly, these case studies allow for the intersection of methodological and material concerns manifest in *New Australian Plants and Animals* to be discussed in relation to past and present arts practice. Similarly, the case studies allow the synergy of lived experience and artistic practice to be articulated in terms of directing the research and providing new understandings. In this regard, phenomenological understandings, derived from the experiencing of the noumenal world and artworks, are articulated to address the initial research questions.

The first case study examined, Jules Bastien-Leage's *The potato gatherers* (1879), (Figure 8) could be described as providing a phenomenological epiphany when I first viewed the work two decades prior to beginning this research. This painting introduces the importance of depth, scale and varying levels of visual acuity within two-dimensional artworks. In this case study, I explore relationships between the phenomenon of preconscious visual perception, photography and late nineteenth-century painting that is understood as being influenced by photography (Young, 2015).

The following case studies examine immersive installations created by Australian artist, Ian Weir and Danish / Greenlandic artist, Pia Arke. Examination of their work links lens-based investigations with preconscious visual phenomena and within the context of geographical psychopathologies and the partially naturalised migrant.

PART ONE / two dimensions

Scale, depth and differential visual acuity

This section begins by introducing the first case study: a painting by the late-nineteenth century French artist, Jules Bastien-Lepage, entitled *The potato gatherers* (1879) (Figure 8). Through this analysis, I initiate discussions of the importance of scale, depth and varying fields of clarity connected to the photographic portion of this research.

Figure 8: Jules Bastien-Lepage, (1878), *The potato gatherers*. Oil on canvas. 180cm x 196cm.

I first saw this painting twenty-five years ago when I visited a Van Gogh retrospective at the National Gallery of Victoria. Bastien-Lepage's painting was included in the exhibition as he was cited as being influential on Van Gogh and a precursor to *impressionism* in general (Young, 2015). I spent over two hours at the gallery;

however, for the most part, I sat in front of the *The potato gatherers*. To me, the Van Goghs in the exhibition presented as larger versions of the highly circulated postcard format that I had seen the work presented in previously. This reaction could be attributed to the tragedy of art in the age of mechanical reproduction; however, viewing the work by Bastien-Lepage was the first time an artwork had resonated deeply with me.

It has taken twenty-five years to distil the qualities of that work and articulate why it had this effect, especially given its benign subject matter. It was not until engaging in this research that I could conceive why I felt I was falling into that painting, why I was part of the scene, why I could nearly smell the upturned earth and the potatoes being harvested. I can now discuss that response in terms of aesthetic qualities related to scale, depth and variations in sharp detail within the scene. It is important to note that this sense of depth evaporates when the painting is viewed on a small scale, within a book or on a screen, for example. This is one of many qualities that the painting shares with the photographic portion of *New Australian Plants and Animals*.

Later in this chapter, I return to discussing the relationship between scale and perceived depth; however, to better understand the connection between Bastien-Lepage and the photographs produced through this research, an examination of the established relationship between Bastien-Lepage and photography is required.

This relationship is couched in the emerging trend of late nineteenth-century painters to emulate photography's ability to freeze time, to capture subjects mid-way through movement. This technological feature of cameras subsequently gave rise to the 'decisive moment' in photographic practice. Young (2015) quotes Geneviève Lacambre to illustrate what was an initial criticism of Bastien-Lepage's style: "What finally distinguishes these naturalist works is that they show their subjects as if caught-frozen-in a specific, characteristic instant, akin to photography of the period in their attitude, though not their scale" (p. 49).

Whilst many agree Bastien-Lepage employed what was known during that period as the frozen–photographically derived *moment chosen* (Young, 2014), others disagree with Lacambre's assessment of photographic scale not being manifest. In contrast, Feldman (1980) aligns Bastien-Lepage's apparent 'perspective foreshortenings' with photography because, as he argues, the painting's creation coincided with the rise of photography being employed as an 'observation' tool by artists of the time. Gabriel

Weisberg suggests Bastien-Lepage's connection with photography was not limited to employing it purely an observational tool but argues he based his paintings on photographs (Weisberg, Dagnan-Bouveret, & Art, 2002).

If Bastien-Lepage either partially or completely relied on photography and his work displayed a "sensibility attuned to photographic vision" (Feldman, 1980, para. 9), it is important to examine both the photographic technology and style that potentially influenced and directed his work. As Modrak and Anthes (2011) point out, the prevalent style of photography leading up to the naturalist painting period was a form of pictorialism that could be considered close to Bastien-Lepage's work:

> The predilection for sharp focus has fluctuated through various movements within the history of photography and according to specific photographers' and artists' goals. From the 1850s to the early years of the 20th century, many art photographers such as Julia Margaret Cameron, Clarence White, F. Holland Day and P.H. Emerson preferred soft-focus images of romantic scenes: peasants in the field, portraiture, and pastoral landscapes. (p. 9)

Modrak and Anthes group Peter Henry Emerson with this photographic 'pictorialist' style; however, Snyder and Allen (1975) distinguish him as being part of a notable photographic movement in the late nineteenth century that aimed, amongst other things, at representing only what the eye was actually capable of registering. As this movement was known as 'naturalistic' photography, a comparison with the 'naturalistic' painting movement of which Bastein-Lepage was part needs to be made.

The relationship between the two naturalist media is best described as a continuing loop where the beginning proves difficult to isolate. As stated, French naturalist painters are known to have employed photography, and naturalist photographers, such as Emerson cite those painters as a major influence on their aesthetic (Emerson, 1889/1972). As the two 'naturalisms' overlapped, an apparent aesthetic confluence or conflation between the two media can be explored; however, before that, some context of naturalist painting within the art movements of the mid-late nineteenth century is needed.

With paintings that combine both swiftly captured and laboured detail, the naturalists sit between realism and impressionism. As Young (2015) argues: "Naturalism in turn, can be understood to combine the representation of instantaneous moments with a

rendering even more detailed and finished than its Realist precedents" (p. 9). Interestingly in this regard, both realism and impressionism are critically linked to photography's qualities of detail and speed respectively. Similarly, salon critic Emile Zola summarised Bastien-Lepage's style "as an oscillation between the sensations of Impressionism and the draftsmanship of the Academic school" (as cited in Feldman, 1980, para. 10). It is this oscillation that I relate to varying fields of visual acuity later in this chapter.

Hypothetically, if Bastien-Lepage based this painting on a photograph then the lens technology used would subsequently have a critical effect on the work. If he used a commercially available camera, it is likely that it would have had a compound lens (multiple elements) that only partially minimised field curvature (Kingslake, 1989). A photograph that is affected by field curvature would not have a flat plane of focus and subsequently, not all the detail would be available to the artist. As discussed in Chapter Two, there would be an 'arc' of sharp detail with other information recorded with varying levels of visual acuity. In *The potato gatherers*, there is evidence of sharp detail moving in a shallow arc from the left foreground edge through the second figure in particular. As there is not a full arc present, it could be argued that the two-thirds of an arc represent the painting being based on a cropped photograph. Whilst this is a possible link to photography, there are, however, other areas of seemingly random, sharp detail outside of this arc that I attribute to saccadic eye movements. As I discuss next, there is a possibility that Bastien-Lepage was conscious of how the eye seeks out important information by rapidly scanning a scene.

When viewing *The potato gatherers*, besides the arc of focus, there initially is no apparent convention or reason governing what was or was not sharp. In the detailed example provided, (Figure 14), the hand of the main figure is highly detailed, whereas the potatoes right behind it, within the same field of focus, are not. This raises an important question: how can this painting give the illusion of depth and reality when there is such disparity between areas of detail? Through this research, my hypothesis is that, as discussed in Chapter Two, the eye naturally only seeks out important information, such as the eyes and hands for example, through the process of saccadic eye movements. Subsequently, the information that is not so important is 'filled' in by the mind. In this regard, Bastien-Lepage's painting represents a view of the noumenal world where phenomenological considerations of saccadic eye movements are evident. Therefore, I hypothesise that the sharp detail within *The*

potato gatherers is governed by both a photographic-based arc of focus and the painter's saccadic eye movements. This partial empathy towards preconscious visual phenomenon was also important to the photographic naturalists.

Emerson, cited as an originator of naturalistic photography, was influenced by the varying fields of clarity within the naturalist paintings and sought to emulate that aesthetic photographically (1889/1972). This is ironic as the aesthetic quite possibly had a photographic origin. Hypothetically, this meant he had to find lenses that over-emphasised the aesthetic, as painters such as Bastien-Lepage were overlaying impressionist styles on the areas within an image that sat outside the arc of focus and the points isolated by saccadic eye movements. Emerson states he preferred to use a camera with a *Dallmeyer reticlinear landscape lens* (1889/1972) that consists of five elements working in concert (Wright, 1999). This use of compound-lens technology contrasts with the creative component of this research and is discussed later.

According to Hannavy (2013), Emerson wanted photography to be part of an art movement that "was true to nature, and more specifically, true to nature as perceived by the human eye" (p. 980). Influenced as a medical student by the work of Hermann Von Helmholtz, he devised the practice of 'differential focus' that privileged the centre of the image, in a manner similar to the human eye. His 'naturalistic' photography, however, was not entirely based on the optical limitations of the eye; he did not use single-element lenses and hence his images still maintain a relatively high level of detail through the frame; however, there is notable drop towards the edges that could be attributed to field curvature. Whilst the term 'naturalistic' was partially intended to describe the 'natural' aesthetic of the eye, it was also employed as a way of protesting against the trend of pictorialist photographers who choreographed images. Therefore, another use of the naturalistic term was to describe Emerson's subject matter, people in their natural environment, as opposed to choreographed pictorialist images (Snyder & Allen, 1975). In this regard, the two 'naturalisms' are in alignment.

In Emerson's *Coming home from the marshes* (1886) (Figure 9) there is an apparent arc, or sphere, of focus that privileges the foreground edges and the main central subject matter in a similar way to Bastien-Lepage's painting. If Emerson was, either intentionally or unintentionally, approaching an ocular aesthetic, it is important to establish where that aim sits within contemporary and historic photographic practice.

As noted in the introductory chapter, whilst there have been entire painting traditions such as the cubists and impressionists that question the 'correctness' of conscious visual perception (Hughes, 1979), there are few examples of photographers who make that their central aim. Whilst Surrealist photographers such as Man Ray and Laszlo Moholy-Nagy questioned reality through their practice, those investigations were embedded in the thinking of the Surrealist movement and therefore centred on the mind's role in perception and not the role of the body's facticity in mediating those perceptions (Warren, 2005). If there are not many examples of historical practice, besides those of Emerson and the naturalists, that aimed to emulate ocular vision, then one way of contextualising this aesthetic is to compare it to contemporary practice.

Figure 9: Peter Henry Emerson, (1886), *Coming home from the marshes*, platinum print, 20 x 29.1 cm.

Much contemporary photography, particularly that considered fine-art landscape photography, is characterised by minimalist compositions of man-altered landscapes recorded with the highest fidelity possible (Warren, 2005). This contemporary trend is widely cited as originating from two northern hemisphere sources: in the United States from the 1975 *New Topographics* exhibition and, in Europe, from the Dusseldorf School of Art (Giblett & Tolonen, 2012). The New Topographers (as I will refer to them) were united by an objective stance that attempted to strip the photographer's emotion from the referent. Their motivation, according to Tolonen,

(Giblett & Tolonen, 2012) was “to promote the suspension of judgement” (p. 167). He also discusses the aesthetic as “‘neither celebration or condemnation of the subject” and it produces images that are “Detached, unlaboured, simply states ‘here I am’, no urgency to judge, neutral” (p. 162).

The Dusseldorf School of Art promotes a similar ‘objectivity’ as two photographers, Bernd and Hilla Becher, exhibited in the *New Topographics* exhibition and also founded the photography course at the Dusseldorf School of Art (Gronert, 2009).

Figure 10: Bernd and Hilla Becher, (1974), *Preparation Plant, Harry E. Colliery Coal Breaker, Wilkes Barre, Pennsylvania*, photograph. (Exception to copyright. Section: ss40, 103C. Exception: Research or study).

My position is that this trend within contemporary photography has been thoroughly investigated, both aesthetically and conceptually, over the last forty years, and subsequently there is an opportunity to leverage this research against the discourse it has created. This can be regarded as partially influencing the impetus and direction of this research: to depart from forensically representing cultured landscape meeting the cultured self, and to move towards an indeterminate space where the physical world meets the unknown physical self.

This aim is partially in line with the zeitgeist within contemporary photography characterised by technologically 'looking' backwards in order to produce something new. To illustrate this trend, I refer to two examples of contemporary Australian photography, produced towards the end of this research, that demonstrate a growing trend towards both experimental, chemical-based photographic processes (Figure 11) and the use of natural subject matter such as entropic flora (Figure 12). The first is a group exhibition title, *The Alchemists*, held at the Australian Centre for Photography in October 2015, which included several works from *New Australian Plants and Animals*. This exhibition was characterised by works moving away from digital technology to explore analogue processes in novel ways. The second exhibition is the 2015 Bowness Photography Prize, one of Australia's most recognised contemporary photography prizes, where many of the finalists produced work comprised mostly of natural elements, omitting any evidence of man altered landscapes.

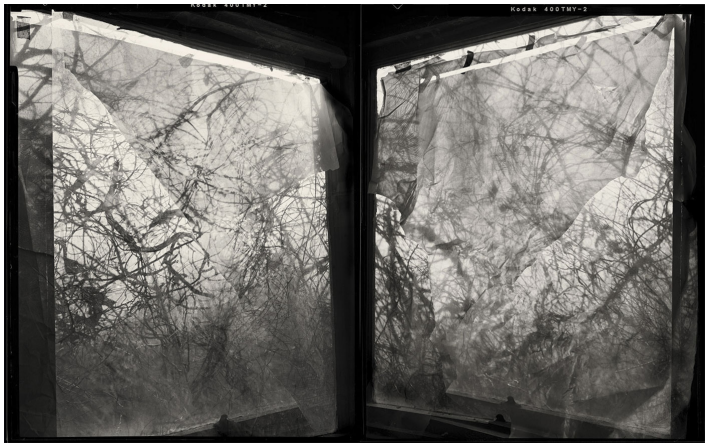


Figure 11: Sarah Mosca, (2014), *Untitled Walk #2 (vague silence)*, pigment print, 110 x 90 cm. (Exception to copyright. Section: ss40, 103C. Exception: Research or study).
Figure 12: Robert Ashton, (2015), *Opening*, Pigment ink-jet print, 60.0 x 95.0 cm. (Exception to copyright. Section: ss40, 103C. Exception: Research or study).

This trend is similar to the photographs produced through this research that contrast the objective aesthetic of the New Topographers and the alumni of the Dusseldorf School (Figure 13). It could be argued that there is a certain level of subjectivity attached to this zeitgeist photography through initial contrast to objective trends. In the context of this research, this assertion is supported by the photographs being reminiscent of late-nineteenth century photographic naturalism. Ironically, however, through the lens of phenomenology it could be seen differently.

Figure 13: Andreas Gursky, (1999), *Rhein II*, C-print mounted to acrylic glass, 190 x 360 cm. (Exception to copyright. Section: ss40, 103C. Exception: Research or study).

In order to gain a phenomenological level of 'base' knowledge, something similar to Husserl's (1931/2012) apodictic data, Merleau-Ponty (1945/2013) argues for the need to 'return' to and achieve 'direct and primitive' contact with the indeterminate qualities of the noumenal world through experience. This base data, as discussed in Chapter Two, has to have the 'natural attitude' of the observer parenthesized out of the experience. In the case of ocular-based artworks such as the photographs produced in this research, that natural attitude is the mind's role in perception, which is partially bracketed. As such, the works approach base visual data. If the New Topographers are 'objectively' rendering landscapes perceived by the mind, ocular-based artworks are 'objectively' rendering landscapes as perceived by the eye.

The creative component of this research is defined by returning to this fundamental aesthetic through methods largely based on material investigation. When considering the role of materials within this research it is important to highlight how materials both limit and expand the research. The Research Process Manual discusses the role of materials in detail, chronologically introducing discussions based on the methodological implementation of materials throughout the research. However, broadly, the materials employed, such as single-element lenses and large-scale prints unexpectedly directed the photographic portion of this research towards the aesthetic of Bastien-Lepage.

I discern both aesthetic and phenomenological correlations between Bastien-Lepage's work and mine that are driven mainly by the materials mentioned above. A comparison of what initially seem to be two very different works, *The potato gatherers* (1879) and *Suzi and Nic* (2011) (Figure 15), reveals aesthetic similarities that can be observed in this exegetical format (small-scale reproductions of large works) (Figure 8 and 16), and ones that cannot.

Figure 14: Jules Bastien-LePage, (1878), *The potato gatherers* (detail), Oil on canvas. 180cm x 196cm.

Figure 15: Mike Gray (2014a), *Suzi and Nic* (detail), archival inkjet print, 140cm x 110cm.

Aesthetic observations that can be presented in an exegetical format (small-scale reproductions of images) are the varied levels of visual acuity throughout an image; random patches of high detail. There are areas of high fidelity and areas that give way to a more fluid, broad detail. I align these qualities with Bastien-Lepage's probable use of photographic technology and the devolved photographic lens technology I employ in this research discussed previously. Returning to the beginning of this section, I argue the phenomenological sense of depth in ocular-based artwork apparently increases when the work is viewed on a large scale and cannot be fully realised in small-scale reproductions.

In this regard, the material properties of single-element lenses and large-scale two-dimensional works have partially realised an *unfulfilled relation* (Carter, 2010)

between preconscious visual phenomena, aspects of late nineteenth-century painting and the photographic portion of this research. To highlight the significance of this, however, there needs to be detailed analysis of the photographic outputs of this research.

In the following section, I begin this analysis by discussing the intersection of the photographic materials employed and the phenomena of pre-conscious visual experience being accessed through the photographs. This discussion then elucidates how the conceptual concerns outlined in Chapter Two can be interpreted through viewing the photographs.

Photographs

Suzi and Nic (Gray, 2014a) (Figure 16) manifests much of what is important in the photographic portion of this research. In this image, it is possible to link the subject matter with the material and conceptual concerns previously discussed. Produced relatively early in the research, it is also the image that provided the impetus to use this emerging experimental process as the basis of an artistic series. The process leading up to this image being produced is detailed in the Research Process Manual.

Taken in a suburban backyard, *Suzi and Nic* (Gray, 2014a) (Figure 16) was the first successful photographic image produced for *New Australian Plants and Animals*. The content and aesthetic isolate important elements; the suburban backyard is rendered 'wild', and in this state, a sense of entropy intersects the reflective tone of the subjects' faces in engaging ways. Working on a different level, the vaguely nineteenth-century photographic aesthetic invokes early photographic scientific studies of fauna depicted in their natural range. In the one picture there is a sense of colonial, quasi-scientific objectivity intersecting with a personal subjectivity located in the present. Viewed as a large-scale print, there is also an observable sense of depth.

Technically, this image is unusually sharp and highly detailed in certain areas. The sharp detail of the plant material, in conjunction with the high-fidelity recording surface and single-element lens borrowed from a pair of reading glasses, produced something novel. Far different from a conventional photograph, an incredibly sharp 'arc of focus' was revealed where the detail in the sharp areas was comparable to

high-end digital cameras[5]. The detailed areas are countered by the more blurred and abstracted information towards the edge.

Figure 16: Mike Gray, (2014a), *Suzi and Nic*, archival inkjet print, 140cm x 110cm.

From this image, I determined the importance of plants as subject matter within the research and the subsequent locations I selected were based on how well the flora present aided my emerging technical and conceptual concerns. This led to the floral component serving many functions in future work; its fine detail helped to promote the novel, ocular aesthetic by providing context for the 'arc of focus' to be recorded and secondly, it was sympathetic to the concept of *colonisation-in- reverse* (Tacey, 2009) as entropic forces are manifestly more evident in plants than people. This photograph, therefore, marked the foundations of the intersection of material processes (devolved photography), the subject (plants and partially naturalised migrants) and conceptual concerns (indeterminate vision and colonial disquiet) to develop.

[5] During this research experiments were conducted comparing the detail of a professional 50MB medium format digital camera to the one used in this research.

By narrowing the subject matter of the photographs to flora and introduced Australians, a metaphoric link was formed with Buswell's (2011) study on the rapid evolution of introduced plants within Australia. The significance of that article was its alignment of an indeterminate sense of postcolonial disquiet with the inexplicable, rapid evolution displayed by certain introduced plants. In both cases, continental Australia was potentially exerting itself on introduced species in ways that were beyond measurement or observation. Therefore, photographing plants and partially naturalised Australians together metaphorically aligned unknown entropic forces with a perceived liminal position on the migrant-indigenous axis.

Initially, the research proposed to re-present non-indigenous Australians of multiple generations within settings of introduced and native flora, using primitive photographic technology with the aim of poetically locating the subject's position and experience on the migrant-indigenous axis. This was a point of departure, later refined conceptually as the indeterminacy of a colonial experience aligned with the indeterminacy of vision. In this chapter, I discuss several material and conceptual outcomes that occurred unexpectedly during the research, which served to raise the 'unknown' eye over that of the experience of the partially naturalised migrant in importance.

One way to articulate how the indeterminacy of vision became the prominent theme of the research is to discuss how the photographs presented as a group in an exhibition context. Denotatively, when viewers of the photographic work within *New Australian Plants and Animals* experience the images for the first time, they are presented with large-scale, black-and-white inkjet prints up to one and a half meters on the longest side. Generally, the subject matter of every image comprises flora and/or partially naturalised Australians. The image area is filled with the fine, entropic detail that plants provide; this allows the viewer to quickly establish that most of the images are extremely sharp in the centre and become gradually soft and blurry towards the edge.

The aesthetic created is due to the combination of three photographic materials: the primitive single-element lens borrowed from a pair of reading glasses (Figure 17), the large format high fidelity (40cm x 50cm) paper negatives; and large-scale inkjet matte prints up to 140cm x 110cm.

Figure 17: *MKII camera and lens*. Photographer Mike Gray.

Connotatively, the photographs produce an uncanny (Freud, 1919/1957) sensation, both settling and unsettling. The aesthetic seems familiar; however, it is unlike the flat field of focus that visual perception provides. Not established so quickly is the slight three-dimensional effect the images display at this scale, which becomes apparent over time as the images begin to display varying degrees of depth.

In regards to the photographic aesthetic, Foster (2014) says:

> The photographs give the appearance of actual depth: a three-dimensional quality without stereoscopy. Arising directly from the artist's experimentation, this is a highly innovative effect that may indeed be a new discovery. A discovery arising, ironically, from an attempt to simplify sight; to deconstruct its processes and draw the moment of seeing out from behind the veil of perception. (para. 7)

I cannot conclusively claim this three-dimensional effect is novel given the depth and breadth of photographic practice since photography's inception; however, some arguments, discussed next, suggest it either possibly is, or alternatively, is a further pronounced effect in line with the practice of naturalist photographers such as Emerson.

As discussed in Chapter Two, when photography's aesthetic was first established, lens technology was far more advanced than the silver halide recording media, and the combination of lens and recording technology produced the flat field of focus we are accustomed to from photographs (Kingslake, 1989). By the late-nineteenth century, high-fidelity lenses were commercially available that resulted in photographers such as Emerson needing to identify the less advanced lenses that still featured a slight softening towards the edges due to 'field curvature'. As I argue

later, if Emerson were to have approached the aesthetic of the eye further, he would have needed the material combination of single element lenses and large-scale prints.

Figure 18. Mike Gray *(2014o)*, *Unknown*, archival inkjet print, 140cm x 110cm

Investigating the history of lens design, I have not found a commercial single-element lens produced (Kingslake, 1989) except for the very limited Wollaston lens, from 1812, initially designed for cameras obscura. As pointed out in Chapter Two, the Wollaston lens can be discounted as it only produces a slight, three-dimensional aesthetic, and was employed in the initial stages of photography for a brief period when recording media were incapable of capturing the detail needed for this aesthetic effect. Also, as it used a small aperture some distance from the element, the effect would have been diminished as its small apertures placed at a distance reduce the lens aberrations that promote field curvature.

As this effect only became apparent to me after enlarging an image (Figure 18) to over one metre in length, another argument that supports its novelty, or its continuation of the naturalist aesthetic, is the only recent ability of photographers to

produce large-scale images easily and affordably through digital technology. Therefore, for this effect to have been realised by photographers such as Emerson, prior to large format digital technology, they would have had to have access to large-scale analogue print output. This is something I have not been able to establish, as a comprehensive history either of large, horizontal-analogue enlarger technology or large-format analogue media is not available.

I cannot conclusively explain why this aesthetic is apparent; however. I believe it is due to the camera's 'arc of focus' being the reverse of the eye's 'arc of focus'. In both instances the information towards the edge of the frame decreases in fidelity (Figure 19).

