

Australia Felix: Immersive Visions of The Great Southern Land

**PhD by artefact and exegesis
Daniel Stainsby**

Abstract

This project surveys how New Media is utilised to develop Virtual Reality (VR) experiences for creative immersive interactive photography. It is an investigation into how VR can enrich our experience and perceptions of the Australian landscape. The artefact and the exegesis intersect to explore how technology can shape our various relationships with the environment. Together they reflect the physical, spiritual and artistic research journey undertaken for this project. The artefact is an online experiential gallery that engages with the natural world as communicated through panoramic images of the Australian landscape. It demonstrates technical and artistic rigour and elevates VR photography as a digital art form. The exegesis reflects upon the aesthetics of the natural world in the digital milieu. It utilises the theoretical prism of ecocriticism to illustrate the confluence of the love of nature (biophilia) with that of technology (technophilia). The exegesis also offers insights into personal reflections on the creative process and its importance to scholarship. This draws together insights into creativity as knowledge, the importance of a love of nature and the impact of new technologies. In doing so it illustrates technobiophilia. The artefact and exegesis complement one another as the creativity of VR panoramic landscape art photography leads the academic research.

Acknowledgements

I would like to thank my supervisors for their insights and guidance:
Dr Carolyn Beasley; Dr Matthew Mitchell.

Further thanks to:
Professor Josie Arnold; Peter Arnold; Emma-Leigh Miller-Olsen; Sand Martin.

Thanks also to my family:
John Stainsby; Dr Clare Stainsby; Greg Stainsby; Javari Green.

To my supportive friends:
Claire Oriander; Ruby Walker-Smith; Adrienne Fanning; Amanda McMillan;
Bernadette Trenchman, my thanks.

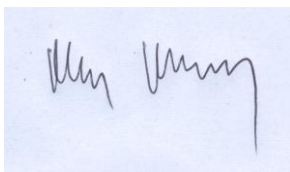
Declaration

I declare that this thesis:

1. contains no material which has been accepted for the award to me of any other degree or diploma, except where due reference is made in the text of the examinable outcome;
2. to the best of my knowledge contains no material previously published or written by another person except where due reference is made in the text of the examinable outcome; and
3. contains no work based on joint research or publications.

This thesis has been professionally copy edited by Dr Rachel Le Rossignol according to the Australian Standards for Editing Practice. Specifically the standards applied included D1, D3 to D5 and E1, E2 and E4. These standards relate to appropriate academic editing, including clarity of expression, spelling, punctuation and grammar, and ensuring the document meets the examining university's format, style and sequencing requirements.

Signed,

A handwritten signature in blue ink, appearing to read 'Daniel Stainsby', is shown on a light blue background.

Daniel Stainsby

Australia Felix: Immersive Visions of the Great Southern Land

Immersive interactive gallery

www.australiafelix.com.au

Artefact Daniel Stainsby

The gallery of *Australia Felix: Immersive Visions of The Great Southern Land* transports you as user through interactive immediacy into virtual reality experiences of the Australian landscape.

You have the opportunity to interact at first hand with a wide variety of photographic panoramas of remote locations in Australia.

Choose any of the carefully selected artistically inspired immersive interactions with the deserts, seas, skies and forests of Australia's most beautiful and challenging landscapes.

Daniel Stainsby invites you to share his VR artistic and inspirational realisations of his journey around Australia through the magic of virtual reality.

System Requirements

Australia Felix: Immersive Visions of The Great Southern Land

Exegesis

Daniel Stainsby

Table of Contents

Abstract 2

Acknowledgements 3

Declaration 4

Catalogue Error! Bookmark not defined.

Table of Contents 7

List of Plates 10

Introduction 12

The Journey 17

Virtual Technologies 18

Technobiophilia 21

Section 1: Method & Methodology 29

Artistry in new media 29

The artistic ‘want’ and ‘electracy’ 30

The research journal in PLR 31

Autoethnography 32

Practice Led Research 33

Photographic poesis 35

Section 2: The Australian Landscape 37

Presence and absence in the Australian Landscape 37

Colonial pictorial representations of ‘Australia Felix’ 38

Colonial landscape photography: Fred Kruger 39

Australian photographic narratives: Charles Bayliss 41

Australian landscape visions 43

The spiritual elements of the Australian landscape 45

Landscape and memory 50

Landscape representation and Virtual Reality 51

Section 3: My Project 53

Artistic photography 54

VR and The Gaze 56

Manufactured realities 57

Photographic poetry for new media: visual verses 58

The VR moment 59
The creative breakthrough: an epic VR visual poem 60
Sublime solitude 61
The outback experience 62
From the real to the hyperreal 64

Section 4: Theoretical Perspectives 67

Biophilia and technophilia 67
Ecocriticism and landscape aesthetics 69
Ecophobia 71
Technobiophilia 74
Electracy 75
The uncanny 76
Landscape, virtual reality and the uncanny 79
New electronic textual possibilities for my photography 81
The Eureka experience: invention, intuition, want and curiosity 82
The Artistic Oeuvre, the VR tourist gaze and the journey of this project 83

Section 5: Creativity and Technology 85

Photographer and/as the camera 85
Vilem Flusser: The eye of the camera, the teeth of the camera; the creative aesthetic and photographic techniques. 87
High Dynamic Range techniques in panoramic photography and questions of authenticity in photography 89
Visual quality 93
The photographer and the camera 94
Immersive representations and postproduction 99
Aesthetic decision making: postproduction 101
Challenges and considerations 102
A significant contribution to the genre of Digital Panoramic Immersive Photography 104
Visual quality 105
Ideal audience 107
VR: the changing audience 108
A 'sense of living movement' 113

Section 6: Artistic influences 118

Artists and influences 118

New Media immersive photography: a new aesthetic 118

The online gallery 119

Artists and inspirations 122

Australian landscape as a digital narrative 125

Contemporary digital art 127

Immersion not representation 128

Virtual technologies: demonstrations of digital applications for VR photography 130

‘Images of Thought’ 132

Conclusion 134

The exegetical journey 135

The creative journey 137

The photographer’s absent presence 138

‘Fieldpath’ 140

Where to? 141

References Cited 143

Bibliography Error! Bookmark not defined.