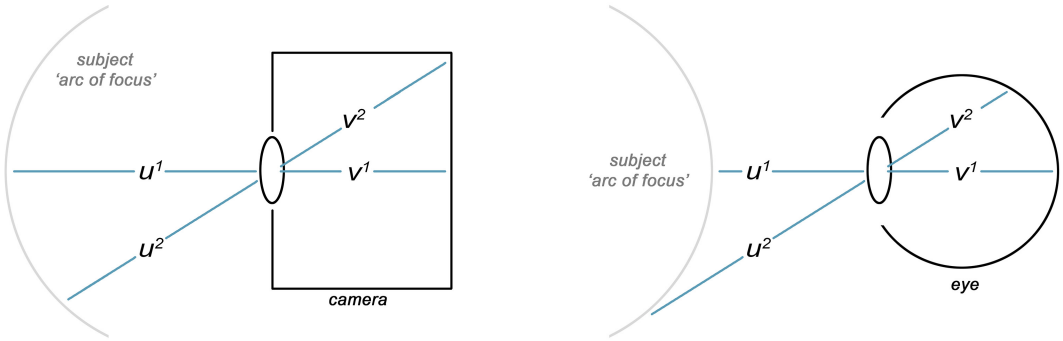


Figure 19: *Camera and ocular 'arc of focus'*. Graphic by Mike Gray

Whilst some of the edge blurriness in the photographs can be attributed to the lens aberrations produced by a single-element lens, it is also due to the subject matter not matching the camera's 'arc of focus'. When the subject does match the camera's 'arc of focus' however, there is significantly more detail towards the edge (Figure 20). In Figure 20 there is an arc of foliage that moves from being roughly three metres away toward the edge and five metres away in the centre and thereby matches the 'arc of focus' produced by the camera.

Hypothetically, when viewing this scene in reality, the human eye would pre-consciously register sharp detail throughout a reverse 'arc' to this. However, as discussed in Chapter Two, this arc is replaced by a flat field of focus by the brain and therefore, the initial arc would only be recorded pre-consciously. Being presented with sharp detail in a counter-arc is what possibly promotes a sense of depth; however, this is the subject matter for longitudinal research.

As pointed out previously, a feature of the photographs that helps to register an arc is the entropic flora depicted within the scene. Having the frame filled with fine, irregular detail provides a field for varying levels of visual acuity to be promoted. In this light, the role of flora is technical; later in this chapter I discuss the conceptual role of plants within the research.

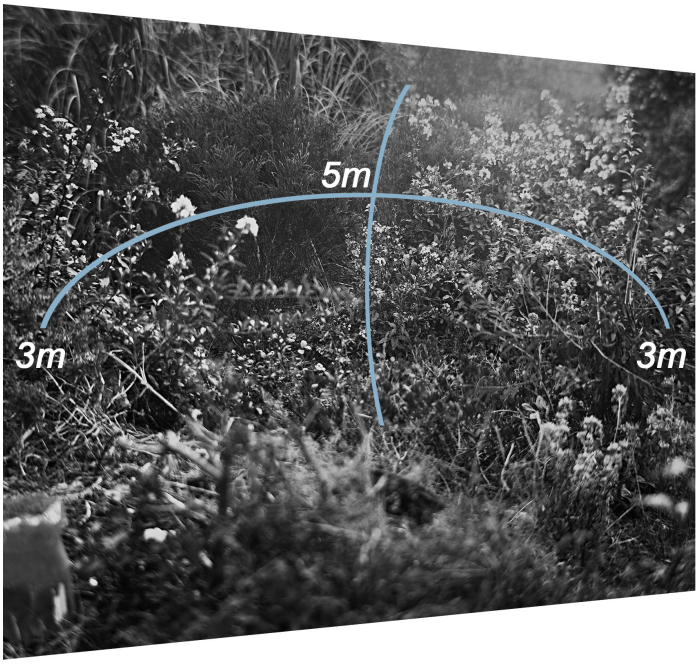


Figure 20: *Arc of focus example*. Graphic by Mike Gray based on:
Mike Gray (2014k), Queens Crescent 03, archival inkjet print, 140cm x 110cm

Returning to the idea that preconscious visual experience is manifested in the images links to the theoretical concerns already raised. As discussed in Chapter Two, an adjunct hypothesis to the sense of depth experienced when viewing the photographs is that they also go someway to re-presenting preconscious ocular vision. There is a flicker of recognition as the aesthetic that is unconsciously projected onto the retina in real life is re-presented within an artwork. An approximation of the fundamental, yet unknown, aesthetic that we record unconsciously on the rear of the eye is made available once again. This idea is akin to Benjamin's *optical unconscious* (1931/2005) where preconscious visual experience affects the viewing of a photograph. As explained in the previous chapter, Benjamin theorised that photography had the power to re-present the detail of frozen moments in a way the mind can only unconsciously record. It is my assertion that an aesthetic déjà vu emerges when viewing photographs produced by this process, and as such, differs from Benjamin's increased detail or frozen moments. An aesthetic derived from the physiology of the eye, camouflaged by the mind's role in perception,

is revealed. On one level, when viewing an ocular aesthetic-based artwork, the aesthetic is not registered as being immediately strange, raising the possibility that you have seen it before, however, unable you are to remember how, when or where.

I regard this experience of pre-conscious phenomena as both strange and intimate, where the indeterminate origins are not revealed. This experience, within the context of this research, is not limited to the photographs as the ocular-based sculptural works and installations also aim to parenthesise the mind's role in perception. Therefore I will leave further discussions that link Carter's (2010) idea of *unfulfilled relations* with Merleau-Ponty's (1945/2013) *perceptual absence* to the introduction of those works later in this chapter.

So far, I have discussed certain technical properties connected to the process, in terms of scale and optics, related to the experience of depth within visual phenomena; however, there are other material photographic properties that relate to the context of the research: the partially naturalised migrant within the Australian landscape.

Manifest in the people photographed is an important quality that is due to the comparatively long exposures needed for this photographic process. Holding completely still for up to four minutes usually means the subject seems to "go somewhere else in their mind," as compared to a performance-based photographic snapshot. Besides distinguishing itself from current 'selfie' trends, the practice of long exposure is sympathetic to the concept of *colonisation-in-reverse*, (Tacey, 1995) I have discussed in Chapter Two, for two reasons; the meditative state produces a reflective look; secondly, humans usually find it harder than plants to stay still for the long exposures.

Tacey's conception of *colonisation-in-reverse* is where the colonised land affects the coloniser in ways that initially sit outside the coloniser's consciousness. Expanding on this, I find the contemplative characteristics of the subjects promotes a sense of questioning the colonised landscape and, when considering the idea of immeasurable effects of continental Australia on introduced species, the human subjects record a physical change over time when photographed. Anecdotally, that change is not consciously perceived by the subject during the exposure; however, it is recorded by the camera as a blur (Figure 22). This ties into one general

observation I made throughout this research; a high proportion of subjects insisted (incorrectly) that they could stay still for up to four minutes without the aid of a brace.

If the subjects were braced completely during the exposure (Figure 21) they were more likely to look as if they are in a state of paralysis, shock, or even dead; in these images, the close relationship to the colonised land speaks of geographical psychopathologies and the trope of continental Australia as the 'badlands' (Gibson, as cited in Giblett & Tolonen, 2012) that subsume the colonial subject, as discussed in Chapter Two.

Figure 21: Mike Gray, *(2014g)*, *Jen*, archival inkjet print, 100cm x 80cm
Figure 22: Mike Gray, *(2014b)*, *Alex*, archival inkjet print, 140cm x 110cm

In earlier works I often had the subjects braced against solid objects within the scene to avoid recording movement. However, I departed from this technique and intentionally posed subjects so they were only partially braced to evoke the entropic effects of the landscape on the human subject. Towards the end of the production phase of the research, this was exploited further by having the subjects placed in increasingly difficult poses that reduced their chance of holding all of their body still during the exposure. One image that represents this well is a self-portrait, *Mike* (2014) (Figure 23) (deliberately exhibited upside down). The exposure for this image was approximately ninety seconds long. My head and arms were braced for the exposure and recorded sharply, in contrast to my legs, which display the motion blur. Shot in low wind, the plants are recorded without movement and provide sharp detail for comparison.

Figure 23: Mike Gray, *(2014h)*, *Mike*, archival inkjet print, 140cm x 110cm

A third approach to photographing human subjects was to deliberately place them too close to the camera, rendering them out of focus, and thus concealing their movements during exposure (Figure 24). Not being able to get a 'fix' on their details signifies that their identity is either not fully formed, in a transitional state, or alternatively, cannot be defined simultaneously with the landscape.

The approaches mentioned above were made possible by changing the focal length of the camera from 90cm to 70cm and changing the focal distance from 270cm to five meters away. A shorter focal length had the added benefit of capturing a greater

amount of ‘context’. Whilst the wider angle of view allowed for the exploration of differing relationships between the subject and the flora discussed above, it also allowed for wider landscapes to be produced.

Figure 24: Mike Gray, *(2014d)*, *Dave*, archival inkjet print, 140cm x 110cm

Landscape images such as *Vine* (Mike Gray, 2014q) (Figure 25), exemplify the aesthetic qualities of photographing with a wider angle of view. These qualities, expressed in Figure 25, include a larger amount of chaotic foliage, a slight ‘wall’ of foliage in the background that enabled a composition without the sky present, and a central feature located within an ‘arc of focus’. In this image there is sharp detail on both sides of the frame at roughly two meters distance that continues towards the centre of the frame on a curved trajectory, leading your eye into the central feature of overgrown vine, which is five meters away.

So far, I have discussed the work in terms of the aesthetic and the subject matter, leaving the third approach to interpreting the photographs: a combination of those two concerns. Together, the aesthetic sensibility and subject matter present something akin to a nineteenth-century, quasi-scientific flora and fauna study of the

kind associated with Australian colonialism. This juxtaposes the subject matter, as Alasdair Foster (2014) points out:

> The figurative works also hover between a sense of the past and the present. The people, for the most part, seem to be of the modern world, but they are portrayed in a scene and with a tonal quality that is redolent of nineteenth-century photographic processes. (para. 6)

Figure 25: Mike Gray *(2014q)*, *Vine*, archival inkjet print, 140cm x 110cm

This juxtaposition highlights the irony that the title of the series, *New Australian Plants and Animals,* suggests; the target of the study is not the colonised but the colonisers. This aligns with the phenomenological approach of inwardly studying experience, not outwardly studying objects. Here the link between indeterminate visual phenomena and the indeterminate nature of the coloniser's experience is made.

In this regard, within the research the aesthetic serves two purposes; it acts as metaphor that addresses aspects of colonisation from the experience of the coloniser; secondly, as discussed previously, it re-presents a preconscious ocular

aesthetic. Leveraging the nineteenth-century aesthetic further, many of the photographs pastiche botanical and anthropological styles from that period specific to nineteenth-century colonial Australia. As stated in Chapter Two, it is important to acknowledge that referencing the noble savage aesthetic could be interpreted as contentious; however, it is not my intention to use it in any way that diminishes the colonising experience of indigenous people nor tries to re-interpret their story. My motivation is to employ the artistic metaphor of colonial 'quasi-scientific' study in my practice to invert the narrative of colonisation from one that studies the colonised to one that studies the coloniser and not vice-versa.

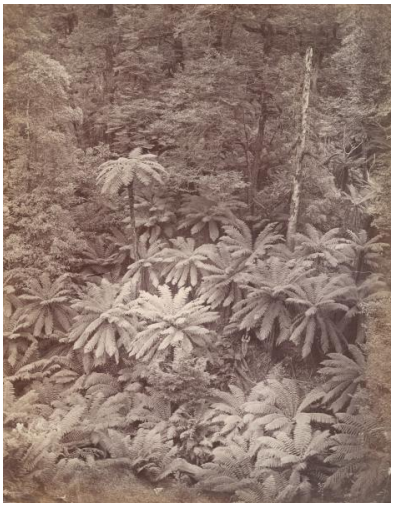


Figure 26: Nicholas Caire, (1878), *Fairy scene at the Landslip, Blacks' Spur*, albumen silver photograph, 28.2 × 22.4 cm.

Figure 27: John William Lindt, (circa 1872), *Seated man holding a fishing net*, albumen silver photograph, 15 x 20 cm.

Figure 28: Mike Gray, (2014c), *Dan*, archival inkjet print, 140cm x 110cm.

Figure 29: Mike Gray, (2014l), *Queens Crescent 05*, archival inkjet print, 140cm x 110cm.

The title of the series, *New Australian Plants and Animals*, evokes a fictitious textbook title published in a previous era of Australian colonisation. Just as the devolved photographic process employed points towards a fictitious time in photography's history where lens technology was less sophisticated than recording media, the title points to a fictitious time in Australia's colonising history where the coloniser was treated as the subject of ethnographic investigation, rather than its agent.

Figure 30: Mike Gray, (2014a) *Sawn-off camera and Aborscopic study* (detail). Photograph by Mike Gray

To aid this metaphor, another photographic process was developed during the research using devolved photographic technology to produce images. The camera, entitled Sawn-off Camera (Mike Gray, 2014) (Figure 30), was based on an Agfa folding medium-format camera with the lens replaced by the single-element lens from a sawn-off gun scope. The resulting lens coverage area was limited by narrowed gun-scope housing and subsequently produced circular images (Figure 30). Several images produced by this camera were grouped together to produce the work Aborscopic study (Mike Gray, 2014) (Figure 31). The images were presented as a line of circular images to invoke a sense of isolated targets, 'shot' by the camera.

This use of metaphor and irony is contingent on the idea that colonisation was partially made possible through optical technology; as Giblett (2012) argues, "photography is a 'line of sight' instrument, similar to a gun, it eliminates distance by elevating the eye over other senses…'sighted' instruments can be seen as a group of 'colonial' technologies such as the sextant and telescope" (p. 42).

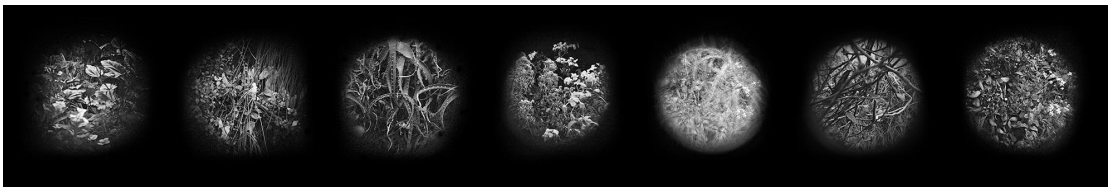


Figure 31: Mike Gray, (2014a), *Aborscopic study*, archival inkjet prints, 110cm x 25cm

Previously I discussed the role of plants as providing a field of entropic detail for a sense of depth to manifest; conceptually, the success of the photographs produced in this research relies, in part, on flora. Plants are employed as subject matter to promote a sense of 'wildness' which is sympathetic certain concepts behind the work. Many species of the flora depicted are either uncultivated or once cultivated has beginning to revert to an uncultivated state. In both, cases the flora serve as a 'wild' metaphor that I link to the idea of colonisation-in-reverse (Tacey, 1995) previously discussed. To articulate further how the flora operates within the research, a comparison to historic environmental-based portraiture can be drawn.

Figure 32: Thomas Gainsborough, (1750), *Mr and Mrs Andrews*, oil on canvas, 69.08 cm × 119.04 cm.
Figure 33: Jules Bastien-Lepage, (1877), *Haymaking*, oil on canvas, 160 cm x 195 cm.

Figure 34: Frederick McCubbin, (1889), *Down on His Luck*, oil on canvas, 114.5 cm × 152.8 cm.
Figure 35*:* Carol Jerrems, (1975), Vale St, *gelatin silver photograph*, 20.1 x 30.4 cm. (Exception to copyright. Section: ss40, 103C. Exception: Research or study.)

The depiction of people and the land within Western art traditions provides some insight into how perceived social standing changes the relationship individuals have with the land and its state of cultivation. This is possible because of the democratisation of subject matter for artists changed in the nineteenth century from wealthy patrons to people who could not usually afford to commission work (Lakoff & Johnson, 2008).

Within artistic traditions, differences of class, circumstance and technology intersect nature within different states of cultivation. For example, in Gainsborough (Figure 32) and Bastien-Lepage's work (Figure 33) nature is in a state of cultivation, manipulated by 'culture'. European pastoral agriculture is categorised as 'second nature' where a culture 'works over' nature to grow crops (Giblett, 2011). In Gainsborough's painting there is a relationship of ownership of and detachment from the land, inverted in Bastien-Lepage's, where the attachment to the land is derived from not owning it but having to 'cultivate' it.

It is 'first nature' (Giblett, 2012) that McCubbin (1889) represents his painting, *Down on his luck* (Figure 34). In this regard, 'first nature' is where cultures work with nature, not over nature, to provide sustenance, much as indigenous Australians cultivated the land through firestick farming and other practices. In Jerrem's (1975) *Vale Street* (Figure 35) the flora depicted were cultivated for a suburban ornamental garden but have been presented out of that context and therefore take on a symbolic role. Unlike the European examples of Gainsborough and Bastien-Lepage, both the Australian images seem to deviate from the class system and have more emphasis on nature, inferring 'wild' rather than 'culture'. It is in this light that I metaphorically employ floral subject matter, invoking a 'wild', entropic phenomenon that in this context is particular to a colonised land yet to be substantially cultivated by Europeans

An Australian non-indigenous artist who explores the nature/culture axis in relation to postcolonial issues is Fiona Hall. Similar to this research's reliance on consumer materials and floral subject matter, Hall's re-worked sardine cans conflate ideas of colonialism and consumerism whilst examining the identity of partially naturalised migrants through a metaphorical association with natural elements. Smith (1998) says, "Hall uses the juxtaposition of the human body and native flora to imply a collision between Culture and Nature" (para. 2), and that this series "has historical referents in examples of colonial decorative arts…[that] situate… Hall's virtuoso suite of sardine cans squarely within the discourses of postcolonialism" (para. 6). Hall's

work, it could be argued, is not dissimilar to Jerrems' *Vale St* (1975) as it relies on flora to invoke a sense of the 'wild' within non-indigenous Australian culture.

Figure 36: Fiona Hall, (1989-90), *Paradisus Terestris*, aluminium & tin, 25cm × 12cm × 3cm
(Exception to copyright. Section: ss40, 103C. Exception: Research or study.)

In this chapter, I have described the aesthetic, conceptual and material concerns related to the photographic portion of this research. In the following section, I introduce the sculptural, interactive and video installations produced by this research. As there is considerable overlap between those works and what I have already covered, I have left important discussions regarding the intersection of materials, phenomenology and the creative output of this research until those works have been introduced.

As a way of contextualising the sculptural, interactive and video installations produced by this research, I will briefly discuss the work of Danish / Greenlandic artist Pia Arke. Arke's practice is signified materially by lens technology and conceptually by a concern with geographical psychopathologies within the context of a colonising experience.

PART TWO / three dimensions

Ocular obscura works and installations

In this section I describe the sculptural installations and devices created as part of *New Australian Plants and Animals*. To assist in this aim I introduce a number of case studies related to immersive, ocular-based investigations and artworks. Guiding the selection of these case studies is their relationship to the conceptual concerns of this research, namely, the representation of geographical psychopathologies and artworks centred on phenomenological reductions.

For the purposes of this exegesis, I refer to the sphere-based sculptures and installations created as *ocular obscura works* rather than the names given to individual pieces. Looking much like a camera obscura from the outside because of the simple lens mounted to a housing, the crucial difference is a translucent sphere housed inside that captures the image (Figure 37). Instead of the image being projected onto a flat rear plane, the image captured inside the sphere is viewed from behind.

Figure 37: Mike Gray, (2014j), *Phenomoflex MKII*, wood, glass, and steel, 40cm x 40cm x 40cm. Photographer Mike Gray.

Pieces based on similar principles to the ocular obscura works are also introduced in this section. These artworks are distinguished materially, as the solid translucent spheres are replaced by plastic bags that are designed to inflate and deflate, thereby changing focus.

All of these works aim to approximate a primary yet unknown, aesthetic phenomenon. In this regard, a further pronounced phenomenological reduction occurs with the ocular obscura works as the viewer of the artworks looks out at a scene at the same time as witnessing an approximation of the rear of the human eye. He or she looks outwards and inwards simultaneously. In viewing these works, the role of the mind in perception is partially parenthesised. A video installation also aims to isolate ocular vision by parenthesising the role of the saccadic eye movements that interrupt perception.

There is a significant overlap between these works and the phenomenological methods I rely on in this research. As covered in Chapter Two, this research relies on appropriating and materialising Husserl's (1931/2012) phenomenological method of 'bracketing', embodying it physically into works of art that aim to approach Merleau-Ponty's (1945/2013) concept of *indeterminate vision*.

The relationship between phenomenology and arts practice has an established history, with varying methods employed by artists to perform what could generally be described as phenomenological reductions (Husserl, 1931/2012). In many texts, Merleau-Ponty (1964, 1968) discusses artistic phenomenological reductions that can be characterised as embodied processes. A broad example of this is Impressionist painters who reduced, and translated, phenomena derived from sensory experience to a single scene onto a canvas. The process is characterised by the artist experiencing phenomena through a number of senses, and then relying on their body and intuition to translate that experience into an aesthetic work.

This mode of reduction differs from that of the ocular obscura works created through this research; the ocular obscura works operate independently of the artist to automatically reduce any scene to a more fundamental ocular aesthetic. With the ocular obscura works, the role of the artist's intuition and body is partially displaced by the materials used. Later in this chapter, after introducing certain case studies, I return to this phenomenon and its significance to the research.

It is necessary to provide context for the ocular obscura work first by introducing historic and contemporary investigations that align ocular vision with camera obscura technology. The examples introduced are drawn from both historic investigations grounded in scientific and philosophic enquiry and contemporary arts practice.

Two notable scientific enquiries into ocular vision were initiated by Christoph Scheiner and Rene Descartes. Both were grounded in the established understanding that the eye behaved like a camera obscura. This was understood as early as the eleventh-century by important figures such as Ibn al-Haytham (Alhazen); however, early researchers did not make the connection that both the camera obscura and the eye inverted the image, something first suggested by Johannes Kepler in the early seventeenth-century (Wade, 2013).

Scheiner, working from Kepler's conception of ocular vision, was the first to demonstrate the inverted image by dissecting the rear of an ox's eye (Wright, 2016). Mounting the eye in an opening of an exterior wall, Scheiner peeled away the rear layers until the eye was thin enough to be translucent. The translucent material captured an inverted image of the outside world, similar to the focussing screen of a medium-large format camera. Descartes refers to Scheiner's experiment in his 1637 treatise on optics entitled *La dioptrique (Descartes, 1637/1988)* and it also appears as the basis of an illustration (Figure 38).

Descartes based his conception of the mind/body duality in part on experiments such as Scheiner's which described the eye performing mechanically like a camera sending "quite perfect" images to the brain (Descartes, 1637/1988). The comparison between the eye and the camera has had a long influence, as Wright (2016) points out; the eye/camera analogy that Descartes grounded his views on

> reflected current thinking. In Descartes' scheme of things, the dichotomy of body and soul implied a conceptual separation of mind from eye. It was this mechanistic view of the human condition that underlaid his attraction to the analogy, thus reinforcing the analogy between the eye, as a discrete organ of perception, and the camera. The influence has been long lasting. (p.20)

Descartes relied on camera obscura technology to partially investigate the optics of the eye, in conjunction with anatomical experiments. These investigations subsequently informed scientific and philosophical enquiries that compare the eye to the camera (Descartes & Gaukroger, 1998).

I will now introduce certain contemporary artistic case studies that rely on camera obscura technology to approach their subject matter. The two artists I examine have produced immersive installations that are characterised materially by lens

technology, and conceptually, by concern with geographical psychopathologies within the context of a colonising experience.

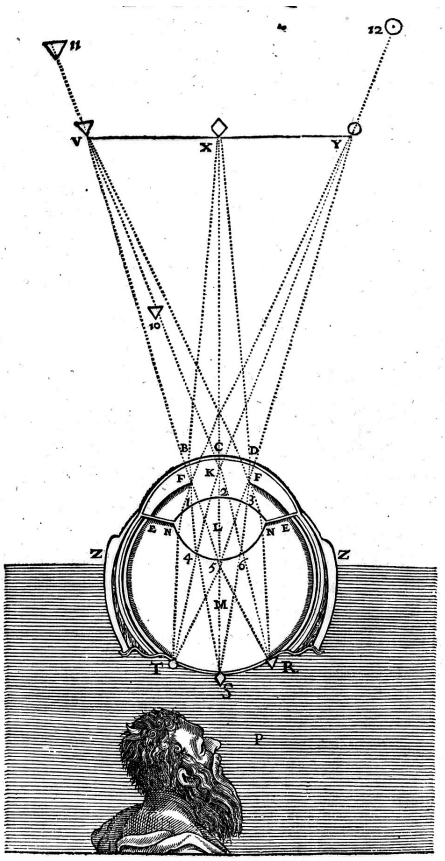


Figure 38: *Scheiner's experiment* (in Descartes *La Dioptrique)*, (Descartes, 1637/1988)

Ian Weir is a Western Australian artist who applied his investigations to landscapes of the southwest of Australia in a series entitled *Lightsite* (2006). Weir constructed a temporary lightproof housing on several remote locations where the landscape was projected onto the interior white walls of the housing via a lens in one wall. Importantly the housing had no base, leaving a section of landscape isolated by the walls. In this space, people with a connection to that place were photographed inside and posed for long exposures on an isolated patch of land with the outside landscape, projected onto them, becoming the light source for the subsequent photograph to be produced (Figure 39).

Weir drew parallels between the immersive properties of the installation and the partially naturalised subjects who lived on the land represented. The simple lens reduced the landscape to more fundamental, sensory phenomena outside the conscious experience of those subjects. In this regard, Weir (2006) says:

> They've spent 50 years in that landscape and then I put them inside the room and suddenly their landscape is revealed to them as pure light rather than memory, rather than a bodily kind of relationship, rather than the landform or how many acres there are. It gets turned into pure light and these guys walk in there and after years and years and years of being there, they just see this totally immaterial version of their landscape. (para. 6)

Figure 39: Ian Weir, (2006), *The Light of Gairdner #2*. media and dimensions unavailable. (Exception to copyright. Section: ss40, 103C. Exception: Research or study.)

Weir's immersive camera obscura is not dissimilar to work by the Danish / Greenlandic artist Pia Arke. Arke's practice is characterised by lens technology, either through conventional photography, film or immersive camera obscura installations (Jonsson, 2013). Arke's work also references geographical psychopathologies grounded in the colonising experience, through which Arke addresses her dislocated indigenous heritage (Mondrup, 2015).

Born to a Greenlandic father and Danish mother, Arke addresses the Danish colonisation of Greenland (Knudsen & Waade, 2010). Raised in Greenland until the age of twelve, Arke, after living in Denmark, returned as an adult to investigate her relationship to a remote part of Greenland, Scoresbysund. Arke's art practice is significant to my research in two ways; firstly, because she examines the cultural

psychology of colonisation and secondly, because she relates that psychology to a physical relationship with a geographic place (Kleivan, 2012).

Figure 40: Pia Arke, (1992) *Self-Portrait*, 30.5 x 25.5 cm
(Exception to copyright. Section: ss40, 103C. Exception: Research or study.)

Arke's pictorial ethnographic surveys of colonialism provide the basis of photographic works that ironically survey the coloniser's psyche (Jonsson, 2013). Arke employs the technology used in colonial surveys to survey the coloniser. This idea is manifest in *Self-Portrait*, 1992 (Figure 40), a double exposure photograph comprising a nude self-portrait superimposed over pinhole camera photograph of Nuugaarsuk Point, Greenland.

Arke appears nude in the photograph as a reference to the condition, 'artic hysteria'. In a colonial context, this is a term given to a condition displayed by certain indigenous Greenlandic women (especially) who, in the view of colonial medical diagnostics, experience a mental breakdown due to the extreme geographical

climate. In this condition, the women were known to undress and expose themselves to the severe cold weather of Greenland. Arke uses this trope to reveal “a mirror image of Western colonialism”, a brutal discourse that diagnosed and treated indigenous people “as belonging to a wild species of nature” (Jonsson, 2013, p. 255).

Arke’s subsequent works take the intersection of landscape, self and technology further by creating an immersive camera obscura. Made from plywood, it had a 165cm x 140cm footprint and was 170 cm high. Instead of a lens, light entered through a 1.43 mm pinhole (Kleivan, 2012). Arke does not appear in all the images created by the camera obscura; instead she is inside the camera obscura, interacting with the light sensitive material during the exposure and developing process; the camera obscura acted as a darkroom as well.

Figure 41: Pia Arke, (1993), *Untitled*, Ortho-lith print, 60 cm x 50 cm
(Exception to copyright. Section: ss40, 103C. Exception: Research or study.)

The image *Untitled* (Arke, 1993) (Figure 41) was created using this process at a place called Nuugaarsuk, close to where Arke spent part of her childhood. In relation to the photographic process, Arke states (as cited in Renner, 2012):

> I wanted to be inside the camera during the exposure, among other reasons to explore some of the concepts I had come across in the Academy, concepts of space, memory and time…I sat inside the camera house and saw the whole landscape of my childhood stood on its head in there, on all sides of the box. The fifteen minutes it takes to expose the picture, and the developing method, mean that you get many flaws' in the finished picture – a kind of structure – so that 25 years that have passed since I lived there were in a way precipitated into the picture. (p. 110)

In this regard, both Weir's *Lightsite* installation and Arke's camera obscura work to address ideas of a personally sensed relationship to the postcolonial landscape, illustrating indeterminate phenomena approached through immersive, lens-based artworks. Examination of geographical psychopathologies may be arrived at through exploring the indeterminacy of the senses using material-based phenomenological reductions.

Reference to Wier's and Arke's practice and the discoveries of Scheiner and Descartes provide the necessary context to contextualise the ocular obscura works created for *New Australian Plants and Animals*. I begin by briefly outlining the material qualities of the works before aligning them with conceptual and creative concerns.

Technically, the spheres employed inside the ocular obscura works range in size from six centimetres to sixty-seven centimetres in diameter. All of these pieces rely on a single-element lens focussing light into a translucent sphere housed in a darkened box. The single-element lenses used have focal lengths that corresponds to the diameter of the sphere. The once clear spheres are either chemically or physically treated to produce a frosted surface that captures the light much like the focussing screen of a medium or large-format camera. To be effective, the sphere must receive less light from behind, the viewing position, than the subject matter it is orientated towards. An analogous example of this is the hood photographers would drape over their heads when focussing early cameras. To achieve this with the ocular obscura works, a variety of solutions were used that ranged from enclosed boxes to walk-in darkrooms with artificial light sources lighting the subject. Whilst all the ocular obscura pieces share these qualities, there are also a number of differences between them, and their presentation, that I shall expand on.

Figure 42: Mike Gray, (2014e), *Double-Barrel Phenomoflex*, wood, glass, and steel, 21cm x 25cm x 12cm. Photographer Mike Gray.

The first ocular obscura work exhibited, *Double-Barrel Phenomoflex* (Gray, 2014) (Figure 42), used two riflescopes that had had their respective mid-sections replaced by glass spheres. A single lens from each scope focussed light into the sphere and a second single-element lens, set behind the sphere, magnified the result for the benefit of the viewer (Figure 43). It was designed to be viewed from behind, much like binoculars where the two spheres converge to create stereoscopic images. The result is the same as looking at the rear of a single-sphere ocular obscura work (Phenomoflex) however there is a slight three-dimensional effect when the left and right spheres merge.

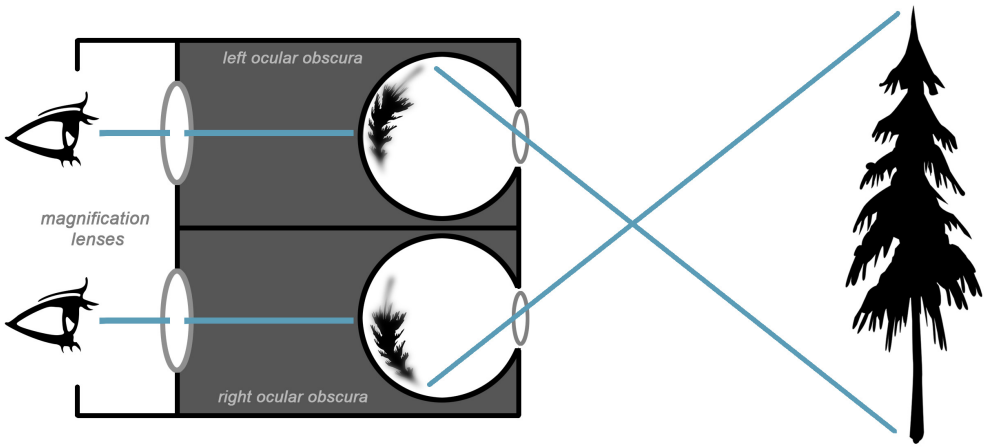


Figure 43: *Double-Barrel Phenomoflex optics*. Graphic by Mike Gray.

The work *Phenomoflex MKII* (Gray, 2014) is based on a single, handcrafted glass sphere twenty-seven centimetres in diameter and housed in a forty centimetre

square box (Figure 37). Whilst it is designed to be portable, it sat on a plinth for exhibition purposes. The construction materials were chosen to invoke the scientific research tools of the nineteenth century. It is comprised of wood, glass, metal and dark purple velvet for a lining that reduces extraneous light reflecting within the box, much like black matte material used in cameras. In this regard it is not dissimilar to the *Double-Barrel Phenomoflex* (Figure 42), which also invokes colonial survey expedition equipment.

The walk-in, interactive ocular obscura *Phenomoflex* (Gray, 2014i) did not initially depend on bright daylight as it was designed to face toward a brightly, artificially lit backdrop commissioned to be painted by Graeme Richards. The backdrop design was based on a painting by John Glover and other elements derived from well-known artists connected to the Heidelberg painters movement of the late nineteenth century were incorporated (Figure 44).

Figure 44: Mike Gray, (2014i), *Phenomoflex detail: backdrop with plants*. Photographer Mike Gray.

John Glover's landscape style is widely cited (Hoorn, 2007; Sayers, 2001) as important in the context of art within colonial Australia, partly because of his apparent inability to render the native flora faithfully. Between visually 'seeing' a new environment and interpreting that perception, it is speculated Glover could not translate it into something dissimilar to his existing, northern hemisphere preconception, of how plants looked. Having actual native plants positioned next to the backdrop in the installation illustrated the marked difference between Glover's

curved tree limbs and the more sharp reality of native trees. Later in the section, I discuss the relative success of artists such as Cézanne who provide a counterpoint to Glover's inability to distil the experience of a landscape.

Figure 45: Mike Gray, (2014i), *Phenomoflex test installation*. Photographer Mike Gray.

The use of a painted backdrop based on Glover connected this work to two underlying concepts; the human inability to visually perceive anything correctly (Gregory, 1997; Livingstone, 2002; Snyder & Allen, 1975) and early colonial Australian photographic studios' use of similar acculturated backdrops to frame the *noble savage* (Maxwell, 2000). Having people interact with the backdrop therefore automatically placed them in that historical analogy.

This work was installed so as to make visitors walk through backdrop and be viewed by others from inside the sphere housing (Figure 45). Being able to view moving subjects transitioning through an ocular 'arc of focus' surpassed the still images' ability to produce that effect with stationary floral subject matter alone. Figure 46 displays what the viewers of the sixty-seven-centimetre diameter acrylic sphere would see from inside the sphere housing. This represents the view from the centre

of the sphere, but viewers were able to move around the sphere to witness the change in focus.

The second installation of *Phenomoflex* was outdoors, with the painted backdrop being replaced by a cityscape (Figure 47). In the context of a public art festival positioned in the middle of Perth's cultural precinct, the work had a much deeper scene than the two-dimensional canvas backdrop to capture. This added depth that, together with brighter ambient light and man-made structures, produced a significantly different result, with larger, more pronounced areas of contrast and sharp detail present.

Figure 46: Mike Gray, (2014i), *Phenomoflex installation detail*. Acrylic sphere, 67cm x 67cm x 67 cm. Photographer Mike Gray.

Subjectively, all of the ocular obscura works present as both unfamiliar and familiar. Anecdotally, many people who viewed the works took some time to register that the image is inverted. It seems that this is not immediately apparent as, on a preconscious level, the image makes sense. As observed already in this chapter, there is a link to Benjamin's (1931/2005) concept of the *optical unconscious* when an aesthetic déjà vu emerges. Hypothetically, the primary registration of data inside the eye is reintroduced to the viewer.

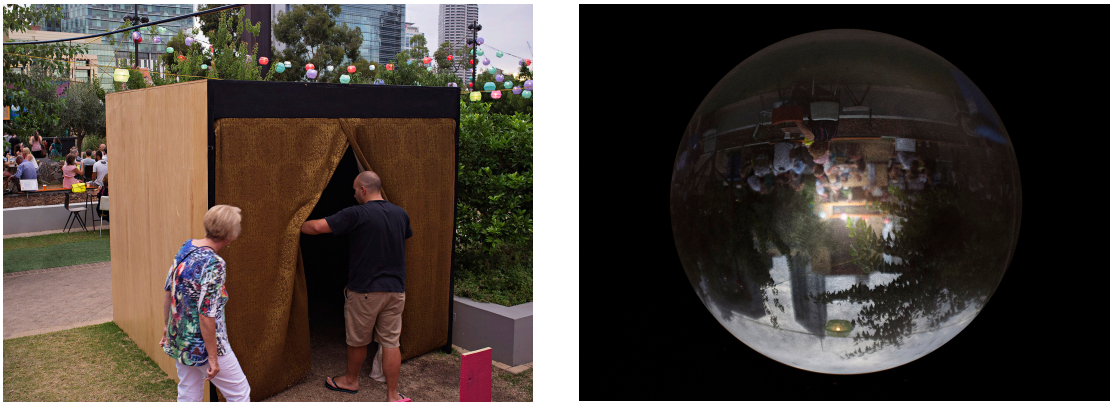


Figure 47: Mike Gray, (2015c), *Phenomoflex installation detail*. Wood, metal and acrylic, 240cm x 240cm x 240cm. Photographer Mike Gray.

Also, as already discussed, the 'arc of focus' particular to the eye is, in this context, re-presented to the viewer. Objects close to the ocular obscura are in focus when centred as opposed to objects that appear on the periphery, the opposite of the camera's 'arc of focus'. As approximated in Figure 48, there can potentially be many patches of in-focus detail, depending on a scene's 'arc of detail'. In this example, the cloud is far away but recorded as 'sharp', similar to the middle of the tree in the centre. This phenomenon is one of the notable aesthetic experiences of viewing a scene similar to this through an ocular obscura, there is sharp detail intersecting soft detail in unexpected areas, far different to conscious perception's flat plane of focus.

With the portable ocular obscura works, the intersection of the scene's 'depth' and the 'arc of focus' can be seen to rapidly change when the works move. Objects hover between high and low levels of detail, depending on where the device is aimed. In this regard, the ocular obscura works automatically reduce any scene to a fundamental ocular aesthetic.

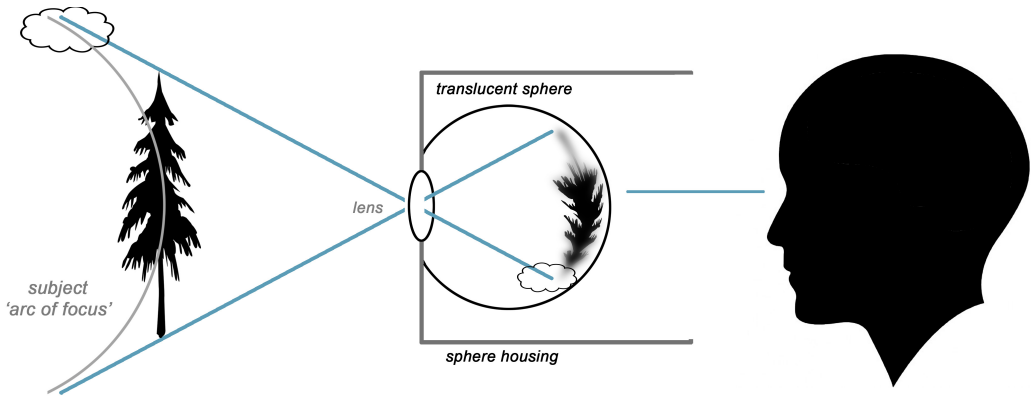


Figure 48: *Ocular Obscura 'arc of focus'*. Graphic by Mike Gray

The titles given to the ocular obscura works are aligned with the idea of an automatic phenomenological reduction. The title *Phenomoflex* draws from both phenomenology and the naming convention employed by certain camera manufacturers. The 'flex' part used in camera names comes from the reflexive mechanical systems employed that prevent the mirror and/or the shutter inside the camera from interfering with the path of the incoming light when the shutter was depressed. I find this process analogous to the phenomenological idea of *bracketing* (Husserl, 1931/2012), as something is removed (or suspended) enabling information (light) to be recorded from an uninterrupted and unmediated path.

The concept of artistic phenomenological reductions is significant to contemporary arts practice, and subsequently, to this research. The main reference point I rely on for this is the work of Merleau-Ponty (1964b, 1945/2013) that directly addresses certain artists' ability to question and subsequently re-present sensory perception. Fundamentally, this conception of artistic phenomenological reduction aims to return to fundamental perceptual qualities through processes similar to the intellectual methods practiced by Merleau-Ponty and Husserl (1931/2012). The point of difference is that the outcomes are translated and recorded through embodied artistic processes, such as painting, and result in artworks rather than texts.

An example that illustrates the parallels Merleau-Ponty (1964) saw between phenomenology and painting is the work of Cézanne and his artistic 'doubt'. Cézanne questioned his artistic ability and process, which aimed to approach the noumenal world through exploring embodied phenomenon. This is a different approach to that of the Impressionists, from whom Cézanne broke away (Hughes, 1979). The Impressionists explored chromatic phenomenon, how colour, separated from the referent, is fleeting and contingent on neighbouring tones. Merleau-Ponty (1964) says of Cézanne, "One must therefore say that Cézanne wished to return to the object without abandoning the Impressionist aesthetic which takes nature for its model" (p. 12).

This quotation points to the central issue driving Cézanne's doubt: how to apprehend reality whilst confining himself to an Impressionist version of that reality. Merleau-Ponty did not share Cézanne's doubt and was able to identify benefits of artistic phenomenological enquiries to processes such as his own that yielded only text-based outcomes. This is summarised by Quin (2009): "Cézanne could express

through colourful brushstrokes what phenomenology could only indirectly attempt to access through philosophical language: pre-reflexive perception" (p 9).

In the context of phenomenological reductions, Merleau-Ponty (1964) says of Cézanne's ability to see beyond geometric perspective and re-present 'lived' perspectives:

> it is Cézanne's genius that when the overall composition of the picture is seen globally, perspective distortions are no longer visible in their own right but rather, contribute, as they do in natural vision, to the impression of an emerging order, of an object in the act of appearing, organizing itself before our eyes. (p. 14)

Conversely, Goodwin (2010) argues that phenomenological text-based works, such as Merleau-Ponty's, produce something purer than artistic reduction, describing artists' tendency to "manipulate, torment and deflagrate being" (p. 285). Deflagration is used here to illustrate how, in the process of reduction, the essence of what is investigated is lost as the artist infuses his or her own technical, material and sensory dispositions into the work. This view, it could be argued, is another way to articulate the source of Cézanne's doubt—not being able to remove himself from the process of representation.

The distinction between text-based and artistic productions collapses in reference to the ocular obscura works produced by this research, which displace the artist's role in the reduction. The immersive qualities of these devices produce something 'other' than Cézanne's embodied process. The ocular obscura works materially embody the reduction process. In this regard, they are similar to many artistic installations that aim to remove the artist from the work and thereby expose the viewer to an unadulterated experience; something that draws their attention to something outside of modern daily experience.

Video installation

Another artefact produced by this research was a video installation designed to both promote an ocular aesthetic and remove saccadic eye movements from the experience of visual phenomena (Gregory, 1997). Similar to the ocular obscura works and photographs that isolate the aesthetic of ocular vision, the video

installation work also aims to parenthesise the hypothetical way saccadic eye movement interrupts the experiencing of visual phenomena.

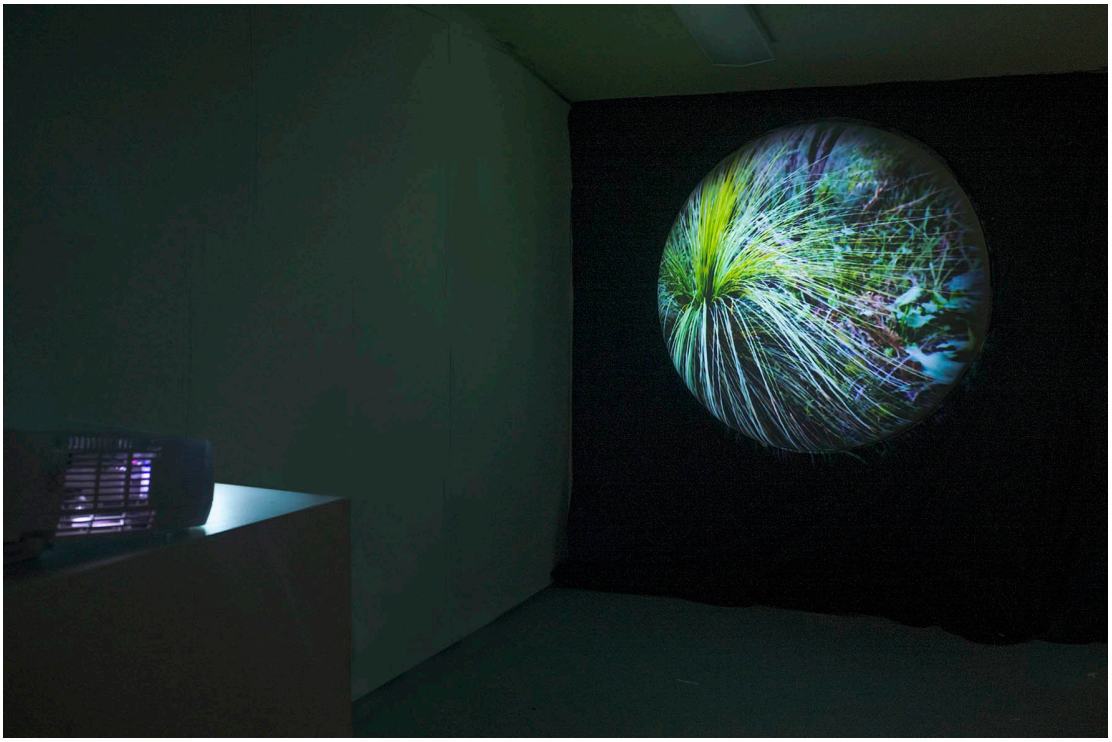


Figure 49: Mike Gray, (2014f), *Forest / Forrest walks*, 150cm fibreglass dome and video projector. Photographer Mike Gray.

As explained in Chapter Two, the eye rapidly scans a scene by unconsciously jumping from point to point and takes a 'snap-shot' each time it stops. By directing the high-fidelity foveal region of the eye towards many parts of the scene, the mind then stitches that information together to produce sharp overall perception. When the eye is in the middle of a saccadic movement, it is no longer collecting new information and the mind fills in the gap with the last 'snap-shot,' making the viewer hypothetically blind to any phenomena that occur during this time (Gregory, 1997).

To materially remove this hypothetical 'blind spot' from experiencing visual information whilst the eye is in transit, the video installation comprises two parts: video captured from the viewpoint of a bushwalker which is projected onto a large hemispherical dome. Enitled *Forest / Forrest Walks* (Gray 2014), the video component was shot whilst walking through the John Forrest National Park in Western Australia and also in various regions in the south–west of the state.

In order to replicate how an individual's eyes may relate to the landscape whilst walking, the camera was braced at head height and no attempt was made to isolate

it from bodily movement. During filming, the camera also changed orientation rapidly to mimic the head movements that someone makes whilst scanning an environment. The overall effect of this was highly detailed erratic footage of foliage. Other footage taken—a static shot of trees moving in a storm—was incorporated in the work for comparison. Together, and similar to the photographs, the high detail of the plant material provided context for the subsequent aesthetic to emerge as the footage was projected onto a dome 150 centimetres in diameter. When viewing the work from a fixed position, there would be no need for the viewer to 'scan' the scene as they would if walking through the landscape themselves. Subsequently, there would be frozen saccadic 'blindspots' when the video simulated the transitioning of perspective through the scene (Figure 49).

By projecting the video onto a hemispherical dome, an artificial 'arc-of-focus' was introduced similar to that hypothetically experienced on the back of the human eye. That aesthetic, combined with the bracketed saccadic 'blindspots', re-introduce the viewer to a hypothetical approximation of the visual phenomena experienced unconsciously whilst moving.