List of Plates

Plate 1 Journey undertaken for this project.	18
Plate 2 West Kimberley Coast.	21
Plate 3 Cable Beach.	22
Plate 4 Roebuck Bay.	23
Plate 5 Pindan Cliffs.	25
Plate 6 Goulet Point, WA.	29
Plate 7 Detail from Goulet Point panorama, showing sharks swimming in the shallows.	30
Plate 8 Eugene VON GUERARD: Ferntree Gully in the Dandenong Ranges.	39
Plate 9 Nyirrpri.	49
Plate 10 Sunset.	52
Plate 11 Winkypop.	56
Plate 12 The Lost Cities, NT.	62
Plate 13 Forecourt of the San Francisco Museum of Art.	77
Plate 14 The Arc de Triomphe.	77
Plate 15 Nature's Window, Kalbarri NP, WA.	80
Plate 16 Nambung, WA.	82
Plate 17 A crocodile lies in wait in the Daintree.	87
Plate 18 Rex Creek, Daintree, Queensland.	92
Plate 19 Nikon 10.5 DX Fisheye (Google images).	95
Plate 20 Shaving the inbuilt lens-hood off the Nikon 10.5 Fisheye (Google images).	96
Plate 21 Nikon 10.5 Fisheye rear gelatin filter holder (Google images).	97
Plate 22 Sunset off Prevelly panoramas.	98
Plate 23 Prevelly.	99
Plate 24 Albany, WA.	104
Plate 25 Kakadu: Image with people included (on right)	105
Plate 26 Kakadu: Image with people removed.	105
Plate 27 Mr Wyld's large model of the Earth.	110
Plate 28 Bea Maddock exhibition.	123
Plate 29 Details of Bea Maddock's <i>Terra Spiritus</i> exhibition.	125

**List of the 39 landscapes portrayed as interactive panoramas
(each with a non-interactive duration of 3 minutes 10 seconds)**

1. Jervis Bay Territory Booderee; photographed 2016
2. NSW Barrington Tops Creek; photographed 2015
3. NSW Crowdy Bay Diamond Head; photographed 2015
4. NSW Lake Mungo; photographed 2015
5. NSW Myall Lakes; photographed 2015
6. NT Karrku; photographed 2015
7. NT Kata Tjuta; photographed 2015
8. NT Kings Canyon; photographed 2015
9. NT Lake Bennett; photographed 2015
10. NT Lasseter Desert Oaks; photographed 2015
11. NT Ormiston Gorge; photographed 2015
12. NT Palm Valley; photographed 2015
13. NT Rainsbow Valley; photographed 2015
14. NT Tanami Ghost Gums; photographed 2015
15. NT Uluru; photographed 2015
16. QLD Daintree Noah's Beach; photographed 2014
17. QLD Daintree Rex Creek; photographed 2014
18. QLD Hinchinbrook Island Nina's Peak; photographed 2014
19. QLD Lamington Forest; photographed 2014
20. QLD Whitehaven Beach; photographed 2014
21. SA Bunda Cliffs; photographed 2013
22. SA Lake Eyre; photographed 2013
23. TAS Bruny Island Beach; photographed 2014
24. TAS Cradle Mountain Dove Lake; photographed 2014
25. TAS Donoughys Lookout; photographed 2014
26. TAS Friendly Beaches; photographed 2014
27. TAS Mount Field; photographed 2014
28. TAS St Helens Point; photographed 2014
29. TAS Tarkine; photographed 2014
30. VIC Apostles; photographed 2013
31. VIC Grampians; photographed 2014
32. VIC Mt Buffalo; photographed 2015
33. WA Albany; photographed 2013
34. WA Cape Le Grand; photographed 2013
35. WA Gascoyne Coast; photographed 2013
36. WA Gascoyne Storm; photographed 2013
37. WA James Price Point; photographed 2013
38. WA Kalbarri; photographed 2013
39. WA Shark Bay; photographed 2013

Introduction

Australia Felix: Immersive Visions of The Great Southern Land (*Australia Felix*) consists of two complementary elements: the artefact www.australiafelix.com.au and the exegesis.

The artefact is a gallery of interactive landscape virtual reality (VR) experiences of locations around Australia. They incorporate immersive photographic panoramas and directional sound recordings into interactive pieces which may be experienced online through various forms of dissemination such as a computer screen, a smartphone or tablet, a gaming console with touchscreen capabilities, emerging platforms such as Oculus Rift, or a cinema, projection or multimedia room as is available.

The exegesis utilises the model of Practice Led Research (PLR) to address in an academic way the issues that arose during the making of the artefact that were recorded in my reflective working journal and then led me to scholarly investigations. It addresses the review of the literature throughout, showing how the practice both speaks to traditional scholarship and places the creative work within it. It addresses a gap in the literature regarding the importance of aesthetic immersive photography in digital art.

Throughout this PLR exegesis, I have referred to relevant literature to support, extend and illuminate my project. As the issues engaged within this project arise from my insights into the development of the project itself, there is no singular hypothesis from which I work. Hence the literature I refer to and engage with is discussed throughout as I record the journey of this project. The overarching research question that has developed through the course of this project became: ‘how does the sense of an aesthetic landscape journey throughout Australia develop artistically, personally, spiritually for immersive photographic VR experiences?’ This involved a complementary question: ‘How can ecocritical perspectives be communicated via immersive virtual photography in a contemporary digital milieu?’

These questions are explored through the artefact and through the contextualising process of the exegesis. Mäkelä (2007) maps the process in the following way:

the crucial task to be carried out is to give a voice to the artefact. This means interpreting the artefact. During the process of interpretation, furthermore, the artefact has to be placed into a suitable theoretical context. In this process, the final products (the artefacts) can be seen as revealing their stories, i.e. the knowledge they embody (p. 157).

Many scholars see these two elements as interchangeable; for example, Brad Haseman and Daniel Mafe (2009) conflate the artefact and exegesis. However, this project shows the two as complementary with the artefact leading the research, and the exegesis providing a scholarly framework for the artefact.

Relevant scholarly and practicum methods and methodologies are addressed in Section 1. I discuss how, in *Australia Felix*, I give form to my method as a still photographer, moving that medium into immersive VR experiences both for myself and for an interactive audience. I show how, in the production of my artefact, this involved an aesthetic approach to selected landscapes. I also show how, in doing so, I observed myself looking for foreground, midfield and distance, and thinking about trying to find a defining landmark that conveys a sense of the region, time of day, light, and destination locations around Australia.