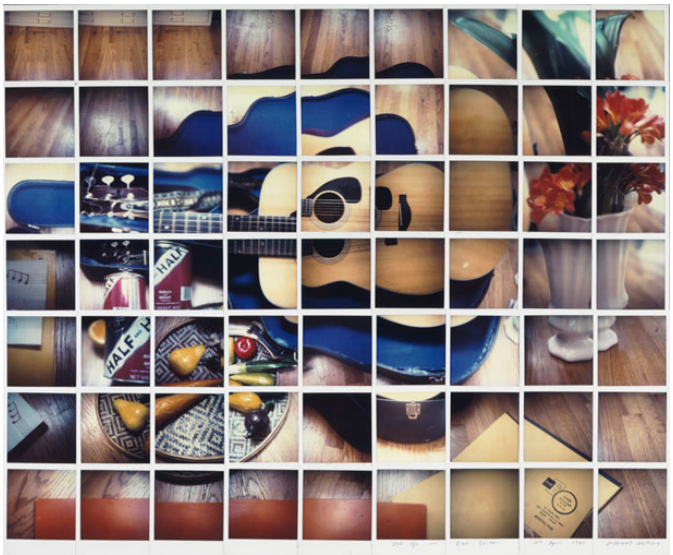


Figure 50: David Hockney (1982), *Still Life Blue Guitar*, 62 x 76 cm, composite Polaroid.
(Exception to copyright. Section: ss40, 103C. Exception: Research or study.)

Other artists, such as David Hockney, have endeavoured to visually re-present the role of saccadic eye movements into their work (Modrak & Anthes, 2011). In Figure 50, Hockney uses a Polaroid to represent the many saccadic 'snap shots' an individual may make whilst observing a scene. In the context of parenthesising saccadic eye movements, his approach is diametrically opposed to *Forest / Forrest*

walks (Mike Gray 2014) as Hockney strives to isolate the 'snap shots' instead of re-introducing the viewer to a hypothetical space between them.

Plastic bag works

Works created later in this research reference modernity as well as the topics already covered. The materials used in the ocular obscura devices are replaced by materials sourced from consumer culture. In these pieces, a translucent plastic bag replaces the glass sphere of the ocular obscura. The other materials employed are cardboard boxes and an advertising display that features a backlit light source.

Figure 51: Mike Gray, (2015b), *Lakeside*, glass, cardboard, plastic, monitor, electric fan, 60cm x 42 cm x 150cm. Photographer Mike Gray

The work *Lakeside* (Figure 51) comprises a cardboard box, single-element lens, plastic bag, video screen, and an automated fan that inflates and deflates the plastic bag to replicate human breathing. The video footage presented on the screen inside the cardboard box was taken from the perspective of someone driving a car through a newly created suburb (Joondalup, Western Australia) and features the new, manmade structures of that suburb and also the native flora that remain in between.

The work is viewed in the reverse way to the ocular obscura works, looking through the lens into a sphere. The plastic bag sphere separates the viewer from the video screen at the rear of the cardboard box. The plastic bag inflates, and in doing so increases the perceived fidelity of the video screen until the plastic is pressed against the screen, revealing a fully formed image. By way of an automated fan, the bag then deflates to begin the cycle again. The large single-element lens the viewer looks through magnifies the effect, immersing the viewer in the scene.

The work entitled *Backyard Bag Study* (Gray, 2015) (Figure 52) is a 'straight' photograph (no digital editing) taken from a similar viewing position to that of the ocular obscura works. The lens is aimed at a domestic backyard garden with the plastic bag fully inflated, where it 'captures' the image much like the translucent glass of the ocular obscura works.

Figure 52: Mike Gray, (2015a), *Backyard Bag Study*, back-lit transparency, 170cm x 107cm

The consumer materials employed in these two works have their own antecedental meaning that ironically intersect with the subject matter. Plastic shopping bags, for instance, are emblematic of cheap, fast-paced, disposable consumer culture, oblivious to the pursuit of indeterminate, phenomenological reductions. In Chapter Two, I aligned the long exposures and prolonged photographic process with the idea of the 'slow movement' (Honore, 2010) that resists the increased pace of modernity. In the same light, the materials used here can be seen to ironically re-present phenomenological concepts that are not traditionally investigated within commercial culture.

In this chapter I have positioned the creative output of this research within a cultural context, articulating how it relates to specific historic and contemporary art practice. Interweaving those considerations are discussions on how the materials employed

link the work to key concepts; for example, single-element lenses draw together: indeterminate vision, phenomenon reductions, nineteenth century painters, immersive installations and a sense of colonial disquiet.

In terms of addressing the *unfulfilled relations* (Carter, 2010) identified within existing practice, the photographic component is positioned against the long-term contemporary trend of photography promoted by the New Topographer aesthetic. In a similar way, the significance of the ocular obscura works is presented as contrasting historic, embodied phenomenological reductions performed by artists such as Cézanne by materially performing that function instead. In the following, concluding chapter, I expand on the significance of these relationships and how they relate to the aims of the project.

CONCLUSION

Outcomes and significance

Introduction

This exegesis traverses the space between the original context of the artistic series *New Australian Plants and Animals* and the concepts that arose from it. From a starting point grounded in post-colonial disquiet, the series transitions from a liminal position based on personal experience towards examining more universally experienced preconscious visual phenomena. The main objective of this project is to unite those two discrete themes by questioning certain indeterminate sensory experiences through artistic, material investigations.

In relation to the research's questions and aims, the outcomes need to be addressed as an integrated whole where the *unfulfilled relations* (Carter, 2010) between the materials employed, the subject matter depicted and the conceptual concerns addressed intersect. In this research, that intersection broadly represents single-element lenses applied photographically and sculpturally to plants and partially naturalised migrants, in order to create artworks that approach indeterminate vision and evoke postcolonial disquiet.

In its interrogation of photographic technology, this research is significant as photography is complicit in falsely maintaining the view that the human eye views the world with a flat, sharp field of focus. By not employing the complex lens design used in most commercially available cameras, this research has questioned how the human eye perceives the world. The uncanny realisation that the human eye in itself does not see has driven the project. In order to create artworks that consider this paradox, my praxis has undergone a series of radical transformations derived from material experiments. This approach is primarily signified by the recontextualisation of material 'intelligence' in order to reduce visual phenomena to a more fundamental, yet indeterminate, aesthetic.

Additionally, it is important to question aspects of postcolonial disquiet using this material-based approach. Outside of the large body of literature and artworks that address this topic, my research revealed few lens-based artworks that parallel an indeterminate sense of postcolonial disquiet with phenomenological reductions. From this position the research was able to address questions regarding the hegemony of the coloniser over the colonised land, in line with Tacey's (1995) concept of *colonisation-in-reverse*. These questions are partially informed by my subjective personal history, resulting in a narrative thread that has moved into and

out of focus throughout the research. Being a non-indigenous introduced Australian, I lack awareness of the liminal position upon the migrant / indigenous axis I occupy, and of the forces acting on that position. I expressed this as a form of postcolonial disquiet and found a parallel between this indeterminate relationship to place and the paradox of not having access to the fundamental point where the physical world meets the physical self visually.

Before responding to the research questions I will firstly outline the initial aims of the project as discussed in the introductory chapter. Whilst all the artworks based on single-element lenses share the aim of isolating an ocular aesthetic in order to question aspects of indeterminate vision and postcolonial disquiet, certain media and works diverge slightly to address over-arching concerns that also need to be addressed as an integrated whole.

In the introductory chapter, several aims were stated that were complementary to the aim mentioned above: creating sphere-based works that produced a more pronounced phenomenological reduction than the photographic process allows; a video installation that aimed to parenthesise the role of saccadic eye movements from interrupting perception; investigation of aspects of technological progress in line with the ideology of the *slow movement* (Honore, 2010); and continuation of discussions on phenomenological reductions through the use of materials.

This chapter discusses the intersection of the concerns outlined above in order to respond to the initial research questions:

> *1. In what ways could lens-based artworks approach, link to and intersect aspects of the post-colonial psyche and preconscious ocular phenomena?*
>
> *2a. How might material thinking assist in applying phenomenological understandings to preconscious ocular phenomena?*
>
> *2b. How might experimental processes lead to bodies of artwork that address my primary concerns regarding the postcolonial psyche and preconscious ocular phenomena?*

Convergence

The first question brings together the two major themes of this research: aspects of the postcolonial psyche that are both personally sensed and expressed in the literature; and the desire to reduce preconscious ocular phenomena through lens-based artworks. The research was initially grounded in a personally sensed aspect of postcolonial experience and transitioned towards more universally experienced phenomena.

It is that gradual transitioning that responds to the complex concerns of the first question. That transition, arrived at through material experimentation and engagement, formed a visual language that can be seen to parallel the feeling of unease initially expressed as postcolonial disquiet. Importantly that visual language was able to articulate the indeterminacy of both postcolonial disquiet and ocular vision through the combinations of materials that represented both concerns. Chapter One identifies practice-led research's ability to reflexively transition towards publically accessible ouputs, and evidence of this transition through material experimentation is detailed within the Research Process Manual.

The complexities of the outputs, however, were primarily due to a simple material: single-element lenses. This research has revealed that these lenses, repurposed from reading glasses and over-head projectors, aid in recreating an ocular aesthetic. One key outcome of this research in this regard, arrived at through interacting with the creative artefacts produced, is that the aesthetic experienced inside the eye is vastly different to the aesthetic experienced consciously in the mind. Importantly, however, I contend that this difference cannot be fully realised, as another key finding of this research is the indeterminate nature of such phenomenon. Whilst we may be able to approach the point where the physical self intersects with the physical world, it is difficult to isolate where and how that intersection escapes perception.

This finding relates to the phenomenological processes that I align with Merleau-Ponty and Cézanne. Whereas I rely on materials to automatically reduce visual phenomena, their methods are intellectual and embodied processes aimed at *parenthesizing (bracketing)* (Husserl, 1931/2012) certain psychological aspects of 'being' that unconsciously mediate visual perception. I contend that material, intellectual and embodied reduction methods have similar inherent weaknesses that prevent pure apodictic evidence of the noumenal world emerging, and thus certain

phenomena will always remain indeterminate. When viewed as a continuum of research into indeterminate vision, this outcome, drawing on Merleau-Ponty's (1945/2013) view, is that each reduction method somewhat supplements the other's inability to completely separate the mind and body.

Another result of this research is that its creative artefacts produce an aesthetic déjà vu experienced by the viewer of both the sculptural works and the photographic portion of the research. This aspect of the research aligns with Walter Benjamin's (1931/2005) *optical unconscious* theory, which accords photography the power to re-present the detail of frozen moments in a way the mind can only unconsciously record. I argue that an aesthetic déjà vu emerges when the world is viewed through artefacts that aim to reduce visual phenomena. An aesthetic derived from the physiology of the eye, that is later re-constituted by the mind's role in perception, is revealed. Therefore a link is formed between phenomenological reduction methods and accessing preconsciously recorded phenomena such as hypothesised by Benjamin. By adopting Merleau-Ponty's (1945/2013) aim of achieving direct and primitive contact with the world, we may find we have unknowingly experienced it before. Articulating this point another way, by removing the role of the mind in perception we are ironically made aware of experiences recorded unconsciously by the mind. With Benjamin's *optical unconscious* there is a time difference between preconsciously experiencing phenomena and viewing a photograph that displays those qualities. However, with the ocular obscura works produced by this research in particular, this occurs in real time. Through 'bracketing out' the mind, the viewer is made aware of how they may be preconsciously recording information that they are simultaneously experiencing consciously.

Whilst it is possible to interpret geographical psychopathologies and indeterminate visual phenomenon as being discrete areas, in this research they have crystallised into a single entity that allows evolving experimental narratives surrounding the materiality of simple lenses to progress. Within this narrative, discrete material and conceptual elements begin to operate metaphorically. The importance of this metaphoric feature is best articulated through Ortony's (1993) claim that new insights are created when a metaphor is understood.

Incorporating the metaphoric properties of materials compliments Carter's conception of *material thinking* (2004) which attributes materials with their own 'intelligence', or 'surplus of meaning', discovered through the performance of making and doing. As I

discuss next, the materials employed (simple glass lenses, wood, acrylic, metal, surplus gun parts, cardboard and plastic bags) have their own 'intelligence' and metaphorical properties that are revealed in the artworks.

This research has shown that single-element lenses, commonly found in magnifying or reading glasses, display another quality that can be exploited in order to reproduce a preconscious ocular aesthetic. Similarly, the wood, glass, gun parts, and metal used to construct cameras and sculptural elements invoke colonial surveys and associated equipment. Later in the research period, other materials (cardboard, plastic bags and recycling bin lids) reference aspects of globalised consumer culture. Combined within artworks, these materials produce a single result that mediates new understandings via the inherent and metaphoric agency they provide. Similarly, during the research period it was evident that plants play two important roles as subject matter: their fine entropic detail provides a field for the ocular aesthetic to be realised, and secondly, they promote a sense of 'wild' that is linked to the partially naturalised migrant.

In responding to the second question and synthesising the points above, phenomenological reductions were made possible through engaging with *material thinking* (Carter 2004) through single-element lenses. Those phenomenological reductions subsequently intersected with the subject matter: non-indigenous Australians of multiple generations that linked the research to postcolonial issues; plants that metaphorically spoke of 'wildness' and provided entropic detail for that phenomenological reduction to be observed; and material references to contemporary consumer culture. From that position the artworks question geographical psychopathologies, colonialism, phenomenological reduction methods, contemporary art discourses and aspects of globalisation. These disparate concepts, materials and subject matter were synthesised to realise the *unfulfilled relations* (Carter, 2010) that I perceived as existing between them prior to this research being undertaken. As explained in the methodology chapter (One) the concept of *unfulfilled relations* relates to a sense of absence or a lack of understanding, which manifested as experiments with often odd combinations of materials ready to hand.

As an entire series, *New Australian Plants and Animals* represents the past (colonialism), the present (consumer culture) and the unknown (indeterminate phenomena) collapsing into a single point. For two main reasons the research has shown that there is a degree of irony in understanding the convergent properties of

these works. Firstly, the artistic 'survey' equipment is aimed at the coloniser, not the colonised. The role of the optical devices, as tools of power for the colonisers, is inverted. Secondly, the basic materials of wood, glass, metal and plastic bags question advanced technology's ability to perceive, understand and investigate subtle, indeterminate phenomena.

Both of the above points combine when viewed in the context of certain artworks resembling scientific optical survey equipment. In responding to the first question, the surveying nature of these works question the legacy of colonial scientific surveys and indicate the limits of contemporary, empirical-scientific research methods. As outlined in Chapter Two, this practice-led research project is informed by Buswell's (2011) empirical study into certain introduced plants in Australia that have rapidly evolved, drawing analogies with the experience of partially naturalised Australians. Buswell's conclusions can be read as a statement on empirical methods' capacity to observe indeterminate phenomena: the study observed plants evolving but could not discern the reason why. Using the limits of empirical research as a departure point, this research investigates 'possibilities' through practice-led research methods to arrive at new insights into 'colonisation-in-reverse' (Tacey, 1995).

The work promotes a degree of introspection for an audience consisting primarily of partially naturalised Australians. The phenomenological reductions lead to an interrogation of their relationship with the colonised land. In responding to the initial aim of creating a pronounced ocular aesthetic, this aspect of the research is most apparent when viewing the ocular obscura works (Figures 37, 42 and 45), looking out at a colonised landscape whilst simultaneously looking at the rear of the human eye. The act of looking out leads to looking in. This feature represents the material meeting point of two discrete themes in ways not previously seen in a contemporary arts context. The claim of a novel outcome, in this regard, is contingent on this research not uncovering similar existing artworks.

Other works characterised by an automatic phenomenological reduction are aimed at further parenthesising the role of saccadic eye movements (Figures 49 and 51). Saccadic eye movements, as discussed in Chapter Two, are the quick, unconscious movements the eye performs when scanning a scene that consequently suspend visual data being received. This work also maintained the themes of postcolonial disquiet and indeterminate vision by having video footage taken from national parks projected onto a large dome. The video installation works demonstrate further the

physiological aspects that interrupt (and constitute) our relationship with the noumenal world.

Critically, it could be contested, these artworks approach the indeterminate nature of that experience in ways that sit outside the scope of the text-based investigations discussed in Chapter Two. This argument relies on the viewer of the artworks experiencing indeterminate phenomena first-hand, rather than through an understanding of theories regarding the subject derived from hermeneutical interpretation. Here, I rely on the works' ability to convey tacit knowledge in ways that augment the viewer's lived experience beyond the capability of text.

Whilst it was possible to confine this research to single-element lens photography based on digital technology, I found that devolving the process through the creation of large, hand-built analogue cameras produced novel outcomes by slowing down the creative process and not automatically accepting emergent technology as superior. Similarly, all the media I engaged with demanded that I re-calibrate the pace of production that I was previously accustomed to through digital photography. This aspect of the research could be aligned with the developing global ideology of the 'slow movement' (Honore, 2010), which broadly aims to counter unquestioned technological progress in order to find something 'new' by looking backwards.

Looking forward, certain emergent technical and conceptual concerns have the potential to inform longitudinal research in line with the series *New Australian Plants and Animals*. In particular, the unexpected discovery of a potentially novel three-dimensional photographic effect presents a topic for further investigation. As outlined in Chapter Three, my initial theory is that through the use of single-element lenses, hi-fidelity recording media and large-scale output, a potentially new photographic aesthetic emerges: one that produces a pronounced ocular aesthetic and a slight three-dimensional effect.

As stated in Chapter Three, I cannot claim this three-dimensional effect is novel due to the depth and breadth of photography's history. However, it potentially presents new insights into experiencing depth perception from two-dimensional artworks, or alternatively exaggerates the effects produced by naturalist photographers of the late nineteenth century. It provides the opportunity for longitudinal research to investigate whether increasing the scale of late nineteenth-century naturalist photography (in ways that were not possible when those images were produced) could produce a

similar effect. If it can be demonstrated that this effect is also present in examples of naturalist photography, I contend that this research has uncovered the function that increased output scale plays in promoting a three-dimensional aesthetic.

Other longitudinal research opportunities include extending both the photographic and immersive installation work in new directions that diverge from the theme of post-colonial disquiet whilst maintaining a connection to landscape. In particular, I have begun experimenting with replacing the monochrome negative material used to produce photographs with both colour analogue material and a repurposed digital scanner. The aim here is to produce colour photographs that display a similar foveal aesthetic, and therefore, are hypothetically closer to preconscious visual phenomena as they incorporate colour information. I also aim to create larger versions of the immersive ocular obscura installations using flexible materials and automated 'breathing' systems similar to the plastic bag works introduced in Chapter Three (Figures 51 and 52).

So far, I have outlined the significance of this research within scholarly and contemporary arts contexts. Personally, however, this process has its own significance outside those contributions. In terms of my art practice, this project represents a major transformative event that has brought together many aspects of existence that span over forty years. Through an initial photographic investigation, a transition into other unanticipated artistic media and thought processes occurred that creatively challenged, energised and satiated.

REFERENCES

Albrecht, G. (2012). The age of Solastalgia. Retrieved from http://theconversation.com/the-age-of-solastalgia-8337

Anderson, W. P. (2005). *The cultivation of whiteness science, health and racial destiny in Australia* (New ed.). Carlton, Australia: Melbourne University Press,.

Barrett, E., & Bolt, B. (2010). *Practice as research approaches to creative arts enquiry*. London, United Kingdom: I.B.Tauris.

Barthes, R. (1981). *Camera lucida: Reflections on photography*. New York, NY: Farrar, Straus and Giroux.

Bass, M., DeCusatis, C., Enoch, J., Lakshminarayanan, V., Li, G., MacDonald, C., . . . Van Stryland, E. (2009). *Handbook of Optics*. (3rd ed.). New York, NY: McGraw-Hill Education.

Benjamin, W. (1936/2008). *The work of art in the age of mechanical reproduction*. London, United Kingdom: Penguin Books Limited.

Benjamin, W. (1936/2015). *Illuminations*. New York, NY: Random House.

Benjamin, W., Jennings, M. W., Bullock, M. P., Eiland, H., Livingstone, R., & Smith, G. (1931/2005). *Walter Benjamin: Selected writings. 1931-1934*. Boston, MA: Harvard University Press.

Berger, J. (1972). *Ways of seeing*. London, United Kingdom: Penguin Books Limited.

Bolt, B. (2007). Material thinking and the agency of matter. *Studies in Material Thinking, 1*(1). Retrieved from. https://www.materialthinking.org/sites/default/files/papers/Barbara.pdf

Brein, D. L. (2005). Thinking about writing and research. *Text Review*. Retrieved from. http://www.textjournal.com.au/oct05/brien.htm

Buswell, J. (2011). Is rapid evolution common in introduced plant species? *Journal of Ecology, 99*(1), 214 - 224.

Carman, T., Hansen, M. B. N., & Hansen, M. B. N. (2005). *The Cambridge companion to Merleau-Ponty*. Cambridge, United Kingdom: Cambridge University Press.

Carter, P. (2004). *Material thinking: The theory and practice of creative research*. Melbourne, Australia*:* Melbourne University Publishing.

Carter, P. (2010). Interest: The ethics of invention. In B. Bolt & E. Barrett (Eds.), *Practice as research: Approaches to creative arts enquiry*. New York, NY: I.B.Taurus.

Church, T. (1988). Destination. *On starfish*. New York, NY: Arista.

Cohen, P., Slomkowski, C., & Robins, L. (1998). *Historical and geographical influences on psychopathology*. Oxford, United Kingdom: Taylor & Francis.

Cox, G. W. (2004). *Alien species and evolution: The evolutionary ecology of exotic plants, animals, microbes, and interacting native species*. Washington, DC: Island Press.

Crouch, C. (2007). Praxis and the reflexive creative practitioner. *Journal of Visual Art Practice, 6*(2), 105-114. doi: 10.1386/jvap.6.2.105_1

D'Alessandro, P. (2008). Retinal curvature and geometry of image formation. *Brain Research, 1225*, 67-75. doi: http://dx.doi.org/10.1016/j.brainres.2008.05.071

Descartes, R. (1637/1988). *Descartes: Selected philosophical writings*. Cambridge, United Kingdom: Cambridge University Press.

Descartes, R., & Gaukroger, S. (1998). *Descartes: The world and other writings*. Cambridge, United Kingdom: Cambridge University Press.

Dillard-Wright, D. B. (2009). *Ark of the possible: The animal world in Merleau-Ponty*. Plymouth, United Kingdom: Lexington Books.

Emerson, P. H. (1889/1972). *Naturalistic photography*. Boston, MA: American Photographic Publishing Co.

Feldman, W. (1980). Jules Bastien-Lepage: A new perspective. Retrieved from http://www.ngv.vic.gov.au/essay/jules-bastien-lepage-a-new-perspective/

Foster, A. (2014). Disquietude beyond the mind's eye. In *New Australian Plants and Animals* [Exhibition catalogue]. Fremantle, Australia: Mike Gray.

Freud, S. (1919/1957). *The standard edition of the complete psychological works of Sigmund Freud*. London, United Kingdom: Hogarth Press.

Gelder, K., & Jacobs, J. M. (1998). *Uncanny Australia : Sacredness and identity in a postcolonial nation*. Melbourne, Australia: Melbourne University Press.

Gernsheim, H. (1986). *A concise history of photography*. New York, NY: Dover Publications.

Giblett, R., & Tolonen, J. (2012). *Landscape and photography*. Bristol, United Kingdom: Intellect.

Gilroy, P. (2005). *Postcolonial melancholia*. New York, NY: Columbia University Press.

Goodwin, M. (2010). Phenomenology 2010: Selected essays from North America, phenomenology within philosophy. In M. Barber & T. J. Nenon (Eds.). Bucharest, Romania: Zeta Books.

Gray, M. (2014a). *Aborscopic study* [Photograph]. Perth, Australia: Perth Centre for Photography.

Gray, M. (2014b). *Alex* [Photograph]. Perth, Australia: Perth Centre for Photography.

Gray, M. (2014c). *Dan* [Photograph]. Perth, Australia: Perth Centre for Photography.

Gray, M. (2014d). *Dave* [Photograph]. Perth, Australia: Perth Centre for Photography.

Gray, M. (2014e). *Double-barrel phenomoflex* [Sculpture]. Perth, Australia: Perth Centre for Photography.

Gray, M. (2014f). *Forest / Forrest walks* [Video installation]. Perth, Australia: Perth Centre for Photography.

Gray, M. (2014g). *Jen* [Photograph]. Perth, Australia: Perth Centre for Photography.

Gray, M. (2014h). *Mike* [Photograph]. Perth, Australia: Perth Centre for Photography.

Gray, M. (2014i). *Phenomoflex* [Installation]. Perth, Australia: Perth Centre for Photography.

Gray, M. (2014j). *Phenomoflex MKII* [Sculpture]. Perth, Australia: Perth Centre for Photography.

Gray, M. (2014k). *Queens Crescent 03* [Photograph]. Perth, Australia: Perth Centre for Photography.

Gray, M. (2014l). *Queens Crescent 05* [Photograph]. Perth, Australia: Perth Centre for Photography.

Gray, M. (2014m). *Sonny* [Photograph]. Perth, Australia: Perth Centre for Photography.

Gray, M. (2014n). *Suzi and Nic* [Photograph]. Perth, Australia: Perth Centre for Photography.

Gray, M. (2014o). *Unknown* [Photograph]. Perth, Australia: Perth Centre for Photography.

Gray, M. (2014p). The unknown eye: Physiology, phenomenology and photography. In V. Garnons-Williams (Ed.), *Photography and Fictions: locating dynamics of practice*. Brisbane, Australia: Queensland Centre for Photography.

Gray, M. (2014q). *Vine* [Photograph]. Perth, Australia: Perth Centre for Photography.

Gray, M. (2015a). *Backyard bag study* [Installation]. Perth, Australia: Perth Centre for Photography.

Gray, M. (2015b). *Lakeside* [Installation]. Perth, Australia: Perth Centre for Photography.

Gray, M. (2015c). *Phenomoflex* [Installation]. Perth, Australia: Perth Centre for Photography.

Greene, A. (2013). *Primitive photography: A guide to making cameras, lenses, and calotypes*. Oxford, United Kingdom: Taylor & Francis.

Gregory, R. L. (1997). *Eye and brain: The psychology of seeing* (5th ed.). Princeton, N.J: Princeton University Press.

Griffiths, M. (2010). Research and the self. In M. Biggs & H. Karlsson (Eds.), *The Routledge companion to research in the arts*. Oxford, United Kingdom: Taylor & Francis.

Gronert, S. (2009). *The Düsseldorf School of photography*. New York, NY: Aperture.

Hall, S. (Ed.). (1996). *The postcolonial question: Common skies, divided horizons*. New York, NY: Routledge.

Hamilton, J. (2014). The voices of the exegesis: Composing the speech genres of the practitioner-researcher into a connective thesis. In L. Ravelli, B. Paltridge, & S. Starfield (Eds.), *Doctoral Writing in the Creative and Performing Arts* (pp. 369-388). Oxfordshire, United Kingdom: Libri Publishing Ltd.

Hammond, M., Howarth, J., & Keat, R. (1991). *Understanding phenomenology*. Oxford, United Kingdom: Basil Blackwell.

Hannavy, J. (2013). *Encyclopedia of nineteenth-century photography*. Oxford, United Kingdom: Taylor & Francis.

Harris, J. (2014). *Sensation and Perception*. Thousand Oaks, CA: SAGE Publications.

Haseman, B. C. (2006). A manifesto for performative research. *Media International Australia Incorporating Culture and Policy: Quarterly Journal of Media Research and Resources*(118), 98-106.

Heimer, A. (2016). The aesthetics of form knowledge: Embodied knowledge through materialization. *Studies in Material Thinking, 1*(2).

Hofstadter, D. R. (1999). *Godel, Escher, Bach: An eternal golden braid*. New York, NY: Basic Books.

Honore, C. (2010). *In praise of slow*. London, United Kingdom: Orion.

Hoorn, J. (2007). *Australian pastoral: The making of a white landscape*. Fremantle, Australia: Fremantle Press.

Hughes, R. (1979). The shock of the new [Television series]. London: BBC TV Productions.

Husserl, E. (1931/2012). *Cartesian meditations: An introduction to phenomenology*. New York, NY: Springer.

Jonsson, S. (2013). Disclosing the world order. *Third Text, 27*(2), 242-259. doi: 10.1080/09528822.2013.772349

Kant, I. (1885/2016). *Critique of pure reason*. Toronto, Canada: Aegitas.

Kavanaugh, J. L., & Forbes, J. A. (2012). *For the living of these days: Prayers for a troubled world*. Northcote, Australia: Cascade Books.

Khurana, A. K. (2008). *Theory and practice of optics and refraction*: Chennai, India: Elsevier India Pvt. Limited.

Kingslake, R. (1989). *A History of the Photographic Lens*. Burlington, NJ : Elsevier Science.

Kleivan, I. (2012). Tupilakosaurus: An incomplete(able) survey of Pia Arke's artistic work and research. In F. Hansen & T. Nielsen (Eds.) *Title*. Copenhagen, Denmark: Kuratorisk Aktion.

Knudsen, B. T., & Waade, A. M. (2010). *Re-investing authenticity: Tourism, place and emotions*. Bristol, United Kingdom: Channel View Publications.

Lakoff, G., & Johnson, M. (2008). *Metaphors we live by*. Chicago, IL: University of Chicago Press.

Leigh, R. J., & Zee, D. S. (2015). *The neurology of eye movements* Oxford, United Kingdom: Oxford University Press.

Livingstone, M. (2002). *Vision and art:The biology of seeing*. New York, NY: Harry N. Abrams.

Marshall, C. (2010). A research design for studio-based research in art. *Teaching Artist Journal, 8*(2), 77-87. doi: 10.1080/15411791003618597

Maxwell, A. (2000). *Colonial photography and exhibitions: Representations of the native and the making of European identities*. London, United Kingdom: Continuum International Publishing Group, Limited.

McCann, A. (2005). The obstinacy of the sacred. *Antipodes, 19*(2).

McKenna, M. (2004). *This country: A reconciled republic?* Sydney, Australia: UNSW Press.

McNamara, A. (2012). Six rules for practice-led research. Retrieved from http://www.textjournal.com.au/speciss/issue14/McNamara.pdf

Merleau-Ponty, M. (1945/2013). *Phenomenology of perception*. New York, NY: Taylor & Francis.

Merleau-Ponty, M. (1964). *Sense and non-sense*. Evanston, IL: Northwestern University Press.

Modrak, R., & Anthes, B. (2011). *Reframing photography: Theory and practice*. New York, NY: Routledge.

Mondrup, I. (2015). Editors' introduction to Pia Arke. *Arctic Hysteria* 1997. *NORA - Nordic Journal of Feminist and Gender Research, 23*(4), 313-316. doi: 10.1080/08038740.2015.1086524

Moustakas, C. (1990). *Heuristic research: Design, methodology, and applications*. Thousand Oask CA: SAGE Publications.

Niiniluoto, I., Sintonen, M., & Wolenski, J. (2004). *Handbook of epistemology*. New York, NY: Springer.

O'Sullivan, J (Producer) and Hillcoat, J, (Director). (2005). The Proposition [Motion picture]. Australia: Surefire Films

Priest, S. (1998). *Merleau-Ponty*. London, United Kingdom: Routledge.

Quinn, C. (2009). Perception and Painting in Merleau-Ponty's Thought. *Perspectives: International Postgraduate Journal of Philosophy, 2*(1), 38-59.

Renner, E. (2012). *Pinhole photography: From historic technique to digital application*. New York, NY: Taylor & Francis.

Rodmeyer, L. (n.d.). The future of Phenomenology: Applications. Retrieved from http://www.newschool.edu/nssr/husserl/Future/Part%20One/Rodemeyer.html

Rosenberg, T., & Fairfax, D. (2008). Foreword. *Studies in Material Thinking, 1*(2).

Sayers, A. (2001). *Australian art*. Oxford, United Kingdom: Oxford University Press.

Smith, D. W. (2007). *Husserl*. New York, NY: Routledge.

Smith, D. W. (2013). Phenomenology. Retrieved from *http://plato.stanford.edu/entries/phenomenology/*

Smith, J. (1998). Paradisus Terrestris untitled. *Art Bulletin, 38*.

Snowden, R., Thompson, P., & Troscianko, T. (2012). *Basic vision: An introduction to visual perception*. Oxford, United Kingdom: Oxford University Press.

Snyder, J., & Allen, N. W. (1975). Photography, vision, and representation. *Critical Inquiry, 2*(1), 143-169. doi: 10.2307/1342806

Sullivan, G. (2010). *Art practice as research: Inquiry in visual arts* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Tacey, D. (1995). *Edge of the sacred: Transformation in Australia*. Blackburn North, Australia: HarperCollins.

Tacey, D. (2009). *Edge of the sacred: Jung, psyche, earth*. Einsiedeln, Switzerland: Daimon Verlag.

Teller, D., Y. (1997). First glances: The vision of infants. *Investigative Ophthalmology and Visual Science, 38*(11).

Turner, E. (2014, May 1). The day the real Crocodile Dundee Rod Ansell was shot dead. *The Herald Sun*.

Vaughan, L. (2008). Emplacing local invention. *Studies in Material Thinking, 1*(2).

Wade, N. (2013). *Visual perception : An introduction.* (3rd ed.). Hoboken, NJ: Hoboken: Taylor and Francis.

Warren, L. (2005). *Encyclopedia of twentieth-century photography.* New York, NY: Taylor & Francis.

Weir, I. (2006). Lightsite: Turning the landscape into pure light. In P. I. A. Festival (Ed.). Perth, Australia: Perth International Arts Festival.

Weisberg, G. P., Dagnan-Bouveret, P. A. J., & Art, D. M. o. (2002). *Against the modern: Dagnan-Bouveret and the transformation of the academic tradition*. New York, NY: Dahesh Museum of Art.

Wright, A. N. (1999). *A lens collector's vade mecum*. Cornwall, United Kingdom: David Matthews Associates.

Wright, T. (2016). *The photography handbook*. New York, NY: Taylor & Francis.

Young, A. (2011). Research outputs in art and design. *Studies in Material Thinking, 06.* .

Young, M. (2014). The motionless look of a painting: Jules Bastien-Lepage, Les Foins, and the end of Realism. *Art History, 37*(1), 38-67. doi: 10.1111/1467-8365.12061

Young, M. (2015). *Realism in the age of Impressionism: Painting and the politics of time*. New Haven, CT: Yale University Press.

RESEARCH PROCESS MANUAL

Introductory Note: This manual documents the experimental, material progress of the artistic series, 'New Australian Plants and Animals'. It is structured chronologically as to narratively discuss the new material and process understandings arrived at through the application of experimental material methods. In this regard, it serves an adjunct role to the methodology chapter (One).

2011

Initial experiments

The experimental photographic process behind *New Australian Plants and Animals* was possible only because I had access to a workshop, a darkroom and the raw materials needed to construct, test and refine the equipment and process. The aim was to build a large-scale camera that could accommodate a 16” x 20” negative, as the initial plan was to use black and white photographic paper of that size as negative material. By basing the camera design on that material, I roughly calculated the depth of the camera would need to be at least that size of the negative, following the principles of other camera formats. Before the exact depth of the camera could be determined, effectively the focal length, a single-element lens that had a focal length above 20” (50cm), had to be sourced.

The process for testing the focal length of lenses is quite simple: hold a lens between a light source and a white surface and move the lens until it forms a sharp image. The single element lenses initially tested were sourced from dismantled compound photographic lenses; however, their focal length was usually only between five and twenty centimetres, and therefore too short to fill the recording space. This necessitated looking beyond photographic technology for suitable optics. One option was magnifying glasses; however, they usually had a focal length below what was suitable.

As I’m short-sighted, I thought it would be conceptually interesting if I used an element from an old pair of glasses, but when testing these I could not form an image. This is where I first had practical knowledge of the difference between converging (positive) and diverging (negative) lenses. The lenses used to correct short-sightedness slightly diverge the image, in contrast to the convergence needed to focus an image photographically. In the first of many fortuitous, unanticipated points within this research, testing lenses for short-sightedness led to testing lenses for the opposite condition, long-sightedness.

I bought several pairs of cheap reading glasses that varied in strength from a value of +1.00 to +2.50 in magnification. Essentially, the elements in reading glasses are mild magnifying glasses. After testing these elements (Figure 53), I concluded that a lens with a +1.50 magnification factor would be appropriate as, when placed 85cm

from a white surface, it focussed an image 270cm away, a distance that I judged would be suitable for portraiture.

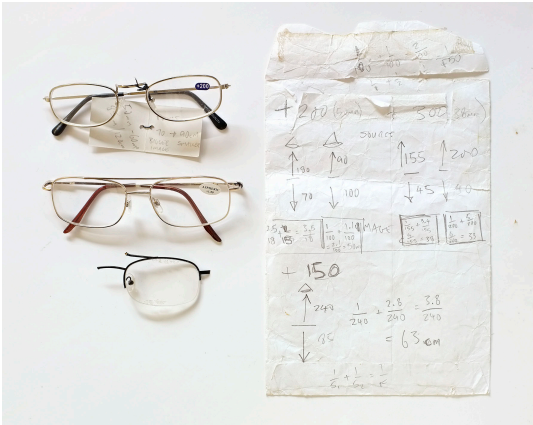


Figure 53: *Lens testing*. Photographer Mike Gray.

Figure 54: *Lens mounted inside 'Camera MKII'*. Photographer Mike Gray

Having determined a focal length, the first camera was built: a wood skeleton 85cm in length with thick cardboard attached to the sides. The first negative carrier design hinged on tape and let light leak in slightly. The shutter was a simple flap of cardboard taped over a 20mm aperture with the single-element lens fastened behind the aperture (Figure 54). Unfortunately, there is no documentation of this camera (MK I) but it was not dis-similar to the subsequent camera constructed, MK II (Figure 58), which had an improved negative carrier to prevent light leaks. To test for focus with the lens in place, a light source was set at a predetermined distance from the camera and focussed onto a white, translucent shopping bag stretched over the focal plane. The shopping bag acted much like the focussing screen from medium and large-format cameras.

I then began testing the exposure times needed to expose the black and white paper correctly in the field. As the camera has no viewfinder, I would roughly aim the camera at the subject and use a measuring tape to effectively focus the camera, making sure it was exactly 270cm from the lens to the subject. Initially it was not possible to use a light-meter to determine exposure for two reason: the negative material used is extremely insensitive in photographic terms, and I hadn't yet calculated the aperture of the camera. Instead, I employed a digital camera to take light-readings, which, through experimentation, I translated and used as the basis for exposure. For example, if the camera light meter read 1/125th of a second at f8 I

would expose my image for 30 seconds; if it read 1/125th of a second at f16 I would expose for 60 seconds.

Figure 55: Mike Gray, (2011), *Juha*, archival inkjet print, 50cm x 40cm.

In hindsight, I was fortunate that the first full image I produced (Figure 55), a subject sitting (braced for the two minute exposure) against a tree in a garden setting, worked so well. A number of then unknown factors came together in that image that inspired me to persist with the process, despite the large amount of technical refinements needed later. For this image, the camera was loaded in a nearby darkroom with four pieces of 10” x 8” paper taped together on the rear plane of the camera. It was then wheeled out on a trolley to a small courtyard and aimed at the token, ornamental garden where the subject was posed.

Once exposed, the camera was taken back to the darkroom, unloaded and the paper developed. From there, for the sake of assessing the image quickly, the negative

was photographed with a digital camera and the image inverted with digital editing software to make it positive.

That image, the first full-frame photograph I had seen this process produce, had many qualities that immediately drew me in; objectively it was unusually sharp in areas, highly detailed and tonally deep and subjectively, it was an engaging portrait in which the subject seemed to be somewhere other than the usual 'flash of performance' I had come to associate with certain contemporary photographic portraiture.

The next tests carried out (Figure 56) were only varying in their success compared to the first image but I was able to take important information from them concerning technical and conceptual elements. These images are indicative of the numerous (approximately forty) tests I made during this period.

Figure 56: Mike Gray, (2011), *Initial tests*, archival inkjet prints, 50cm x 40cm

Aside from ongoing technical issues, the features of these images that I sought to isolate in future tests mainly centred on the look of the people depicted. I found the process indirectly affected the subject matter. The cumbersome camera and convoluted process meant the subjects had to invest in the picture-making process and move towards being co-collaborators. This dynamic, together with exposure times of up to five minutes, made producing a photograph ritualistic where the subject has to be still in their body, which in turn, seemingly made them go somewhere else in their mind.

As discussed in Chapter Three, it was the next example that encouraged me to use the process as the basis of an artistic series and also this research. The black marks

on the print were the result of chemical fixer coming in contact with the negative before it was exposed.

Figure 57: Mike Gray, (2014n), *Suzi and Nic*, archival inkjet print, 140cm x 110cm.

2012

Material developments / Refining photographic practice

In terms of technique, I aimed to refine the photographic process to allow more control and an acceptable level of predictability. Exposure metering and exposure control were the main issues I needed to address through enabling the use of a light-meter and fabricating a reliable shutter. To use a light-meter, I first needed to establish both the aperture of the lens and the sensitivity of the recording media. Below is the equation I used to determine aperture where 'd' is the distance between the lens and the film plane and 'diameter' is the size of the aperture:

$$aperture = d/diameter \qquad aperture = 85cm/2.5cm \qquad aperture = f34\ (32 + 1/3)$$

Through testing I established that the sensitivity of the negative material was roughly 6 iso. Having determined these two parameters consequently meant I could use a professional light-meter to determine exposures up to eight minutes long with (partially) more accuracy.

When constructing the next camera, *MKII*, I fabricated a shutter using sheet metal that formed a slide held within a sleeve (Figure 58) and eliminated the need for the tape that had, only somewhat reliably, held up or down a shutter. Other improvements with the *MKII* camera included a light-tight negative carrier and system for securely keeping it shut whilst still allowing for easy unloading in the darkroom. The system essentially comprised rubber bands and securing posts on the edge of the camera rear.

After more investigation into lens optics, I discovered that the length of the camera was not necessarily the true focal length of the lens. I presumed that if my camera was 85cm long then that distance was the focal length of the lens; however, determining the true focal length is achieved using an equation based on both the focussing distance and the length of the camera:

$$\frac{1}{d}+\frac{1}{c}=\frac{1}{f} \qquad \frac{1}{240}+\frac{1}{85}=\frac{1}{f} \qquad 0.0041+0.011=\frac{1}{f} \qquad \frac{1}{0.0151}$$

$$focal\ length = 66.25\ cm$$

Essentially this example illustrates that this lens is capable of focussing collimated light within 66.25cm. Collimated light is a term used to describe light that comes from such a distance that it arrives at the lens as parallel rays, as light does from the sun. Therefore, using this lens, I could theoretically build a camera 66.25cm long that would focus on infinity, something I later found to be harder in practice to achieve.

With an improved camera, I was able to resume testing. The examples below (Figure 59) were all taken in quick succession and as such represent the remaining, inherent unpredictability of exposure and composition. I was learning that serendipity played a large role in this process as there was no viewfinder and the exposure fluctuations had a pronounced effect. Also, as I was now photographing in the Kimberley region of Western Australia, I had to fashion an improvised darkroom to load the camera and process the negatives. During the course of this research I made seven such

darkrooms throughout the Kimberley and metropolitan Perth regions. Mostly, these darkrooms were domestic rooms ‘blacked’ out with builder’s plastic and tape.

Figure 58: *MKII camera*, wood, cardboard, glass, and steel, 90cm x 50cm x 40cm. Photographer Mike Gray.

Figure 59: Mike Gray, (2011), *Self-portrait tests*, archival inkjet prints, 50cm x 40cm

In terms of artistic content, I began to reduce the subject matter to elements that resonated with me and excluded everything else. As mentioned, I found the entropic nature of the flora depicted narratively intersected with the ‘still’ state of mind the subjects presented in ways I couldn’t yet articulate, however, strongly it engaged me.

Conversely, I judged the manmade elements to be distracting and therefore endeavoured to eliminate them from future tests. I also established that having the sky in the shot did not work as it made exposure too unpredictable, something I later attributed to the low dynamic range of the negative material in conjunction with the simple lens design. In these tests I also found composing the sky out of the shot was not enough as, even if the camera was pointing generally towards light, a fog was introduced. This can be seen in Figure 55 and Figure 57. Further to this, I found I could only shoot in very low, soft light as to minimise the scene brightness range and resulting contrast in the image. This confined me to only producing images on very overcast days or during the forty-five minutes of twilight before the sun disappeared.

Ocular obscura maquette

Figure 60: *Ocular obscura tests*, 2012. Photograph by Mike Gray

During this period, another unanticipated moment in the research occurred that elevated the physiology of the eye to being crucial. When changing a light globe, I noticed how the pearl surface of the globe was similar to the focusing screen used in medium and large-format cameras and wondered what would happen if I placed a lens inside the globe. After sourcing a single element lens roughly 5cm in focal length, I removed the base of the globe and joined the two together (figure 60). The world was projected into the globe and suddenly I was looking at the back of the human eye. Like viewing the photographs for the first time, I was drawn in and felt slightly uneasy. The image seemed to make sense even though it was upside down; there was a flicker of recognition. Somehow I was both used to this aesthetic but consciously unaware of how.

This maquette was the basis of what I later referred to as an *ocular obscura*. As I was living in the Kimberly at the time, I didn't have access to a workshop to finesse or upscale this device but I began to reassess the direction my research was heading due to its potential relevance.

Both the ocular obscura and the photographic aesthetic seemed to be more profound when the frame (or sphere) was filled with plants. The detail plants offered helped to easily define the aesthetic in ways I only understood much later to be connected to an 'arc of focus'. Below (figure 61) are images that demonstrate how the subject matter was gradually reduced to organic material, although there are small manmade objects still present in each of these images.

Figure 61: Mike Gray, (2012), *Floral tests*, archival inkjet prints, 50cm x 40cm

During this time, I was researching the effects of continental Australia on early European colonisers. I began to connect my emerging photographic process with a nineteenth-century photographic aesthetic and the quasi-scientific studies I was reading about. The photographs of plants in particular seemed reminiscent of colonial botanical studies. As photography is roughly the same age as colonial Australia, there was a potential link I could metaphorically exploit and thereby ironically use optical, colonising technology to study the coloniser instead of the colonised.

2013

Substantial creative output / Photographic process development

By 2013, and now having access to a workshop, I concentrated on the creative photographic output and initial production of the up-scaled ocular obscura works. During this period I spent my time either photographing in the Kimberley region or in metropolitan Perth working on ocular obscura works.

The Kimberley proved to be an excellent location as, within a short distance from a darkroom, I could choose a variety of locations with a wide range of plant life to use as context. The environment of the Kimberley region is such that, during the wet season, plants respond dynamically to the increased rainfall and temperatures to produce a pronounced entropic backdrop.

The three examples below were all shot within five metres of each other in a suburban front-yard in the Kimberley. Whilst I was initially positive regarding these

results, I wanted to find a way to not have the subjects braced against something solid during the exposure of up to four minutes.

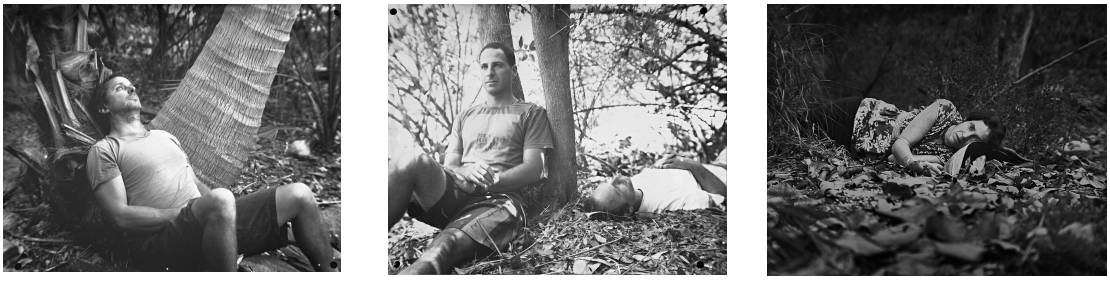


Figure 62: Mike Gray, (2013), *Kimberley portraits*, archival inkjet prints, 50cm x 40cm

Any potential solution had to minimise the effect of body movement whilst still allowing the subject to pose independent of the backdrop. I experimented with two solutions that both hinged on changing the focal length of the camera from 90cm to 70cm and consequently changing the focal distance to five meters away. Changing focal length on a modern camera is achieved through using a zoom lens or swapping lenses, both quite easy. With my camera, however, I had to permanently cut 20cm of the front and reattach the lens plate with glue and nails.

When using this modified camera I placed the subject either close to the camera as to render them out-of-focus, or at a distance of five meters, where any body movement would be less noticeable. In both cases, a shorter focal length had the added benefit of capturing a greater amount of 'context'. The wider angle of view allowed me the experiment with differing relationships between the subject and the flora but it also dictated moving further away from suburbia to source suitable locations that comprised only plants. In turn, this increased the turn-around time in loading, exposing and developing and image and decreased the number of images I could produce in a day to perhaps one or two. As discussed previously, I only had roughly forty-five minutes between the sun nearly setting and twilight disappearing to produce images in.

Examples of images taken with a shorter focal length camera (Figure 63 and 64) show the effect of having the subject close and out-of-focus and also the effect of standing within the 'arc-of-focus' five meters away. In both cases, body movement is reduced but not eliminated. This became important conceptually as the relationship between the still, sharp flora and the blurred subject promoted, for me, the sense of disquiet I refer to in this research. I read this as the process depicting a slight, yet

uncontrollable energy within the subject that related to the context. In later images I tried to exploit this by having the subject pose in a way that grounded parts of their body whilst making other parts harder to keep still. My aim was to produce images that depicted bodies as sharp and blurred, controlled and uncontrolled.