In Section 2, 'The Australian landscape', I record through autoethnography how my personal and professional relationship to the Australian landscape is complex as it includes my photographic responses, my life-long interest and my personal spiritual and aesthetic understandings. I review the literature about Australian landscape representations from photographic, ecological and VR points of view to establish my work as 'painting with light'.

In Section 3 I look at how my artefact develops the production of an online experiential gallery allowing viewers/participants to engage with the digital work and to become immersed in a virtual experience of travelling around Australia. I discuss how this project seeks to expand upon established representations of the Australian landscape by producing for exhibition in this digital gallery 360° immersive photographic pieces shot on location around the country. There are insights into how this element of the creative research and production required me to travel to various remote destinations in Australia

to shoot panoramic pieces. It follows the basic premise of this project that, as a creative practitioner, my goal is not only to attempt to reproduce landscapes as faithfully as possible, but also to realise the aesthetic elements and appeal of the locations through a creative process. This is based on an awareness that any creative process is interpretive. In this project my selection of particular locations and moments works hand in hand with visual technologies to communicate the moods and meanings of the work for VR experiences of the environment.

In looking at the relevant theoretical perspectives in Section 4, I discuss the central element of this project: that is, my bringing together through my photographic new media artistry the natural world and the digital VR one. I look at the scholarly debate and discussion as to whether these two elements of love of nature (biophilia) and love of technology (technophilia) can be brought together at all, much less as technobiophilia. I discuss elements of theory and practice including ecocritical awareness of landscape aesthetics, electracy, the uncanny and invention, want and curiosity. I further develop insights into the gaze.

The relationship of creativity and technology is the subject of much scholarly discussion and in Section 5 I consider how creativity in photography obviously involves technology and I explore why this is even more so for this interactive project. I narrate my self-reflective story of working with some of that technology – namely high dynamic range techniques in panoramic photography – as well as elaborate on questions of authenticity in photography. I discuss the photographer and/as the camera, immersive representations and post-production and aesthetic decision-making to reach an ideal audience.

In Section 6 I discuss the artist as the researcher and how, although it is most often a solitary experience, artistic practice arises within and through cultural communities, even when it creates anew as a response against them. Artistic experiences of creativity are enhanced by reference to other practitioners, in this case contemporary photographers and digital artists. I discuss artistic influences, showing how they are not cited as enabling my work directly nor as providing paths that are well-trodden that I might follow, but rather how artistic influences are a part of the creative community to which my practice belongs. I show my contribution to new media immersive

photography as developing a new aesthetic. Finally I discuss contemporary digital art as immersion not representation, and further discuss the impact of new camera and gaming technology such as Oculus Rift. I discuss how VR promises users the capacity to be immersed in another world. The technology enabling this is changing all of the time (Boas 2013), but virtual reality continues to endeavour to make the way we interact with computers “as real as possible” with “amazing scenes coming true” (np). I extend the discussion by, for example, raising the ideas of Yuri Bolas, who describes this as “the ultimate computational experience” (np) and reviews a number of devices that currently enable this, ranging from the power glove to the Cave. Bolas describes virtual reality as having the ability “of being the most powerful experience delivering media, as it is connected with the concept of reality” (np), and my project is involved in this.

In participating in a VR experience, users are allowing themselves to be elsewhere. This means that they need equipment and today such virtual reality headsets as Oculus Rift have “the inherent potential of manipulating peoples' minds with a superlative 3D experience” (Desai et al. 2014, p. 175). The desire to be in another place and time means embracing the digital world so as to extend or even escape into another immersive existence. This technology tracks head movements and so provides an experience that is close to the natural way of seeing and being. This offers users a real life experience and is pertinent to my project in that it can “be used to explore not just virtual environments as in first-person shooter games ... but also real places that have been filmed with a 360-degree camera” (Firth 2013, p. 19). Such technologies as Oculus Rift place VR within the reach of the general public for entertainment.

VR, in hugely simplified terms, makes computer-generated environments seem real by creating the illusion of depth and substance, and enabling real-time interaction with the computer-generated environments. The technology dates back to the 1960s, but seems to be reaching some kind of critical mass. The components have become faster, smaller, more nuanced and less expensive ... The technology is cropping up in an increasing number of theatre, music and gallery-based experiences (Firth 2013, p. 19).

Art showcases its potential for ‘real-world’ immersion in virtual spaces by putting VR experiences inside the art rather than externally engaging with it. So “we have two lives

now: our online lives and our real lives”, and VR seems to be taking precedence (Standish 2018, p. 6-7).

The effects of immersive technology on the user, then, emphasise a sense of being there: of presence. James Cummings and Jeremy Bailenson (2016) state that the tracking system is more important in the VR experience than visual or auditory immersion. Immersion and/as real world experiences means that VR replaces the real world through a spatial presence, and they found that it was the ability to navigate through the mediated environment that provided the key to experiencing presence. Thus, the perception of self in the immersive space was necessary for presence and navigation in VR, and newly emerging technologies would enhance this. Cummings and Bailenson agree that today we are close to, through VR, “substituting many of the physically located elements of business, travel and everyday interpersonal experiences” (2016, p. 301). This project is undertaken with these new technologies in mind as the next step for the online experience. As new technologies become available this project could change frequently, so I have made this screen-based online gallery whilst acknowledging new future possibilities for VR. This creative process has led to the framework of this exegesis, and throughout I discuss and explicate the purpose of the exegesis. In this way, I draw together the artefact and exegesis through PLR.

The interaction between the made artefact and the considered exegesis is described by Barbara Bolt (2006) as enabling the “materials and processes of production [to] have their own intelligence that comes into play in interaction with the artist’s creative intelligence” (p. 5). Bolt argues that “the ‘new’ knowledge in creative arts research can be seen to emerge in the involvement with materials, methods, tools and ideas of practice” (p. 7). This describes my exegetical work in relationship to my artefact. Bolt is at pains to ensure that the exegesis is not an explanatory document that legitimises the creative element of the project. She describes the “critical role” that the exegesis plays as informing and articulating further insights in words of an artwork that “is imminently articulate and eloquent in its own right” (p. 7). This complementarity produces a “dialogic relation between making and writing” (p. 8), and it is this dialogic knowledge between the two elements of this project that I present here.

Moreover, just as the artwork produces its own knowledge, so the

task of the exegesis is not just to explain or contextualise practice, but rather is to produce movement in thought itself ... the exegesis provides a vehicle through which the work of art can find a discursive form (Bolt 2006, p. 12).

For Bolt the exegesis is a dynamic contribution ‘... concerned with articulating what has emerged or what has been realised through the process of handling materials and ideas and what this emergent knowledge brings to bear on the discipline’ (2006, p. 14). In this way the artefact and the exegesis are co-contextualised and speak to one another.

In addition to producing new knowledge, Cheryl Stock (2010) records PLR as changing the Australian research landscape, whilst she also explores some challenges between the art industry production and the academic production of the artefact and exegesis PhD. She calls upon us to ask “does too much time reflecting and theorising about the work lessen the communicative drive of an artist through the artwork itself?” (p. 10). She describes the exegesis as being ‘a framing document’ and wonders if it diminishes the work in the artefact. In my case it works to enhance my understanding of the present creative artefact, and of my future practice as an artist photographer, as this project shows the two as symbiotic. I discuss this more fully throughout.

My practice has led me to scholarly reading that reveals a gap in the literature about VR for non-games technology and immersive interactions. It is in this field that my work contributes to explicating and making a new and substantial contribution to scholarship. It develops insights into digital fine art and provides VR experiences through the *Australia Felix* online gallery. Moreover, it brings together environmental concerns with technological possibilities of VR.

The Journey

This map of Australia shows the journey that I undertook for this project:



Plate 1 Journey undertaken for this project.

As I record in this exegesis and show in the panoramas themselves, this became a spiritual as well as physical journey for me to develop further my creativity in digital photography.

Virtual Technologies

The Australian Centre for the Moving Image (ACMI) is currently offering grants to visual artists to extend their practice into creating virtual reality experiences through the Mordant Family Commission. This emphasises the contemporary relevance of VR creative arts as explored in this project.

In their discussion of open virtual reality, Mark Bolas et al. (2013) survey a less expensive range of devices that “are upending the landscape of immersive virtual reality” (p. 183). Such readily accessible and affordable VR applications include *Room Alive* (Jones et al. 2014), which “transforms any room into an immersive augmented entertainment experience”. In its dynamic adaptation abilities, *Room Alive* allows users to “touch, shoot, stomp, dodge and steer projected content that seamlessly co-exists with their existing physical environment” (p. 637). Augmented reality enables users to interact with experiences from within their own environments; so reality and VR co-exist. *Room Alive* permits the game world to exist within the real world by covering the walls of the room.

Interactive digital technology programs are evolving rapidly and continually. Boas et al. (2013) remind us that “many new and exciting possibilities remain to be explored” (p. 643) for the immersive experience. Most of these are related to games playing; but they also have application in other fields from education to the fine arts in which my project resides. Reiners et al. (2014), in exploring their educational application, state almost self-evidently that the “proliferation of information and media technology have created nearly ubiquitous virtual spaces” (np).

Considering new technologies for immersive experiences has relevance to my project and I look here at the emerging technology of Oculus Rift as an example. Palmer Luckey, the designer, states: “The Rift is being used for all manner of non-gaming applications like telepresence, architecture, CAD, emergency response training, phobia therapy, and many more” (in Parkin 2013, np.). In his review for MIT, Simon Parkin (2013) states that “Oculus Rift has heavyweight developer support and millions of dollars of crowdsourced investment. But many of the old challenges to this new technology remain” (np).

Other reviews extend from ‘rave’ to highly critical. There are numerous problems from price to users’ experience of dislocation and dizziness using the headset. Google Cardboard addresses the price problem: it’s a cardboard headset with a button that is linked to an app and a conductive pad that turns your smartphone into a VR device. Simple and effective, it enables viewers to enter into VR readily.

VR and augmented reality may be seen as entertainment, education or as tools for the production and enjoyment of artistic materials such as in my project. Brian Markwalter (2015) sees entertainment existing in immersive experiences that enable us to “get to feel like we are a part of the event we are watching” (pp. 83-86). He describes VR that is “well executed” as convincing the brain that the user is “in the experience and not viewing that world from the outside” (p. 85). Furthermore he asserts that the new digital technologies should not be associated only with gaming as they also offer virtual tourism experiences (p. 86).

There are serious challenges to such immersive VR headset technologies such as the Oculus Rift. Engaging with the virtual world that these new digital technologies offer may result in “real-world interactions with VR”, but this is confined, as “the VR user has limited perception of that reality” and this is described as being “lost in the rift” (Boland & McGill 2015, p. 42). Daniel Boland and Mark McGill are concerned, for example, with the usability of devices when the users are “unable to perceive reality” as they see that movement through real-world spaces are disabled when coming from VR immersion: the mixed reality continuum. My digital gallery is primarily oriented towards screen-based interactions, enabling the user to engage with the creative work without such issues of displacement.

There are many new and evolving VR technologies that permit the ready production and use of immersive experiences. Markwalter (2015) says: “prepare to be amazed at the new technologies and astounding improvements to all forms of entertainment made possible by the consumer electronics that develop” (p. 86). My work recognises the speed of such technological changes and will continue to develop with them in the future.

Much VR is focussed upon interactive gaming that is competitive and conflictual. As I discuss throughout this exegesis, this project develops the possibilities for VR as art leading to personal meditative experiences.

Technobiophilia

My practice has led me to scholarly reading that reveals a gap in the literature about aesthetic VR for non-games technology and immersive interactions. As previously noted, it is in this field that my work contributes to explicating, making a new and substantial contribution to scholarship. It develops insights into digital photographic fine art and provides VR experiences through the *Australia Felix* online gallery. Moreover, it brings together environmental concerns with the technological possibilities of VR, utilising ecocritical perspectives through and about new media. This is clearly indicated by the following observations from my reflective working journal about Walmadan, Rubibi, the Jabir Jabir and the Goolarabooloo, James Price Point, Broome and the West Kimberley, WA.



Plate 2 West Kimberley Coast. The red 'Pindan' cliffs of James Price Point, threatened by development of a multi-billion dollar gas processing hub. Photograph by Daniel Stainsby, 2015.

A few months before leaving Melbourne to begin my photographic journey around Australia I was struck by news reports about demonstrations against a proposed mining development near Broome in WA. The situation moved me. I'd never been to Broome before, but I'd heard incredible reports about the place and the area around it in the West Kimberley. My sister had told me there was something magical about this place where the red desert meets the sea, and her partner had recalled plucking oysters the size of steaks straight from the rocks and eating them whole.