Figure 63: Mike Gray, (2014c), *Dan*, archival inkjet prints, 100cm x 80cm
Figure 64: Mike Gray, (2014c), *Alex 02*, archival inkjet prints, 100cm x 80cm

By mid-2013, the intersection of creative practice and academic enquiry was at an important point as there was now a new connection developing between the two. Through the process and material experimentation already discussed, I had begun to define some technical and material qualities that conceptually informed the subject matter. In particular, the material qualities of high-quality, single-element lenses had directed the research towards a preconscious ocular aesthetic and consequently, towards phenomenology. I began investigating the phenomenological concepts covered in Chapter Two, using Husserl's idea of *bracketing* (1931/2012) as a way of approaching Merleau-Ponty's (1945/2013) sense of *indeterminate vision*. This directed the photographic output towards scenes that amplified that potential preconscious aesthetic to be re-presented. As outlined in Chapter One, this represents the methodological approach of *material thinking* (Carter, 2004) whereby new knowledge is partially revealed through material experimentation. Therefore, at this stage of the research I had finessed the photographic technique to a point I could reliably produce images within a developing conceptual framework that aligned indeterminate vision with the colonial context.

During this time I began producing wider landscape images such as *Vine 2013* (Figure 65), which exemplifies the qualities I was looking for in locations and result. These qualities include a larger amount of chaotic foliage, a slight 'wall' of foliage in

the background that made composing the shot without any sky in it easy, and a central feature to focus on. The result is an image that has a distinct ‘arc-of-focus’, with sharp detail on both sides of the frame at roughly two meters distance that continues towards the centre of the frame on a curved trajectory, leading your eye into the central feature of overgrown vine five meters away.

Figure 65: Mike Gray, (2014q), *Vine*, archival inkjet prints, 140cm x 110cm

Figure 66 and 67 (below) represent a typical set-up for a shoot undertaken during this period. After scouting for a location, I would load the camera in the darkroom and return just as the sun was setting to set-up the shot. I would usually set the camera in an elevated position to avoid the sky and position the subject at the exact focussing distance from the camera using a tape measure. I instructed the subjects to find a position they felt comfortable with as to remain still for up to four minutes and then also to direct their gaze towards a spot they could concentrate on during the exposure.

Figure 66: *Camera set-up*. Photograph by Mike Gray.

Figure 67: Mike Gray, (2014m), *Sonny*, archival inkjet prints, 100cm x 80cm

At this point, having produced roughly fifty images in the Kimberley, I returned to Perth where I was able to construct an improved camera and photograph in a wider range of conditions. Built using aluminium, this camera, MK III (Figure 68) was designed in two halves that telescoped on each other, effectively changing the focal length of the camera. It could change its focal length from a minimum of 62cm to a maximum of 110cm with pre-set positions in between, located by two fixing bolts. As discussed earlier, the lens could hypothetically focus on infinity within 62cm although, after testing, I realised the furthest I could focus was roughly 15m away with the camera set to a focal length of 65cm.

Figure 68: *MK III Camera*. Photograph by Mike Gray.

Figure 69: Mike Gray, (2014l), *Queens Crescent 05*, archival inkjet print, 100cm x 80cm

The most success I had with the camera in that configuration were images taken from an elevated position looking down at foliage, similar to Figure 69. The comparatively short focal length translated to a wide field of view that consequently posed compositional issues. Finding a scene with a large field of foliage that could be

photographed from such a position to compose the sky out of the shot proved difficult in suburban Perth. I found one location, however, that I was able to investigate continuously for the next twelve months, having also access to a darkroom on that site.

Ocular obscura development

During that period, September 2013 to September 2014 I focussed on both the photographic portion of *New Australian Plants and Animals* and the ocular obscura works. I commissioned local glass artisan Peter Reynolds to produce custom glass spheres to create more refined ocular obscura works. He was able to create spheres to an exact diameter (Figure 70) to match the focal length of certain single element lenses I had sourced. The glass was then chemically etched to give it a fine translucent layer so as to 'capture' the image. The first sphere produced was the basis of the resulting piece title*, Phenomoflex MK I* (Mike Gray 2014) (Figure 71).

Figure 70: *Phenomoflex MK I prototype construction and test*. Photograph by Mike Gray.

As discussed in Chapter Three, the materials used to construct the housing were chosen to promote a sense of colonial surveying equipment. Having the rear of the device open meant it worked optimally indoors pointed outside towards bright, sun-lit scenes. Technically, in this environment the resulting aesthetic was bright and sharp in certain areas, whilst from a phenomenological viewpoint the effect was sublime. Here I use the word sublime to describe a sense of awe that leads towards a sense of uneasiness. For me, after being mesmerised by the image there was a realisation, or questioning, regarding how dislocated I may have been from the reality if this unknown aesthetic represented the space where the physical world with intersected myself.

Figure 71: Mike Gray, (2013*), Phenomoflex MK I*. Photograph by Mike Gray.

From this work I immediately planned either larger and/or more immersive works based on single-element lenses and spheres, with the aim of further approaching a hypothetical ocular aesthetic. Initially, the more immersive works were based on using multiple, smaller spheres in tandem. This culminated in the piece, Double-Barrel Phenomoflex (Mike Gray, 2014) (Figure 74), As discussed in Chapter Three, this work is based on binoculars where the scene perceived by the left and right eye combine to form a single image. Partially, this work began an experiment to see if the combination of the two spheres would produce a three-dimensional effect. In the first prototype, I employed lenses from a late-nineteenth century stereoscope (Figure 72) at the rear of the device to promote a stereoscopic effect.

Figure 72: Mike Gray, (2013), *Double-Barrel Phenomoflex prototype*. Photograph by Mike Gray.

Stereoscope lenses are designed to be used with stereo-photographic pairs by fooling the eyes into focussing on a virtual point beyond where the stereo images are (Figure 73). My initial theory was that if I replaced the stereo-photographic pairs with two small ocular obscura works, then I would achieve the same stereoscopic effect.

This theory did not translate to a three-dimensional effect, however, and a different solution was required.

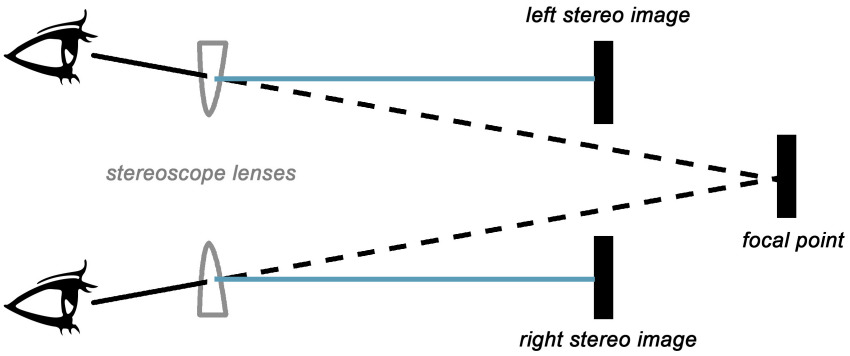


Figure 73: *Stereo lens optics.* Graphic by Mike Gray.

2014

Substantial creative output / Ocular obscura development

When assessing this prototype, I found the stereoscope lenses were also designed to magnify the image. By looking through the prototype with one eye, the ocular obscura appeared closer, nearly filling my field of view. From this observation I redesigned the device with two pairs of magnifying lenses (sourced from gun scopes) to replace the stereoscope lenses. Also, I replaced the two light-globe spheres I had used for the prototype with two pairs of chemistry boiling flasks. These round-bottomed flasks were six centimetres in diameter, which proved to be important as they correlate to the average distance between two eyes. To be repurposed, I removed the stem of the flasks and etched the surface with sandpaper to create the translucent surface.

Unlike binoculars, which are designed to adjust to both the viewer's focussing ability and distance between their eyes, Double-Barrel Phenomoflex has a fixed design based on my personal physiology. The two spheres are placed 6.5 centimetres apart, and as I'm shortsighted, the magnifying lenses were placed at a suitable distance from the two spheres to provide sharp focus for me.

Figure 74: Mike Gray, (2014e), *Double-Barrel Phenomoflex*. Photograph by Mike Gray.

The construction materials for this work were made available by the Western Australian Police Force through an initiative to supply artists with amnesty gun parts to use in the construction of artworks. Whilst this conceptually aided the work by metaphorically promoting it as a colonial survey device, it also hindered adjustements. The inability to adjust the parameters needed to suit individuals proved to be an issue for this work in an exhibition context, leaving open the opportunity to redesign it in the future.

When viewing a scene through this device there is a slight three-dimensional effect somewhat diminished by not being able to focus both the ocular obscura lenses and the viewer's magnifying lenses (Figure 74). This translates to a fixed distance of any scene being rendered sharp inside the ocular obscura works with only a certain amount of people being able to focus on that sharp information via the magnifying lenses. Again, this could possibly be overcome in future designs that allow the three-dimensional effect to be more pronounced. Another potential adjustment parameter that could be incorporated is the ability to converge the two spheres when viewing features at close range. This would replicate the ability of human eyes to converge.

Regardless of the level of depth perceived with this design, the work produced a greater immersive experience than that of Phenomoflex MK I (Mike Gray, 2014). Held up to the viewer's face, the housing was designed to block-out the world leaving only the experience of the two spheres merging together as one.

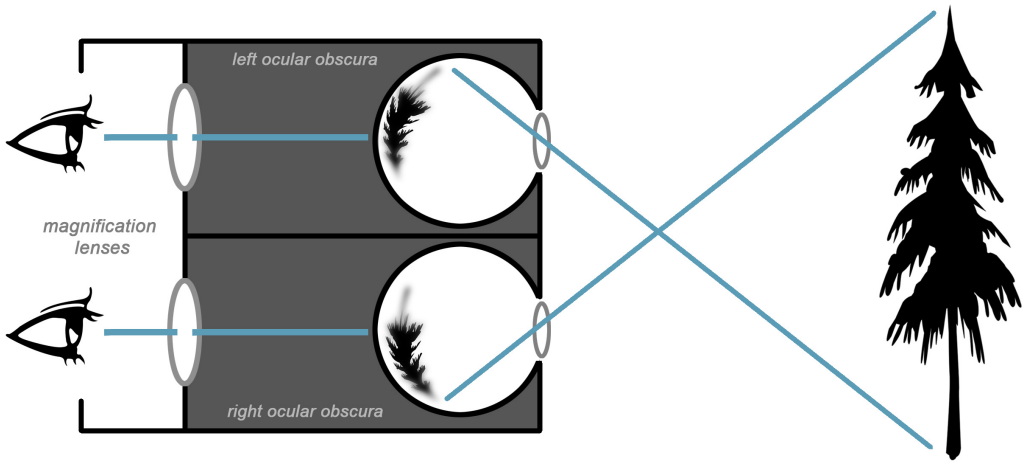


Figure 75: *Double-Barrel Phenomoflex optics*. Graphic by Mike Gray.

After producing Double-Barrel Phenomoflex, two subsequent experimental pieces were derived from its material and conceptual qualities: firstly, a camera designed around a gun scope, and secondly, a stereoscope that used images produced by single-element lenses. The camera, entitled Sawn-off Camera (Mike Gray, 2014) (Figure 76), was based on an Agfa folding medium-format camera that had its lens replaced by a single-element lens housed in a sawn-off gun scope. The resulting lens coverage area was limited by narrowed gun scope housing and subsequently produced circular images (Figure 76). Several images produced by this camera were grouped together to produce the work, Aborscopic study (Mike Gray, 2014) (Figure 31). The images were presented as a line of circular images to promote a sense of isolated targets, 'shot' by the camera.

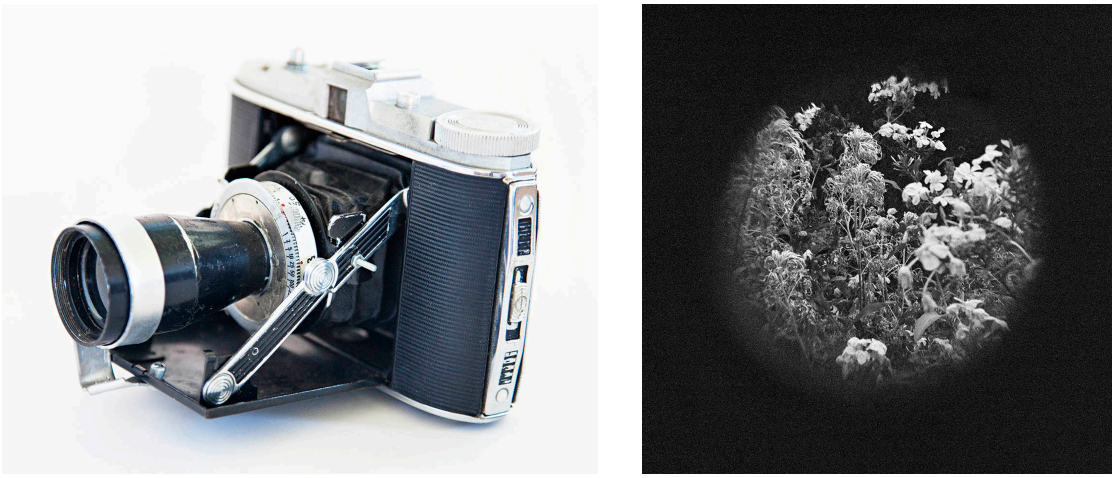


Figure 76: Mike Gray (2014) *Sawn-off camera and Aborscopic Study (detail).* Photograph by Mike Gray

The stereoscope prototype was created in an effort to produce a definite three-dimensional effect based on single-element lenses (Figure 77). The images (Figure 78) were produced using the camera/lens combination I created for the series, Uncanny Valley (Mike Gray, 2009), which was based on single-element lenses married to a high-end digital camera. In order to produce a stereo pair using only one camera, I shot two images in quick succession thirty centimetres apart, aimed at the same object.

Figure 77: Mike Gray (2014) *Stereoscope*. Photograph by Mike Gray.

The stereoscope was constructed using wood and parts sourced from a microscope to allow for focus adjustments. Similar to the work, Double-Barrel Phenomoflex, The viewer holds the device so the housing blocks out the outside world, leaving only the magnified images filling the viewer's field of vision.

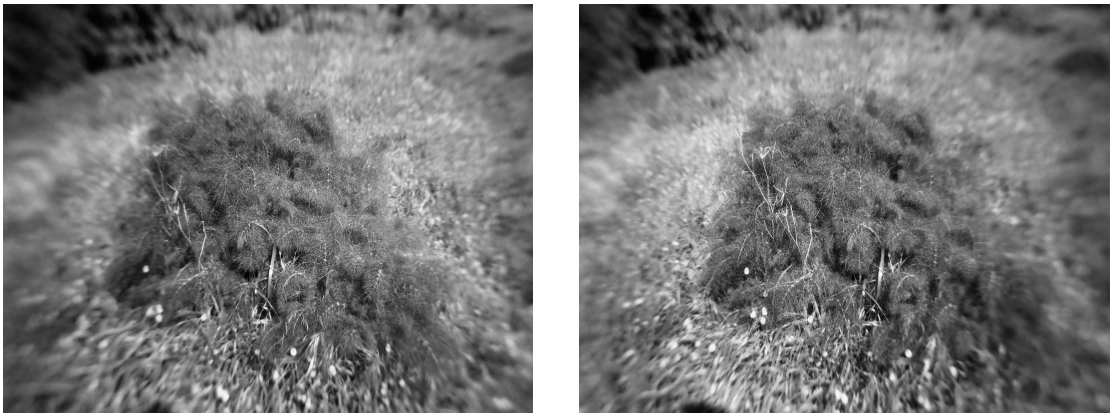


Figure 78: Mike Gray (2014) *Stereo Images*, archival inkjet prints, 16cm x 6.5cm

I found this process to be very successful in terms of producing a three-dimensional image for only a select group of people. For the viewers who were able to let their eyes be directed by the stereoscopic lenses, a pronounced sense of depth was

perceived. This effect can also be achieved in this exegetical format using the images below if the viewer is able to cross their eyes in a specific manner. When viewed at a suitable scale and distance (the two images filling a screen and viewed from roughly the same distance as the screen width) the viewer crosses their eyes so a third image appears in the middle of the original two. Once consolidated by the mind, this third image appears three-dimensional.

As any perceived sense of depth is dependant on the viewer's ability to let their eyes be directed by stereoscopic lenses or to be crossed eyed, this work had limited success. As a result, I experimented with modern three-dimensional technology that could potentially overcome those limitations. I was able to source a 3d projector that works in tandem with 3d glasses. Whilst this technology is designed to project video, I was able to project the stereo, still images from two laptops connected to the projector (Figure 79). This proved successful in terms of the effect being perceived easily by the viewer but, in the context of the research, the modern technology employed seemed to detract from the experience in ways I hadn't anticipated. Being different from the 3d technology I was previously used to, based on a red/cyan colour shift, it appeared as if this technology relied on both the glasses and projector rapidly changing frequency in ways that disrupted the experience. For this reason, I discontinued developing work with this technology.

Figure 79: *Stereo projection tests*. Photograph by Mike Gray.

By 2014, progress on the up-scaled ocular obscura works had begun. The initial issues connected with this were sourcing large focal length single-element lenses and discovering which materials I could use as a sphere. I had sourced a sixty-seven centimetre focal length lens from an over-head projector but I could not use a glass sphere that large because, amongst many issues, the opening to the glass kiln was only thirty centimetres wide.

Figure 80: *Weather balloon tests*. Photographs by Ben Waters and Mike Gray.

The first solution to this was to employ a weather balloon (Figure 80). In this experiment, the lens housing had a valve incorporated that enabled the balloon to be inflated. When placed inside a darkened room the thin translucent surface of the balloon easily captured a sharp image. Again, when viewing a new work for the first time, I experienced the sense of awe described previously, although displaced by the need to address the balloon's tendency to deflate over time. One idea was to permanently incorporate an air compressor that was controlled by pressure sensors. Using this solution I also envisaged I could make the sphere appear to breathe by introducing greater variance. This effect would also change the focal distance by default, raising the possibility that inflation/deflation could also be controlled by the viewer as way of purposely changing focus. Whilst those possibilities were conceptually appealing, I decided that these solutions would not be sufficiently robust to work in an exhibition environment. From this point, I decided to look for a solid material for the sphere; however, this concept of automated breathing, derived from experimenting with weather balloons, was incorporated into future works.

Beyond weather balloons, I decided to use a custom-formed acrylic sphere for an installation. After approaching local manufacturers, I determined that the least expensive solution was to have a custom-made sphere produced in China and shipped to Australia (Figure 81).

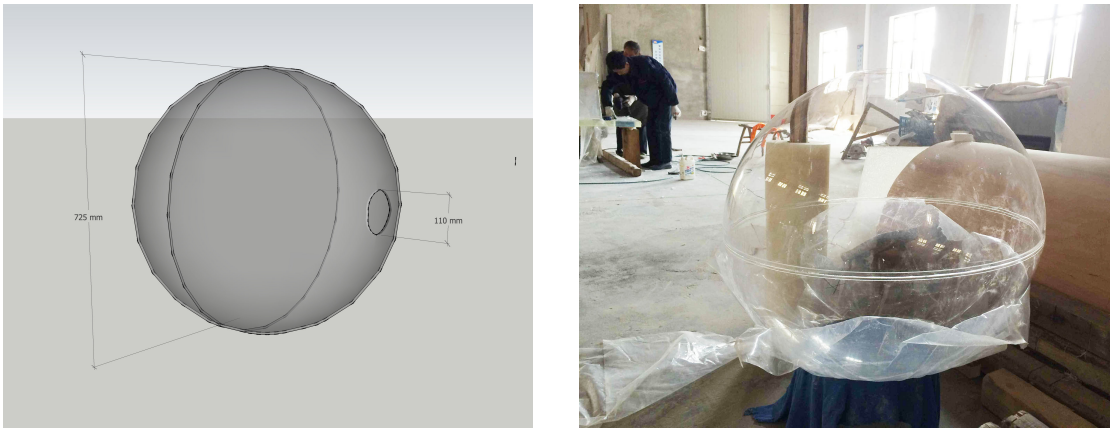


Figure 81: *Sphere design and manufacture*. Graphic by Mike Gray, photograph by Manner Yu.

Figure 82: *Phenomoflex MK II construction*. Photograph by Mike Gray.

Figure 83: Mike Gray (2014j)*, Phenomoflex MK II*. Wood, glass and steel. 40cm x 40cm x 40cm. Photograph by Mike Gray.

In the interim period I began constructing another glass ocular obscura based on the largest sphere Pete Reynolds could create (Figure 82). This sphere was physically sanded to produce the translucent surface in order for an image to form. To support the sphere inside a housing, a steel bracket was designed (and manufactured) so it

could not be seen from the viewing position. The plywood box was lined with velvet to absorb extraneous light in an effort to make the housing as dark as possible. Figure 83 documents the result, Phenomoflex MK II, (Mike Gray, 2014).

Figure 84: *Phenomoflex installation virtual mock-ups*. Digital illustrations by Mike Gray.

During this time, I also drafted several virtual mock-ups of the ocular obscura installation, as documented by Figure 84. Initially, I planned to house the sphere in an existing structure as to be aimed outside, but it was difficult thinking of a location that looked out onto a conceptually suitable scene. The next idea was to create a gallery-based installation and house the sphere in a canvas safari tent, aimed towards a conceptually pertinent backdrop inspired by the work of John Glover (as discussed in Chapter Three). Both the safari tent and backdrop were designed to reference colonial, botanical surveys. I subsequently moved away from the idea of using a safari tent, as potentially, the work would also be installed outdoors and therefore had to be robust enough to cope with the environment and general public. That directed the design of the housing towards materials similar to those used in Phenomoflex MK II (Mike Gray, 2014). The virtual mock-ups were created using a combination of stock photographs and 3D and digital editing software.

When the acrylic sphere arrived in Australia, work began on preparing the surface and fabricating the necessary stand. The acrylic surface was etched with sandpaper and the stand was designed to hold the sphere at head-height. After this was complete, the sphere was ready for initial testing (Figure 85). This test was conducted in a 'blacked' out room looking onto an ornamental garden. The meniscus lens employed, originally from an overhead projector, had a diameter of twelve centimetres.

From this successful test, the next phase was commissioning a backdrop to be painted based on John Glover's painting style. The dimensions of the canvas, four metres by six metres, were determined to adequately incorporate the additional sky and ground information needed for the canvas to work as a diorama. The painting was created by Graeme Richards in his Perth studio.

Figure 85: *Phenomoflex sphere fabrication and test*. Photographs by Mike Gray.

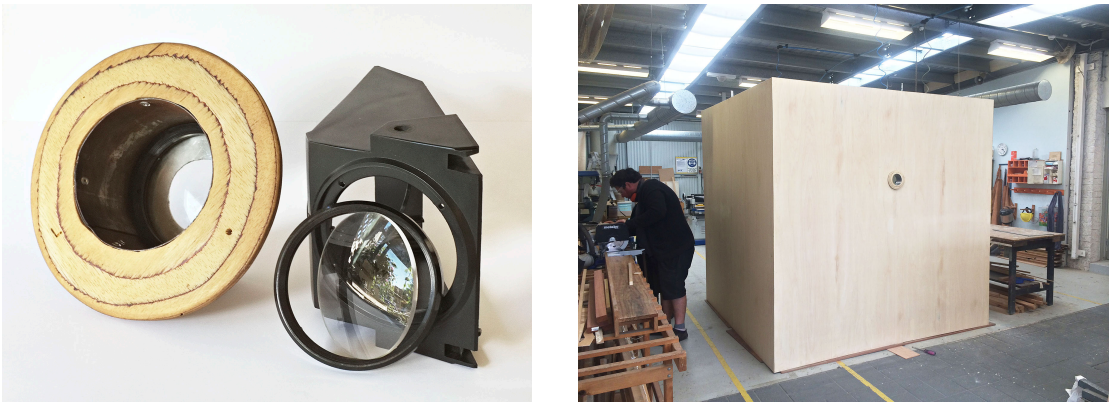


Figure 86: *Phenomoflex installation lens and viewing room*. Photographs by Mike Gray.

Figure 87: *Phenomoflex installation backdrop progress*. Photographs by Mike Gray.

Created over a two-week period, the backdrop was then glued to the curved surface of the backdrop rig. Built from galvanised iron and aluminium, the backdrop rig was produced to exactly fit the main gallery at the Perth Centre for Photography. It was designed with a curve similar to the infinity curves built into photographic studios, to eliminate a sharp transition from vertical to horizontal surfaces,

Figure 88: *Phenomoflex backdrop rig construction and test installation*. Photographs by Mike Gray.