I felt compelled to somehow get involved as I watched these stories on the news. The situation cut through my cynical resignation to the ways of the 21st century corporate

world, and re-ignited a more idealistic, purer and more youthful indignation. How could we still find ourselves in a world where, despite all we know about environmental destruction and the importance of conservation, people could allow such short sighted commercial interests to operate in such a destructive and insensitive way?

Months later I arrived in Broome, having driven the 3700 kilometre ‘Savannah Way’ from Cairns on the east coast directly across the north of Australia on my epic landscape photography tour. My first sight of the Indian Ocean was spectacular. Having spent weeks driving through parched dry-season outback country, much of which was eerily crackling away as graziers back-burnt, my first view of the turquoise waters of Cable Beach were breathtaking, and it felt cleansing just to be able to look out over them.



Plate 3 Cable Beach. Unique white sands and turquoise waters of Broome’s famous Cable Beach. Photograph by Daniel Stainsby, 2015.

The colours around Broome are truly stunning, and were everything and more than I had imagined. Cable beach is blessed with pure white sands and uniquely coloured waters that seem to effortlessly revive a hot and tired traveller’s body and soul. The air in the dry season is hot and without any humidity, and the cool and calm seawaters seem to call out to replenish and soothe, the quiet rhythm of gentle waves like a meditative mantra.



Plate 4 Roebuck Bay. Here the ‘Pindan’ red desert meets the brilliant tropical waters of the Kimberly seas. Photograph by Daniel Stainsby, 2015.

Roebuck Bay is the body of water inside the Broome Peninsula, and it is a captivating landscape of incredible, otherworldly colours. The red earth and particular vegetation of the West Kimberley coast is known to the indigenous peoples of the region as ‘pindan’, a word that, interestingly enough, is believed to have its roots in the Indonesian trade and cultural exchange with indigenous peoples that is a defining part of Broome’s history.

Every year, in the hot and humid months of the wet season, October through to April, Roebuck Bay is host to an amazing migration of wading birds. Hundreds of thousands of ‘waders’, of various species and size, fly in from places as remote as Siberia, China and Alaska to settle on the tidal mud-flats and feast on a banquet of creatures exposed by the extreme tides particular to this bay.

These migratory birds seem to echo the human history of this place as a cultural melting pot. It is believed the indigenous peoples of the region traded with people from Indonesia and South East Asia here for hundreds of years prior to colonisation, and, following white settlement, the pearling industry led to an influx of people from all over the world. In the 20th century, Broome was the only place in Australia exempt from the White Australia policy, so as to allow Asian, particularly Japanese, immigrants to work as pearl divers, an often deadly occupation.

Arriving at James Price Point 50 kilometres north of Broome at the end of an unmade corrugated road through the rich red pindan was a moving experience. I arrived in the late afternoon, driving past the small encampment of a dozen or so people who have

dedicated themselves to living out at this remote location. I passed a banner quoting Gandhi, “First they ignore you, then they laugh at you, then they fight you, then you win.” On a few kilometres further, the road really becomes nothing but a track running along cliff tops by the tropical Indian Ocean, with occasional access points through the pindan to the beach below. This is stunning coastline, remote and isolated, but with a soulful familiarity to it that feels welcoming and warm. Perhaps it’s the beauty of the pindan cliffs falling into white sand by the azure sea teeming with turtles, dolphins and whales. It truly is an idyllic, pristine location. It is difficult to believe that Premier Colin Barnett refers to this place routinely as an “unremarkable stretch of coastline”, especially considering, as Marine Biologist and Zoology PhD Candidate Malcolm Lindsay writes in *The Conversation* (2012):

The area is abundant with indigenous songcycle pathways, burial grounds, the Lurujarri Heritage Trail, calving Humpback whales, dugongs, dolphins, abundant fishes, coral reefs, seagrass, remnant rainforest, dinosaur trackways and breeding bilbies. The area is so ecologically and culturally rich that it was recommended for National Park protection by the Australian Academy of Sciences and the National Parks Board of WA in 1962; the WA Environmental Protection Authority in 1977 and 1993; the WA Department of Conservation and Land Management in 1991; the Broome Shire, Department of Land Administration and WA State Cabinet in 2000; and the Broome Planning Steering Committee in 2005 (np).



Plate 5 Pindan Cliffs. The threatened red cliffs of the Kimberly coast. Photograph by Daniel Stainsby, 2015.

As the sun fell to the west and began to set over the sea, the light falling on the pindan cliffs seemed to bring them to life, illuminating them as though they were glowing from within. The sight reminded me of what people say about the changing colours of Uluru, and I felt compelled to photograph the changing light on this remote, deserted beach from as many positions as I could. There was very little time, and the conditions were changing very quickly, creating technical challenges for my style of shooting, but I felt inspired to do whatever it took to get to the best vantage points and capture this stunning location as best I could. I was very pleased to notice, as I was shooting directly overhead for my 360° panorama, that a waxing gibbous Moon was sitting directly above in the crepuscular sky, bringing an additional element of beauty and visual poetry to the scene.

One of the most remarkable things that has struck me about shooting remote locations is a feeling you get of what I have come to term 'celestial connectivity'. As a photographer, I am always aware of the light conditions when shooting, how they're affected by the time of day and the position of the Sun, the weather conditions, clouds, humidity, seasons and even bushfires. But spending time in remote locations also brings a greater awareness of what point the moon is at in its cycle, where it is rising and falling according to the tilt of the Earth's axis, and, in coastal areas, the effects this has on king and neap tides. Outside of developed areas, the night sky seems to take on other dimensions of depth and clarity, and it suddenly becomes startlingly apparent that we are swirling around an unimaginably vast cosmos. Mercury, Venus, Mars, Jupiter and Saturn are all 'naked eye' planets, and at various times cast their brilliance upon us from the night sky.

One night in Karumba, at the bottom of the Gulf of Carpentaria in Northern Queensland, Venus was so striking as it was aligned with the full moon that it seemed as though there was a second, smaller, brighter and more dazzling moon orbiting Earth. The Moon has a particular influence in the West Kimberley, which, due to its position in the tropics, relative to the Indian Ocean and its own geological formations (peninsulas, sounds and capes) has the highest tides in Australia, up to and above eight metres. The tidal flats of Roebuck Bay are the site of a phenomenon known as the 'Staircase to the Moon', where the full moon is seen to rise over the mudflats at low tide, with the unusual reflections appearing as a set of stairs leading directly to an ethereal moon suspended just over the horizon. The effect only last five or ten minutes, and only occurs on three evenings a month and only in the dry season, making it all the more alluring and enchanting: an experience of poetry in motion.

According to an astronomer I spoke with in Karijini, a National Park in the Pilbara region 600 kilometres south of Broome, many of the Indigenous Nations of Australia were united in their perception of a giant 'Emu in the Sky', understanding the dark nebulae running through the milky way as an embodiment of meaningful Emu dreaming and symbolism. In the Coastal West Kimberley, this dreaming has particular significance. At low tides here, particularly at Gantheaume Point in Broome, footprints in the rocks are exposed that the Goolarabooloo regard as the first steps of the human

ancestor, an Emu-man associated with the Emu in the Sky dreaming, when he set foot on land. Amazingly, palaeontologists regard these footprints as those of identifiable dinosaurs imprinted on these rocks and still visible today, some even able to tell a story of particular species' behaviour and predation. Even more remarkably, the Goolarabooloo perception of these amazing, epoch collapsing footprints, which are apparently all up and down the Kimberley coast, has a remarkable consistency with anthropological suggestions that it is likely that this coast is the place that humankind first set foot on the Australia.

And so again this place, with its beautiful pindan earth and extraordinary seas, is a centre of migration; of dinosaurs through time, of humans through mythical, ancient and recent histories, of whales in their annual journey from feeding grounds in Antarctic waters, of birds from the Arctic, Alaska and across Asia, and of the Lurujarri Heritage Trail, across cultures and in a sense through the dreamtime or Bugarregarre of the Goolarabooloo. Their website records:

The Lurujarri Trail follows the land of the traditional Song Cycle. The same camping places are used as have been used for millennia, the same reefs fished. The middens in the dunes are thick with shards of past feed, spear heads, charcoal flint and grinding stones, and testify to how long the Law and Culture has been going on (<http://www.goolarabooloo.org.au/lurujarri.html>).

My second visit to James Price Point was in the heat of the day, in an effort to catch the midday light on the red cliffs and green seas. As beautiful as the landscape was at this time, it seems to almost be made to glow in the luminance of the setting sun, as though paying homage at the end of each day to the passing of the aeons it has quietly witnessed.

I hope to return next year to the West Kimberley coast, Goolarabooloo country, to shoot more photographs of this magnificent landscape and possibly to walk the Lurujarri Heritage Trail.

This is a practical example of the technobiophilia that my project illustrates and that I discuss in more detail later in this exegesis, as it indicates the love of nature that

underpins the production of my VR immersive gallery, and how technological engagement can be of value to ecocritical concerns. This autoethnographic reflection shows how my journey was one of personal growth as I responded to the landscapes I travelled and the people I met. Experiences such as I recorded in my journal and revisit here indicate the influence of a growing sense of biophilia upon my creative work. The creative photography involved practice in utilising new media applications. So the work involves a love of technology both in the photographic stage and in creating the immersive VR landscape panoramas. The love of nature, biophilia, that is evident in my journey and my work is a central element of the VR immersive gallery: without my creative responses to the landscape the work could not exist.

Similarly, without the technology, technophilia, that enables the users/interactors to enter into my experiences and make them their own, the *Australia Felix* project would be impossible. As I indicate throughout both the artefact and this exegesis, new media technology motivates me as a practitioner and enables me to bring together biophilia and technophilia into what I discuss later as technobiophilia.

Together, the artefact and exegesis illustrate how technological engagement can be of value to ecocritical concerns.

Section 1: Method & Methodology

Artistry in new media

The nature of VR is that it offers expanded life experiences. These transcend the reality that we live in but at the same time and quite paradoxically VR has also become a part of that lived reality. Access to VR immersive experiences is becoming globally available and aims to enhance human realities. They enable users to enter into immersive interactions comparable to those supplied by the visual arts, reading and travel. *Australia Felix* offers VR works to extend such experiences. It shows how digital art photography acts to develop still photographic and visual art interactions for the users.

My creative practice involves both selecting relevant landscape experiences for this project as well as what Cotton (2011) describes as “the artistry of the editing and sequencing processes in realising the ultimate meaning of a photographic body of work” (p. 238). The VR experiences that I produce for the user arise from what Cotton discusses as recognising “the beauty and magic that are still to be photographically found” because of “the enduring capacity of photography to abstract and give form to our experiences...” (p. 240). The following panoramic images I shot around the Shark Bay/Gascoyne region, WA, illustrate how I gave photographic forms to my experiences of the landscape.



Plate 6 Goulet Point, WA. The remarkable contrasts of sea and desert colours. Photograph by Daniel Stainsby, 2015.

This first image is of the view across the sea green waters of Shark Bay from Goulet Point on the Peron Peninsula. This spot was magnificent, the waters were a wonderful

colour, and the cumulus clouds building on the horizon brought a little depth and drama to the image. Amazingly, in the original file, you can actually make out individual sharks, rays and schools of fish swimming in the shallows.



Plate 7 Detail from Goulet Point panorama, showing sharks swimming in the shallows. Photograph by Daniel Stainsby, 2015.

The artistic ‘want’ and ‘electracy’

In making the work, I participate in what Gregory Ulmer (1994) calls the ‘want’; that is “what do I want from this scene? To witness my own foundations? My premises?” (p. 213). In enacting Ulmer’s ‘relevance’ in making my artefact I practise his assertion that:

the function of the guide is to cull the information environment for items *relevant* to the user’s projects ... the user is presented with a collage of contingencies-information, not necessarily understanding (p. 221).

I act as a guide to my potential users, to know what they want, I utilise my aesthetic photographic expertise within the VR environment offered by digital technologies.

Ulmer sees this current period of culture – particularly Euro-western culture (Spivak 2002) – as being in transition from literacy to what he terms electracy. He compares this with the movement from orality to literacy in the ancient Greek invention of alphabetic writing (<http://ulmer.networkedbook.org/the-learning-screen-introduction-electracy/>).

Furthermore there is the challenge of new media production. Darren Tofts (1999) sees electracy – and indeed the entire emergent digital culture – as being connected to what has gone before in aesthetics, surprise and unpredictability in creativity (p. 37).