During this period, the video installation Forest / Forrest Walks (Mike Gray, 2014) was created. As discussed in Chapter Three, the work aims to suspend the role of saccadic eye movements within perception whilst simulating an ocular aesthetic. A 1.5 m dome, originally a bulk recycling bin lid, was prepared to work as a video screen (Figure 89). The openings were fibre-glassed over using a mould cast from other areas of the dome. The video footage was edited with a circular black mask so as to only project footage onto the dome. In an installation setting, an audio monitor was placed near the viewing position. The audio, originally recorded with the video

footage, was edited as to reduce it to only the muffled, bass frequencies that are potentially experienced through the body when the ears are covered.

Figure 89: Mike Gray, (2014f) *Forest / Forrest walks construction and installation*. Photographs by Mike Gray.

2015

Substantial creative output / Plastic bag work development

In 2015, the ocular obscura works were redesigned to experiment with different materials, primarily plastic bags. In regards to 'capturing' an image, white plastic bags have the same translucent qualities as the acrylic and glass spheres. Initial tests involved a cardboard box that had a single element lens attached and the interior painted black to reduce extraneous light. The plastic bag was inflated using a computer case-fan powered by a nine-volt battery (Figure 90).

Figure 90: *Backyard bag study tests*. Photographs by Mike Gray.

The result of this experiment produced another unforseen development in the research through documenting the plastic bag photographically from behind. From what was initially only a documenting image, the work *Backyard Bag Study* (Mike Gray, 2015) was arrived at. To re-introduce the sense of light filling the plastic bag, the image was printed on transparency material and back-lit in a custom-made lightbox. The light source for this work is provided by multiple led (light emitting diode) strips positioned fifteen centimetres from the image.

Figure 91: Mike Gray, (2015a), *Backyard Bag Study*, back-lit transparency, 170cm x 107cm

From this test, the final work created as part of this research emerged. Initially, *lakeside* (Mike Gray, 2015) was designed to work in a similar fashion to the ocular obscura works: light projected into a translucent sphere-shaped material through a single element lens. Beyond that, I envisaged that the plastic bag could 'breathe' via an automated device, as discussed previously in relation to the weather balloon test. This eventuated in an automatic inflation/deflation system that was commissioned and built by a mechatronic engineer Tim Jewell, who programed a dual-current electric motor to drive a fan housed inside the plinth that the work is presented on.

There were some issues with this work as the planned exhibition space did not have a sufficiently bright light source to make the piece perform adequately so another

solution was needed. To solve this, I initially experimented with having the piece face a television monitor or a backlit photograph; however, the result did not replicate the sensation of *Bagyard Bag Study* in terms of brilliance. The final solution was arrived at when I witnessed someone looking though the wrong end of an ocular obscura, through the lens into the sphere. I experimented with positioning a video screen behind the plastic bag with the viewing position changed to be through the lens.(Gray, 2014n)

Figure 92: Mike Gray, (2015b), *Lakeside*, Glass, cardboard, plastic, monitor, electric fan, 60cm x 42 cm x 150cm. Photographs by Mike Gray

Housed inside the plinth (Figure 92), a laptop played a continuous loop of video that was presented on the monitor above. Also in the plinth was the automated 'breathing' system that also continuously cycled through inflation/deflation over twenty seconds. As the bag inflated the image on the monitor was resolved before disappearing when the bag deflated. The large magnifying glass lens that viewers looked through enlarged the interior of the plastic bag, thus immersing the viewer in the scene.

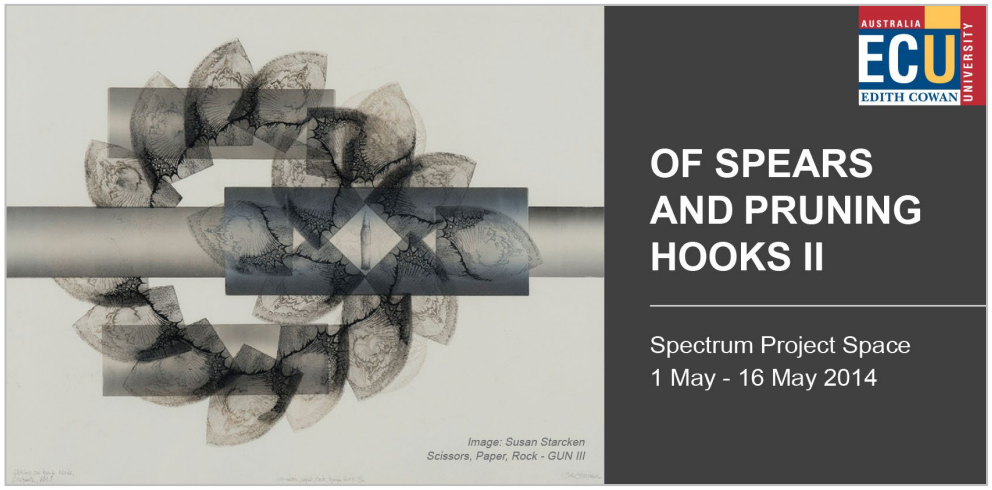
APPENDIX 01 / Exhibition documentation

Spectrum Project Space / install

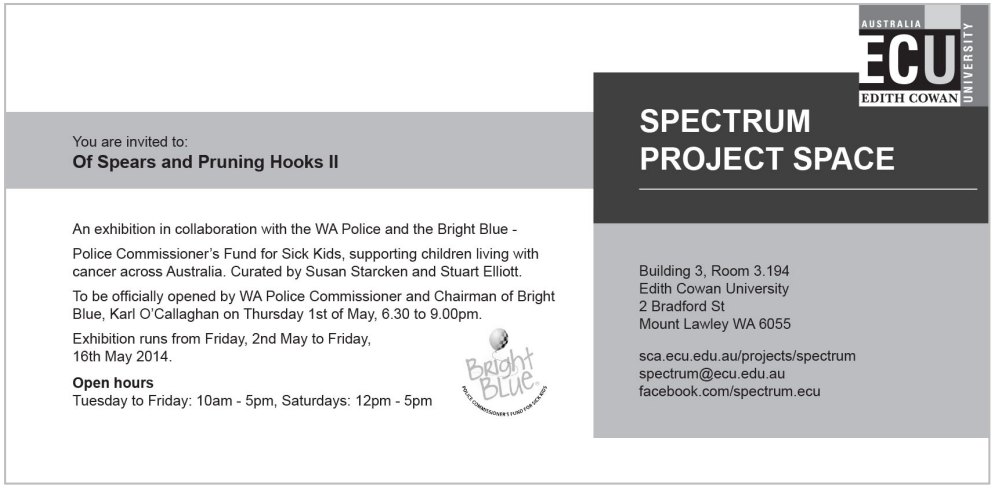
Mike Gray, (2014), Aborscopic Study, archival inkjet print, 110cm x 23 cm

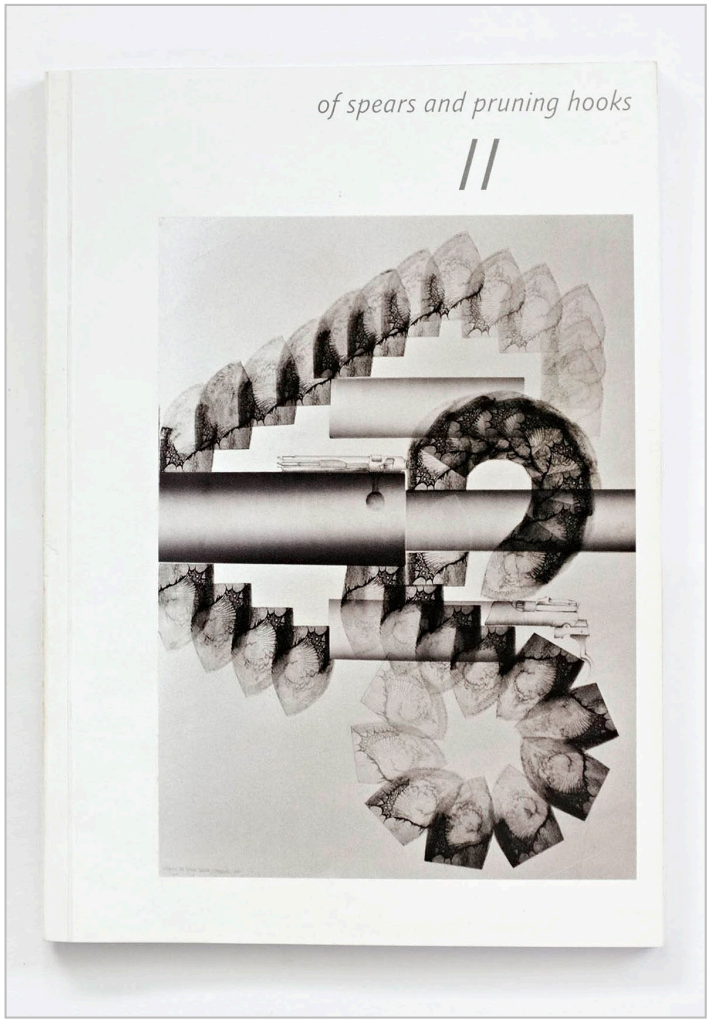
Mike Gray, (2014), Double-Barrell Phenomoflex, wood, glass, and steel, 21cm x 25cm x 12cm.

Mike Gray, (2014), Sawn-off Camera, glass, and metal 14cm x 10cm x 8cm.



Exhibition invite

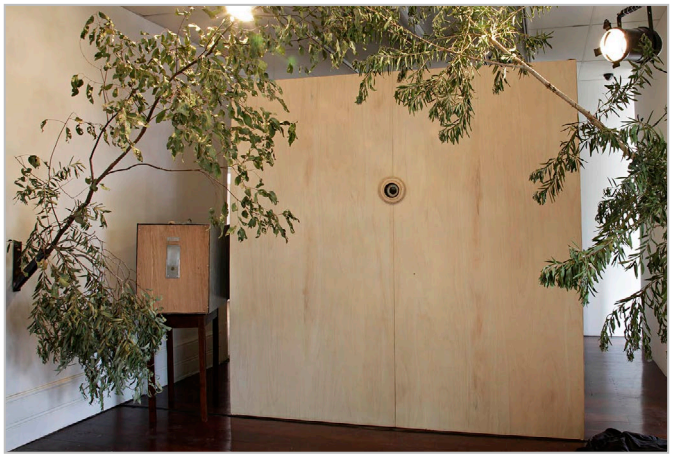




Exhibition catalogue

Perth Centre for Photography / entrance

Mike Gray, (2014), Phenomoflex (installation detail), canvas, acrylic, glass, wood, and metal, 240cm x 240cm x 5000cm

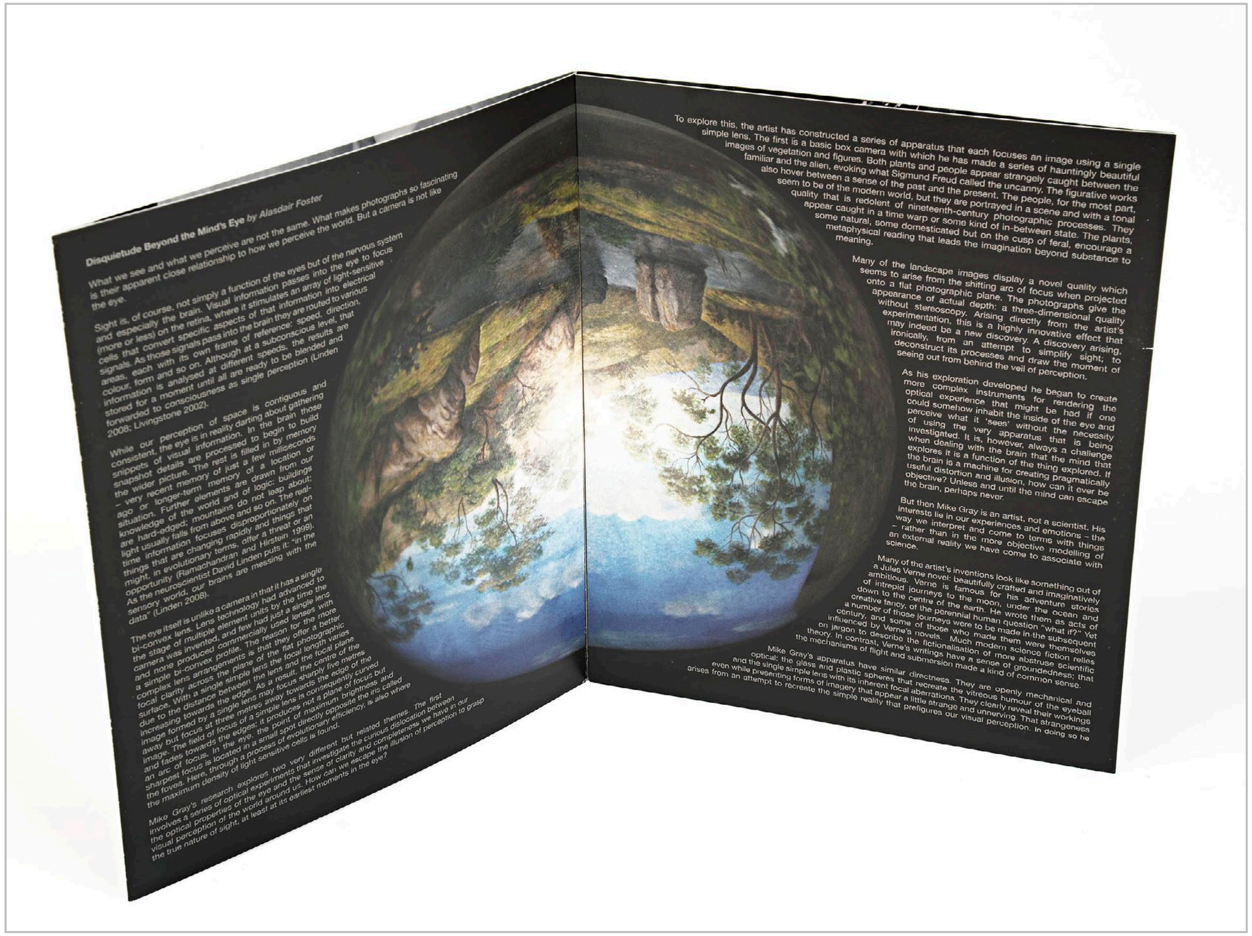


Mike Gray, (2014), Phenomoflex (installation detail), canvas, acrylic, glass, wood, and metal, 240cm x 240cm x 5000cm

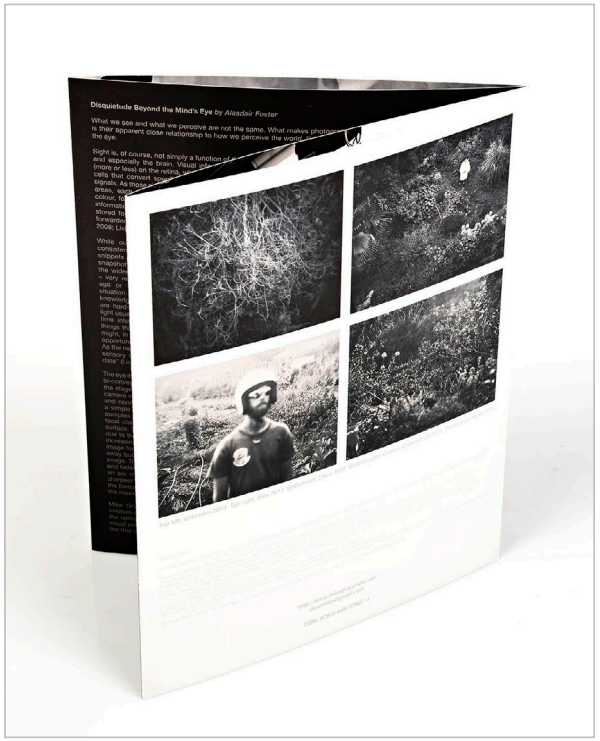
Perth Centre for Photography / install

Mike Gray, (2014), Phenomoflex MKII, glass, wood, and metal, 40cm x 40cm x 40cm

Perth Centre for Photography / install

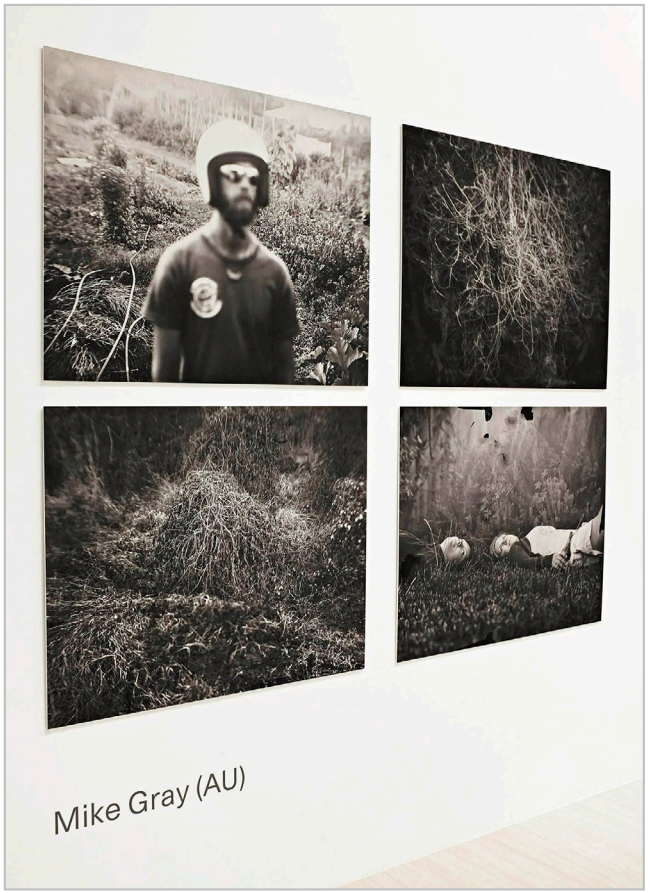


Exhibition catalogue



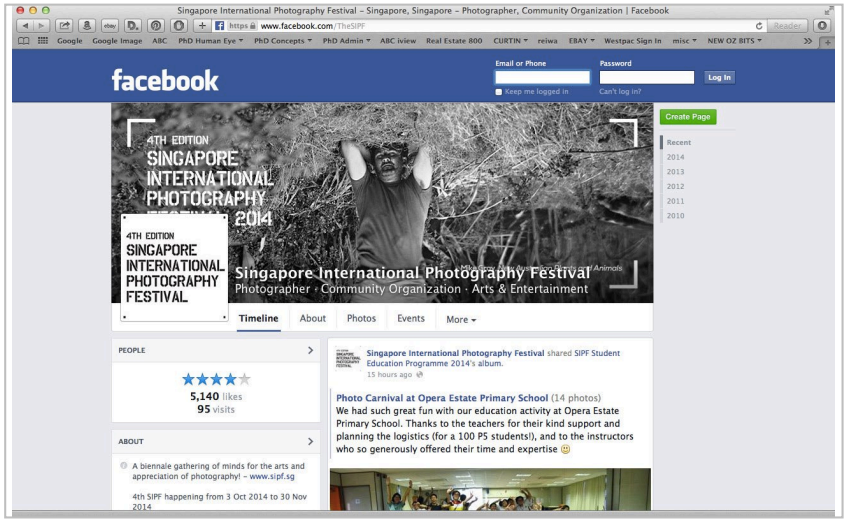
Exhibition catalogue

Exhibition invite



Singapore Nayional Museum / install

Exhibition conference

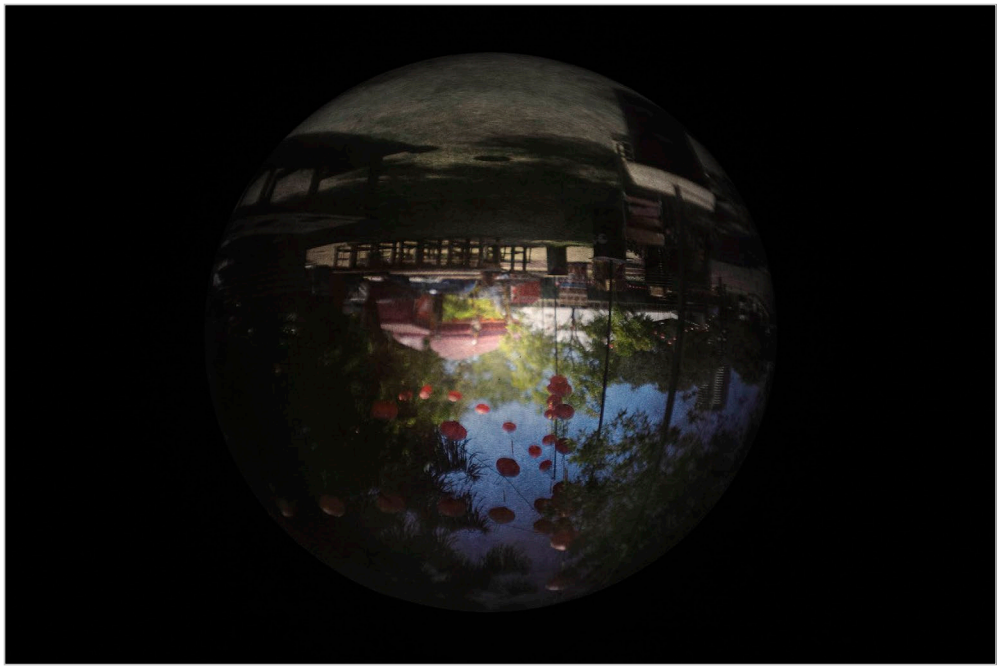


Social media promotion

Exhibition catalogue

Perth cultural precinct / install

Perth cultural precinct / install



Russell Square / install

Laeside Joondalup / install

Exhibition invite

Exhibition catalogue

MIKE GRAY

Mike Gray has worked for the past twelve years as a practicing artist with his preferred medium being photography. During that time he has applied several unique experimental photographic techniques to produce distinct bodies of work, where the technique compliments the concept. Some previous themes explored include concepts of machismo, uncanny suburbia and the continuing invention of Australian identity.

With his latest series, *New Australian Plants and Animals*, Gray's work has moved beyond photography. This is a multi-disciplinary body of work based on single-element lenses that produce an aesthetic similar to what is (hypothetically) experienced inside the human eye. The work comprises photographic, sculptural, video and installation pieces that re-introduce the viewer to a preconscious ocular phenomenon.

By isolating the ocular part of vision from the mind's role in perception, a fundamental yet unknown phenomenon is revealed. Gray finds that this is in some ways sympathetic to the immeasurable relationship between continental Australia and the introduced colonial psyche. He draws parallels between certain introduced plants in Australia that have inexplicably gone beyond adaptation to rapidly evolve into new species as a metaphor for the colonial experience.

An important artistic development within this series is the translucent spheres that the viewer interacts with. Looking much like a camera obscura, the outside world is projected into the spheres housed inside via a single element lens. When seen from behind, the viewer is looking at the world from the equivalent of the back of their eye. They are looking at the world and the back of their eye simultaneously, outwards and inwards.

The work that has been created for the 2015 City of Joondalup Community Invitation Art Award is a continuation of that series with the context of the award's exhibition space, Lakeside Joondalup Shopping City, providing the inspiration for thematic changes in both the materials used and subject matter.

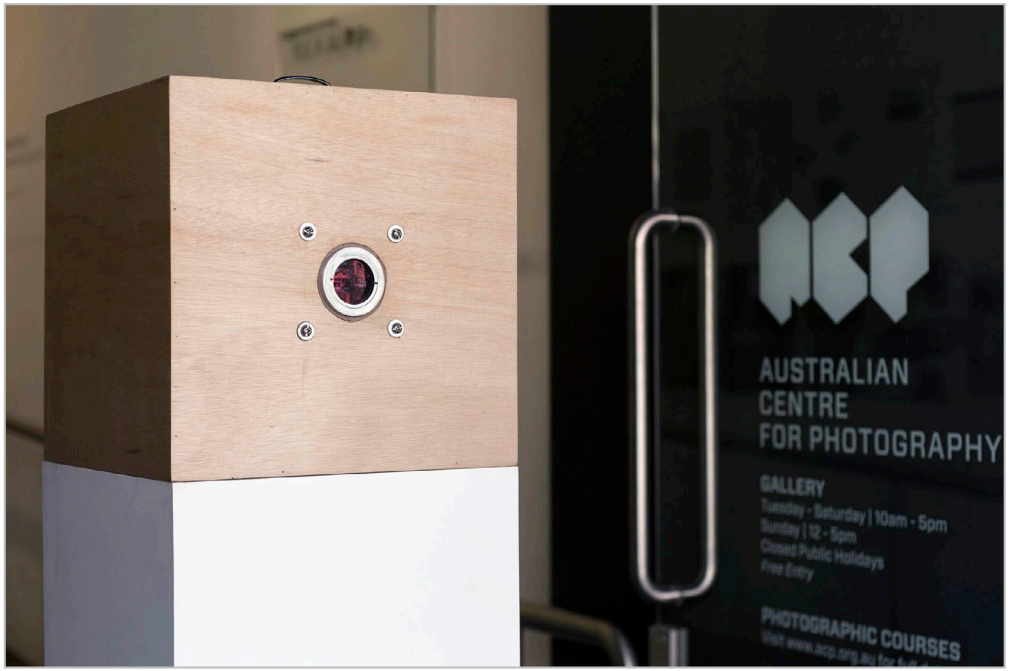
Mike Gray, *Backyard bag study 01*, 2015.