Photography such as mine is extended by the digital to allow itself to be examined and used as what Roland Barthes described as the ‘reality effect’: there is no necessary or

intrinsic truth statement or reality captured in photography. Digital simulation involves being at the event in a virtual sense, an idea that Tofts sees as "... the waning of reality in the face of disappearing distinctions between the real thing and fake, original and copy" (1999, p. 89). The paradox is that whilst the experience of *Australia Felix* is one of virtual reality, it also exists in real time, and real landscapes are entered into by real people. Tofts describes such work as having "powerful aesthetic potential for artists working in the field of digital image-making" (p. 93). It is this that *Australia Felix* explores and, as Tofts says: "turns reality and traditional forms of representation on their head" (96). Interactors with *Australia Felix* are both, as Tofts (p. 98) notes of digital photographic experiences, present and absent: within the experience yet nowhere near its reality.

The research journal in PLR

Reflective narrativity in this project has been helped by my research journal. Jen Webb (2012) describes the journal as an intrinsic element in PLR. Retaining the immediacy of first impressions and experiences, the research journal became data for this exegesis.

The reflective working journal that I kept during my travels was, of course, both photographic and written. A selection of my photographic insights is available in my digital gallery of panoramas. The journal entries are a significant element of autoethnographic methodology that I practise in this exegesis as they record what Nithikul Nimkulrat (2007) calls "... the interplay between a researcher-practitioner and her [sic] artistic work in process" (p. 1). They are also foundational to PLR and for Nimulkrat develop "... an interpretive engagement with artistic production and experience" (p. 2) that is relevant to my own experience of reflective research in and on practice itself. Maarit Makela and Nithikul Nimkulrat (2011) discuss how "any means of documentation, whether it is diary writing, photography or sketching, can serve as a mode of reflection" and also as the basis for data in research projects. This is because, they state:

the exploration of knowledge partly through making artefacts has brought a new dimension to design research as the practitioner-researcher not only

creates an artefact but also documents, contextualises and interprets the artefacts as well as the process of making them (2011, p. 1).

This consideration of PLR brings about not only the artistic productions but also adds self-reflective insights from the practitioner that contribute to knowledge about the creative process. The broad umbrella term of PLR shelters many ways of knowing about creativity: ‘artistic appropriation of knowledge evokes different and independent forms of knowledge that might be seen to complement or stand as equivalent to scientific research’ (Makela & Nimkulrat 2011, p. 2).

Such insights produce documentation relating to the self as data and mean expressing the work in an autoethnographic method where the researcher acknowledges their scholarly presence in the exegesis as in the production of the artefact.

Autoethnography

Carolyn Ellis et al. (2011) describe autoethnography as “an approach to research and writing that seeks to describe and systematically analyse personal experience in order to understand cultural experience” (p. 273). Autoethnographical research methodology arises from the study of anthropology that utilises ethnographic descriptions. This allows the researcher to be shown as involved in the data production: not to be represented as a removed, distant and detached observer. It builds into the narrative the scholars involved in ethnographic studies as part of telling the stories of those they are studying; this means that autoethnography:

has debunked the naively positivist enlightenment project of mainstream social sciences and humanities and has unsettled the essentializing tendencies of anthropology’s culture concept which so easily slide into another version of racism and postcolonial domination. The recognized illegitimacy of the omniscient ethnographer now forces even positivist ethnographers to locate themselves within their texts and to recognize that reality is socially constructed - if not fragmented, dialogical, and contested (Bourgeois 2004, p. 418).

Today, most anthropologists accept that their study includes themselves, and that their reflections are data producing. They also accept the methodology of autoethnography. Nicholas Holt (2003) states of autoethnography that it produces texts that are:

... usually written in the first person and feature dialogue, emotion, and self-consciousness as relational and institutional stories affected by history, social structure and culture ... authors use their own experiences in a culture reflexively to look more deeply at self-other interactions (p. 19).

Although there is debate about the self as data, this autoethnographic methodology has become more recognised and accepted by scholars as appropriate to many fields of research. Sarah Wall (2006) states that:

autoethnography is an emerging qualitative research method that allows the author to write in a highly personalised style, drawing on his or her experience to extend understanding ... the intent of autoethnography is to acknowledge the inextricable link between the personal and the cultural and to make room for non-traditional forms of enquiry and expression (p. 146).

Carolyn Ellis speaks of “the first person voice that reveals the vulnerability of the observer” and compares this unfavourably with “the performative voice ... that blurs the line between researcher and participant, writer and reader” (Ellis & Bochner 2003, p. 509). Autoethnography, then, is utilised in this exegesis as a suitable framework for my artefact to bring both together into scholarship.

Practice Led Research

The user/interactor who experiences my digital gallery is involved in bringing the text to life, just as a reader is with a literary work. For Terry Eagleton (1989) this means that:

...the reader does not come to the text as a kind of cultural virgin, immaculately free of previous social and literary entanglements, a supremely disinterested spirit or blank sheet on to which the text will transfer its own inscriptions (p.77).

We bring our own cultural and personal experiences with us as we make a journey, and photography itself is embedded in European cultural ideas and practices such as the grand tour and the romantic unspoiled landscape. This exegesis explores this idea based on PLR.

PLR is an umbrella term that encompasses utilising the creative work as a starting point for knowledge production within the academy. It challenges traditional western scholarship by proposing alternative ways of doing research. Traditional scholarship is based upon Enlightenment models of scientific methodology (Midgely 2004). This has led to a disjunction between thinking and feeling that arose from the Cartesian assertion of ‘cogito ergo sum’ (I think, therefore I am). Traditional academic modes have acted to study creative works rather than to accept them into scholarship itself.

As Midgely (2004) discusses, the dictum ‘I think, therefore I am’ is the basis of Enlightenment ways of knowing that have dominated the academy and produced in it a dichotomy between mind and body, between creativity and analysis. Since the mid-twentieth century, this has been more and more challenged in the academy, and PLR has played a significant role in changing this.

For example, in her discussions of the need to continually question and redress this dominant Cartesian binary, Mary Midgely (2004) contends that “... all reasoning is powered by feeling and all serious feeling has some reasoning as its skeleton. Thought and feeling are not opponents, any more than shape and size” (p. 9). She describes the body/mind split that is expressed in scholarship as the scientific methodology as one of the great myths that western knowledge relies upon for validity. Such myths lead to “... patterns of thought that are really useful in one age [that] can make serious trouble in the next one” (p. 4). PLR provides unified knowledge involving both thought and feeling for the practitioner-scholar.

As a PLR project *Australia Felix* seeks to situate the creative artefact that is at its core within relevant historical and artistic contexts by exploring the work academically through this exegesis. This body of text allows me as a practitioner to investigate the contexts and potential of my practice and to develop a deeper understanding of the PhD project, both in terms of its creative development and its historical foundations.