29

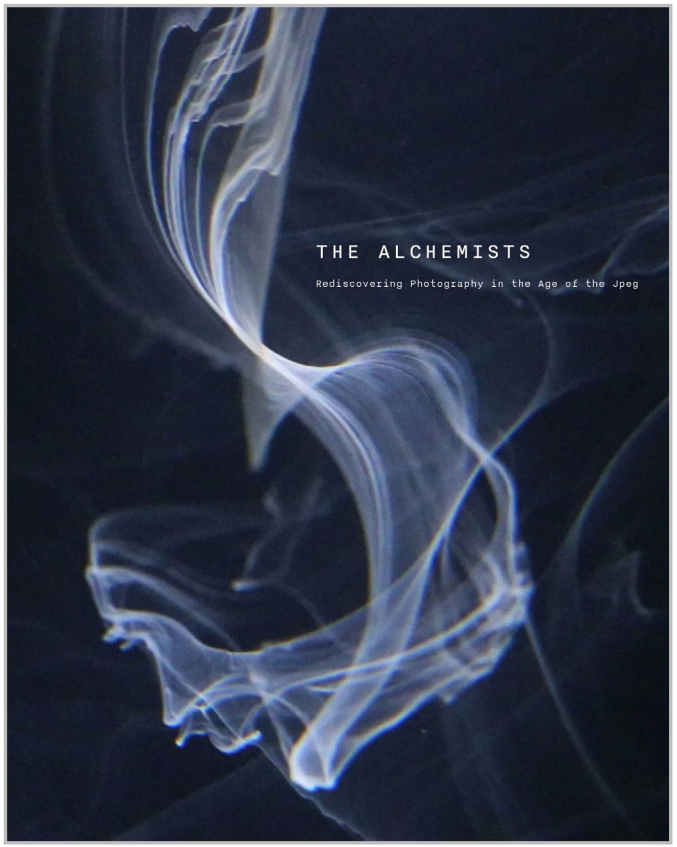
30

Exhibition catalogue

Australian Centre for Photography / install



Mike Gray, (2014), Phenomoflex MKII, glass, wood, and metal, 40cm x 40cm x 40cm



Exhibition catalogue

MIKE GRAY

Mike Gray lives and works in Perth. Selected solo exhibitions include *New Australian Plants and Animals*, Singapore International Photography Festival (2014); *China Diptychs*, Festival Internacional de Fotografía de Valparaíso, Chile (2011); and *Assorted*, Perth Centre of Photography (2008). Selected group exhibitions include *View from the Window*, Edmund Pierce, Melbourne (2014); *Of Spears and Pruning Hooks*, Spectrum Project Space, Perth (2014); *Becoming*, University of Science and Technology, Shanghai (2013); *The Abandoned Boudoir*, nhow Milano, Milan (2013); *Beautiful South*, Clasko, The 8th Gallery, Tokyo (2011); *Be a Hero*, Kaunas Photo Festival 09, Kaunas, Lithuania (2009); *Hijacked*, Neunplus, Berlin and The Arm, New York (2008); and *Surface Tension*, Australian Centre for Photography, Sydney (2004).

26

Phonomex MK II, 2014
Single element lens projecting into a glass sphere
40 x 40 x 40 cm

All works from the series *New Australian Plants and Animals*

All works courtesy of the artist

1/

3/

1/
Dave, 2012
archival inkjet print
110 x 85 cm

2/
Vina, 2013
110 x 85 cm

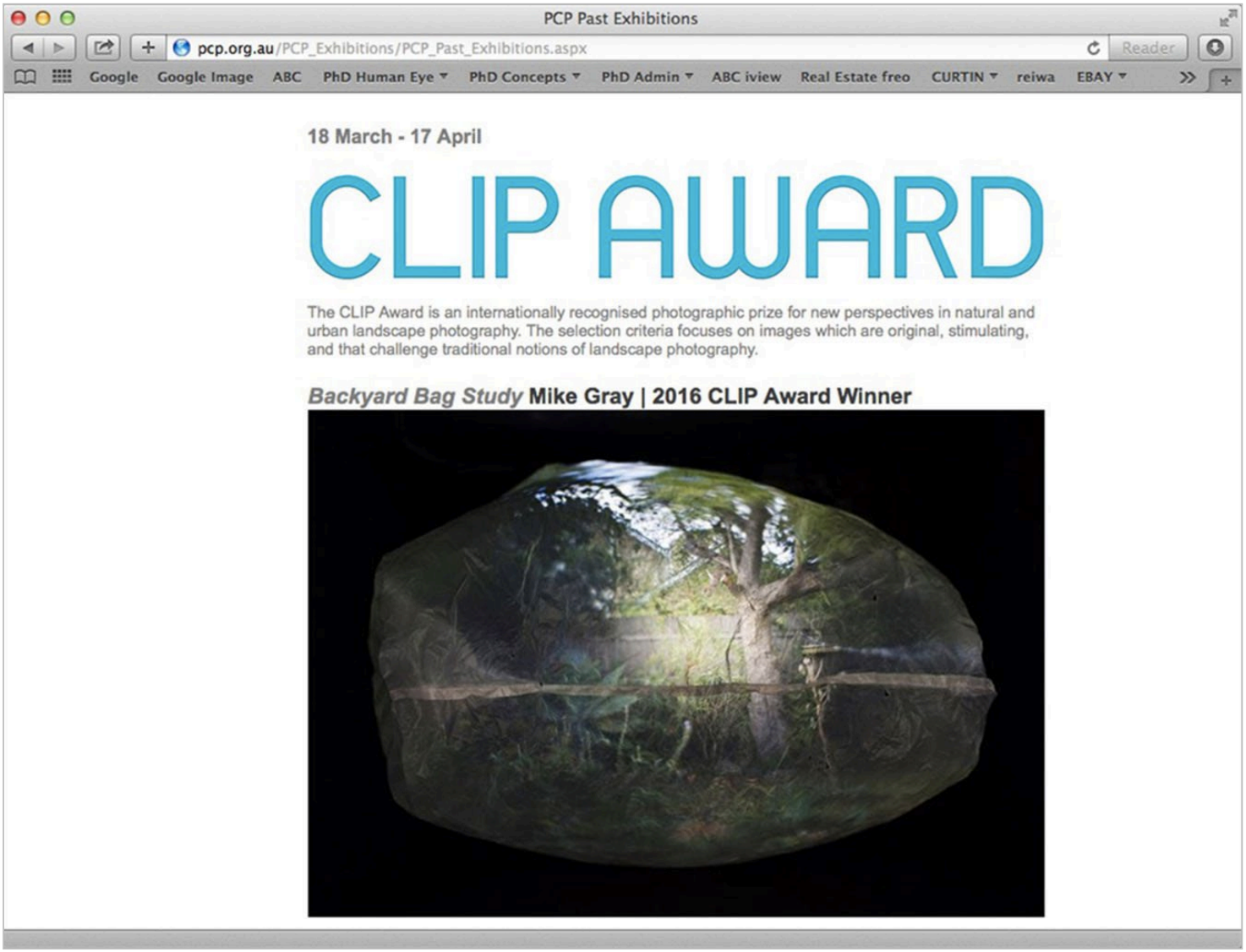
3/
Unknown, 2013
110 x 85 cm

4/
Susie and Nic, 2011
110 x 85 cm

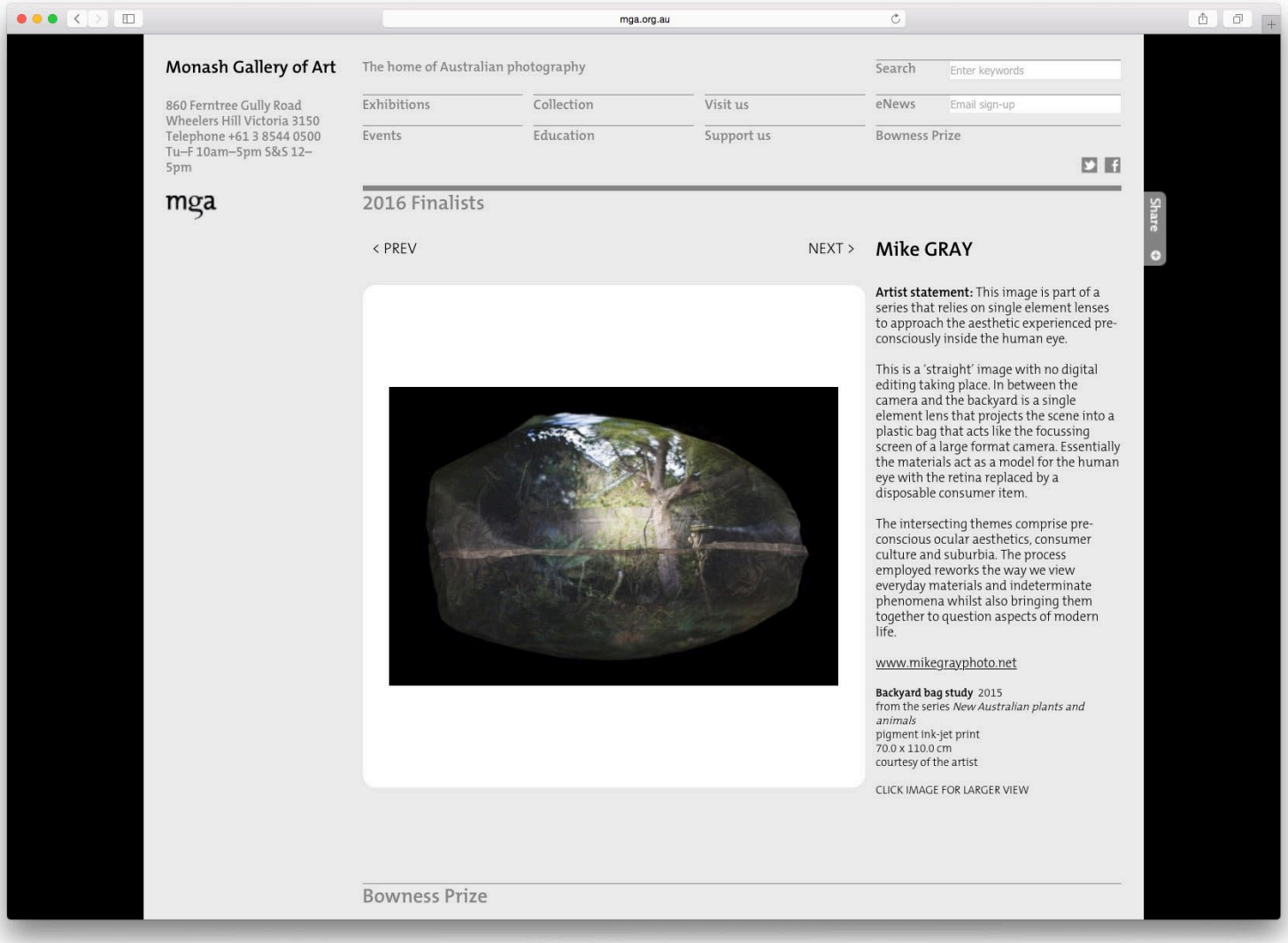
2/

4/

27



on-line promotion



on-line promotion

Mike Gray (2011)
Suzi and Nic
archival inkjet print
140cm x 110cm

Mike Gray (2013)
Unknown
archival inkjet print
140cm x 110cm

Mike Gray (2013)
Vine
archival inkjet print
140cm x 110cm

Mike Gray (2013)
Dave
archival inkjet print
100cm x 80cm

Mike Gray (2014)
Alex
archival inkjet print
140cm x 110cm

Mike Gray (2013)
Dave B
archival inkjet print
100cm x 80cm

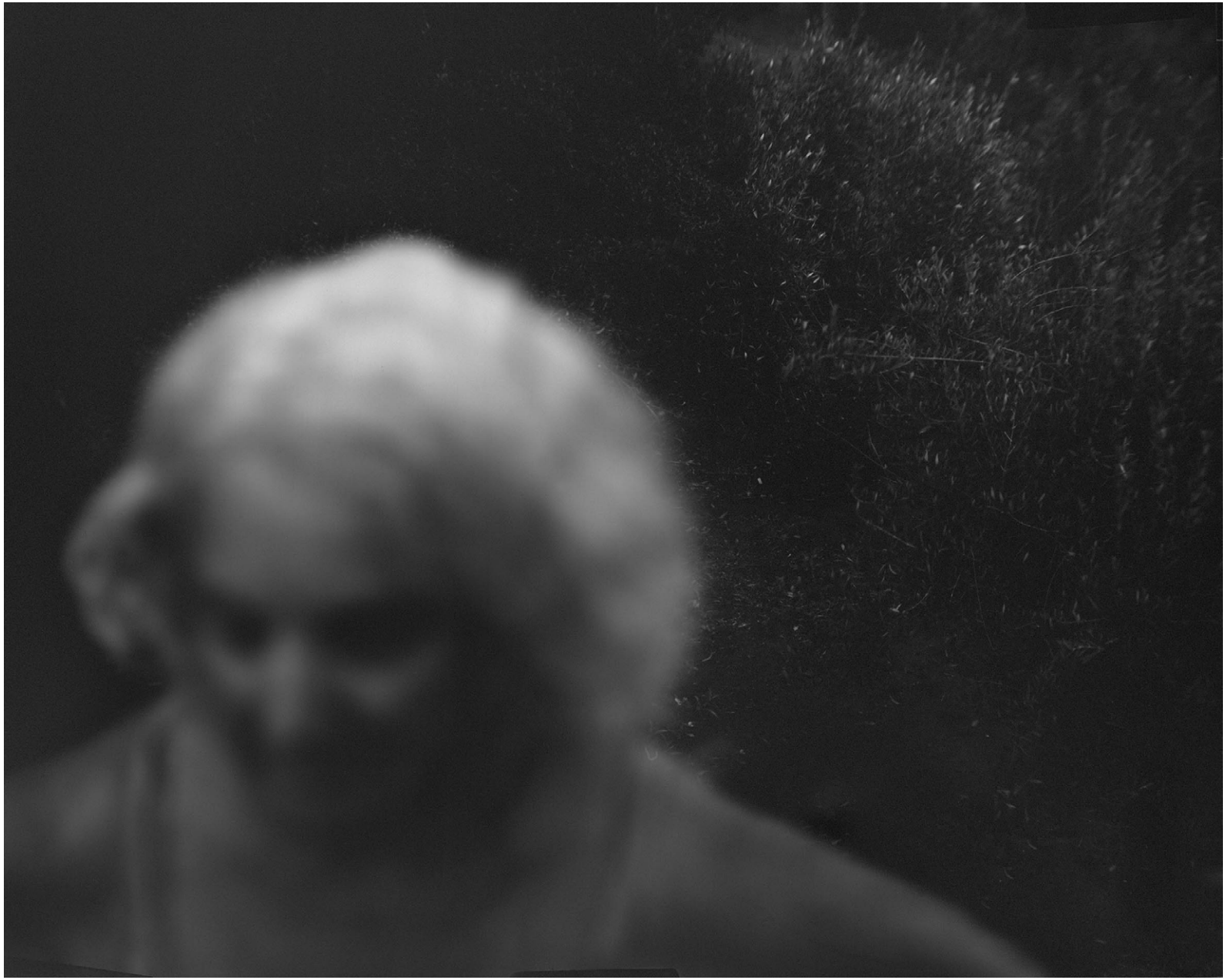
Mike Gray (2014)
Mike
archival inkjet print
110cm x 140cm

Mike Gray (2013)
Aloe
archival inkjet print
100cm x 80cm

Mike Gray (2013)
Sonny
archival inkjet print
125cm x 100cm

Mike Gray (2014)
Queen Crescent III
archival inkjet print
125cm x 100cm

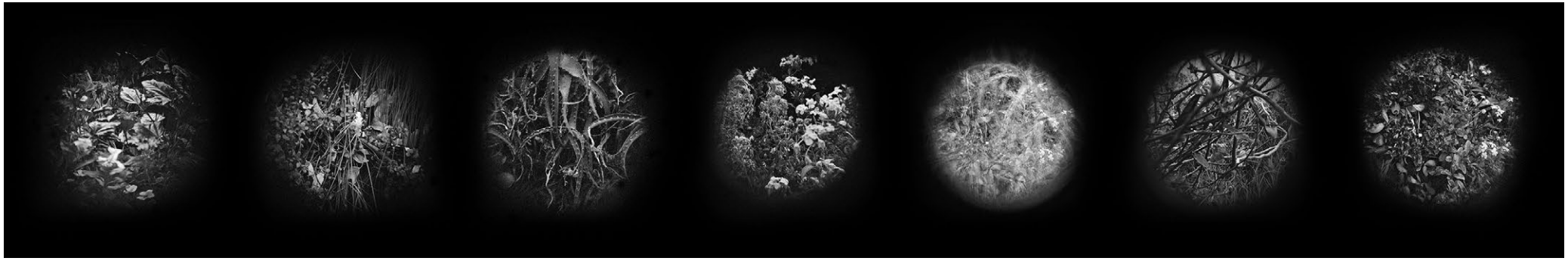
Mike Gray (2013)
Dan
archival inkjet print
100cm x 80cm



Mike Gray (2013)
Margaret
archival inkjet print
100cm x 80cm

Mike Gray (2014)
Queens Crescent I
archival inkjet print
125cm x 100cm

Mike Gray (2014)
Queens Crescent II
archival inkjet print
125cm x 100cm



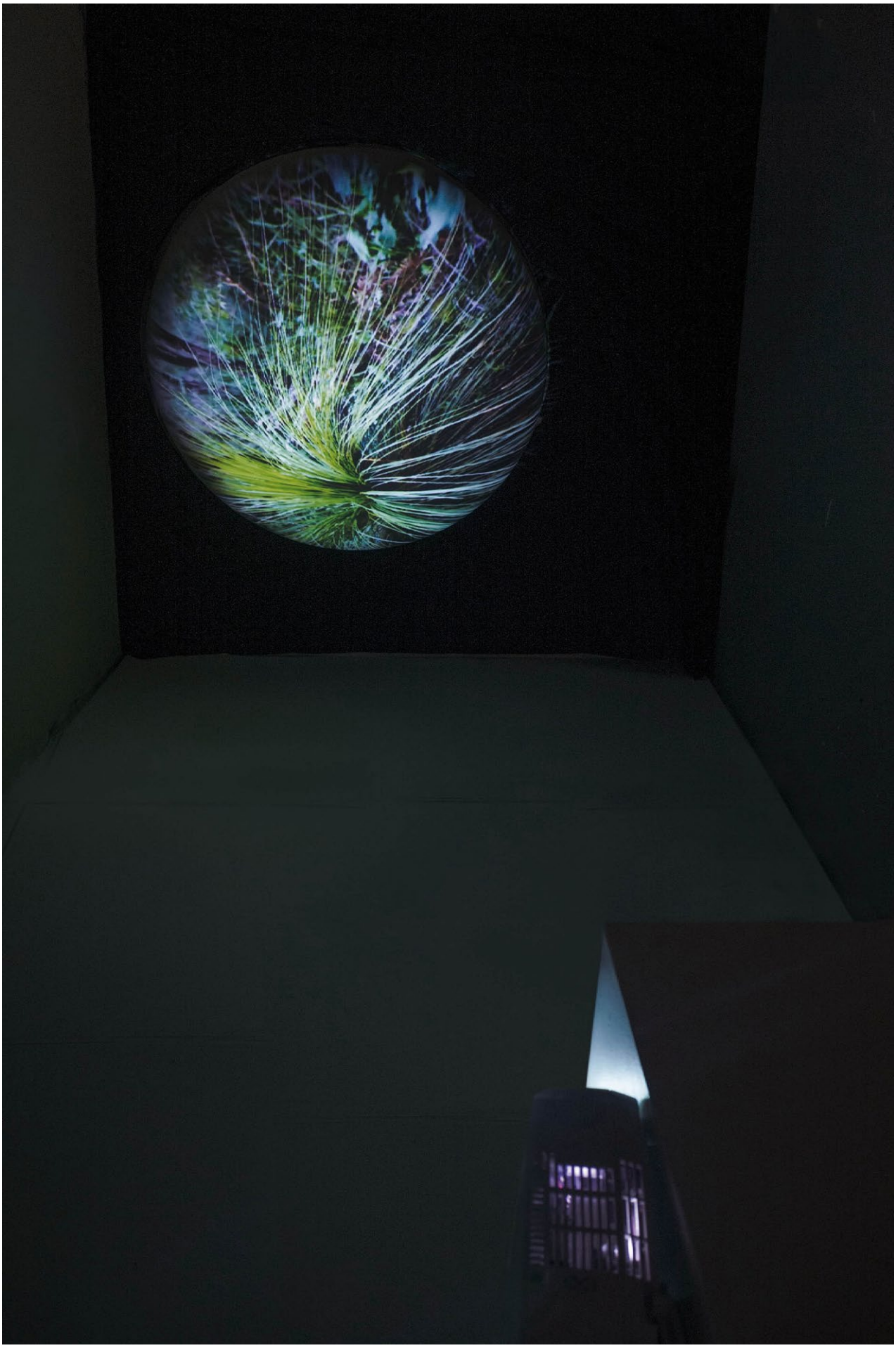
Mike Gray (2014)
Aborscopic Study
archival inkjet print
140cm x 25cm

Mike Gray (2014)
Double-Barrel Phenomoflex
wood, glass, steel
21cm x 25cm x 12cm

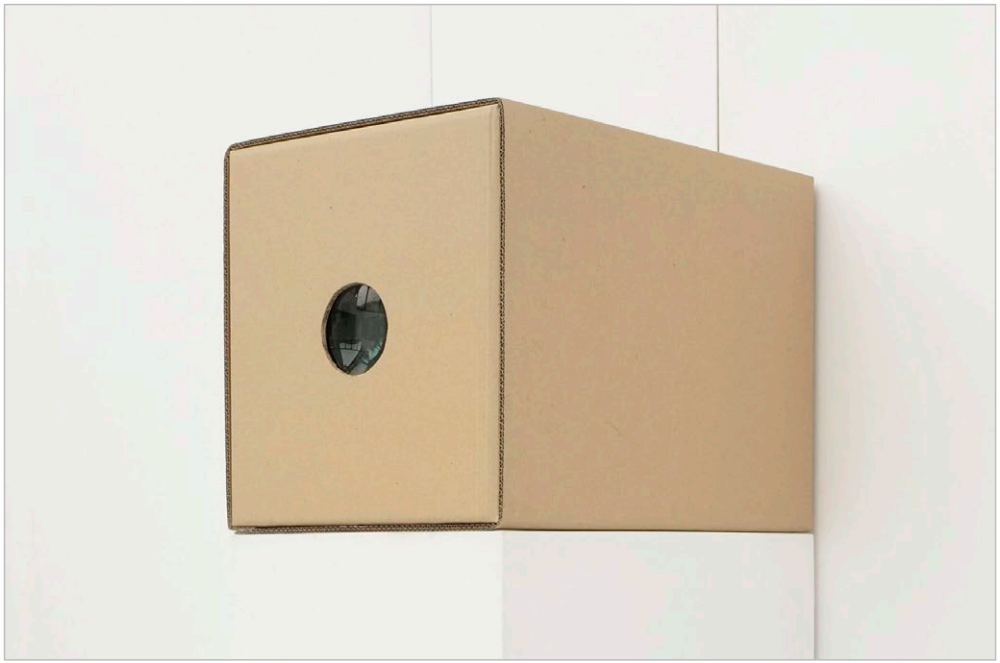
Mike Gray (2014)
Phenomoflex MKII
wood, glass, and steel
40cm x 40cm x 40cm

Mike Gray (2014)
Phenomoflex
Wood, glass, canvas,
metal and acrylic
240cm x 240cm x 600cm

Mike Gray (2015)
Forest / Forrest walks
150cm fibreglass dome
and video projector



Mike Gray (2015)
Backyard Bag Study
back-lit transparency
170cm x 107cm



Mike Gray (2015)
Lakeside
glass, cardboard, plastic, moni-
tor, electric fan
60cm x 42 cm x 150cm