PLR methodology is described by Peter Szto et al. (2005) in their discussion of the relationship of poetry with photography as an “exploration into expressive/creative qualitative research” (p. 135). They describe using “visual representations of reality (photography)” to participate through new media applications in the “compression of experiences expressed in words (poetry)” (p. 135).

The contribution of such creativity to research relies upon reflections and deliberations drawing together practice and theory so as to make an inductive connection between their artistic expression and empirical knowledge. Szto et al. describe this as “research generated through poetry and the arts begins by investigating a particular case, yet seeks to penetrate the depths of that case to present more universal truths” (p. 138). They describe photography as exploring “the social function of the camera to capture, document, and express perceptions of the world” (p. 139).

Photographic poesis

My project draws together these two important tools of research about the artist (PLR and autoethnography) and place (landscape) with new media possibilities (VR). As photography and poetry both ask for a creative personal input and response, putting my digital gallery within the poesis and laterality of poetry as a suite with stanzas intensifies what Roland Barthes (1981) in ‘Camera Lucida’ called ‘pensive’ and hence ‘subversive’ as the photography itself ‘philosophises images’ and ‘thinks’.

Hanneke Grootenboer (2007) in discussing a photography exhibition, describes this as the images of thought leading to “interpretive approaches that encompasses close reading, semiotics, visual rhetoric, notions of effect, and the aspect of speculation in meaning-making in general” (p. 1). Such ‘images of thought’ are enhanced by poesis as a metaphor for the structure of *Australia Felix* and emphasise the self-reflexive scholarship of the practitioner.

Keeping a written and photographic record of my journey for this project has been a central aspect of my PLR and my autoethnographic methodology. As Eugen Bacon (2014) says, the journal is a flexible instrument of personal and scholarly insights: “Journaling informs the mapping of self and research.” She discusses how the working

journal isn't just about feeling alone but is also about the insights that self-reflexivity can bring to an artefact and exegesis project. Such reflexivity brings the intuitive personal response into the arena of scholarship through both elements of the work. Bringing creative scholarship into the academy has been an important element of allowing artist-academics to have both aspects of their work admired as scholarship (Webb 2012). In the next section I discuss how this leads to autoethnographic writing in this exegesis.

Section 2: The Australian Landscape

Presence and absence in the Australian Landscape

Autoethnography enables me to record the complex nature of my personal and professional relationship to the Australian landscape. In this exegesis it includes my photographic responses, my life-long creative interests and my personal and aesthetic understandings.

My work comes from a European cultural tradition, so it is not within the scope of this project to enter into discussions about Indigenous art, however I acknowledge that pre-colonial Australia was an art gallery in which traditional owners from many Nations recorded every aspect of their lives. Examples of this are the Gwion paintings throughout the Kimberley area of Western Australia (Pettigrew et al. 2010). Nevertheless, Indigenous art was largely ignored until the 1970s: for example, there is no reference to it in Robert Hughes's *The Art of Australia* in 1966.

In a consideration of presence and absence in the Australian landscape, Kirsty Duncanson (2009) looks at representation as building upon cultural readings of this land as threatening and isolating for white incomers. She discusses this as making narratives of unease about the Australian landscape. It is that paradoxical familiarity with the unknown in the Australian landscape that invites my users to enter into the immersive state so as to experience in VR that which resides in the cultural consciousness described by Duncanson as menacing landscape "having persisted throughout white Australian culture as a collective memory" (p. 38). This is particularly applicable to any of the locations in my artefact that recall Indigeneity such as Uluru. As Duncanson says, in the determinations leading the Australian law to Terra Nullius, and "in the British determination to annex the land, Indigenous occupants were identified as 'uncivilised', 'primitive' or 'savage' and thus as objects rather than subjects" (p. 32). Today, she asserts, "since early colonisation, Anglo-Australian representations of the landscape have been characterised by the doubled absence-presence of emptiness and malignant spectres ... terra nullius" (p. 35).

Because my work invites the user into the experience, making it something both comfortable and reassuring whilst at the same time offering the new and the challenging, it both participates in and acts to transcend Duncanson's (2009) discussion of the encultured view of Australian landscape representation as "empty but haunted images of Australian bushland [that] are specifically European renderings of landscape" (p. 35). Yet, paradoxically, I note that my interactive panoramas do reside in that tradition. I discuss later how my work offers a broader appeal to a love of nature (biophilia), prioritising ecocritical perspectives and thus transcending such troubled encultured restrictions.

My work aims to be a celebration of the Australian landscape, and while referring to Duncanson (2009) my panoramas work to transcend the menacing disconnection she describes. Instead my work seeks to establish a positive cultural consciousness built upon biophilia, as I discuss more fully later.

Because I am working artistically with Australian landscape representations, I now discuss some of the European traditions that historically and culturally precede my work. This following discussion situates my digital VR work in its relevant historical art context.

Colonial pictorial representations of 'Australia Felix'

The term 'Australia Felix' was first used by the British explorer Major Thomas Mitchell. In the 1830s and 1840s he led three excursions around Eastern NSW and Western Victoria. Discovering rich grazing land, he called the area 'Australia Felix' or 'fortunate Australia'. This view of the Australian landscape was widespread, in contrast to Duncanson's view, which may be more specific to the Australian outback. Bill Gummage (2011) records how incoming Europeans such as Sydney Parkinson on the HMS Endeavour in 1770 described Australia's east coast very positively: "the country looked very pleasant and fertile, and the trees quite free from underwood, appeared like plantations in a gentleman's park" (p. 5). White explorers such as Charles Sturt viewed much of the South Eastern coast as comparable to "the park lands attached to a gentleman's residence in England" (Gummage 2011, p. 7). This term, 'Australia Felix', has had a long influence upon the ways in which we view the Australian landscape and,

indeed, ‘the lucky country’ itself. I have borrowed this term to describe my photographic expedition and project as I show throughout this exegesis.

This was a land that was entirely new to European sensibilities, and was first captured by them in landscape paintings such as those by Eugene Von Guerard. Von Guerard arrived in Australia in 1852 hoping to make a fortune on the recently discovered goldfields. Realising how hard and unlikely this was, he began to paint commissions from rich pastoralists; from these he moved on to pursue images of the landscape that he depicted as very picturesque.



Plate 8 Eugene VON GUERARD: Ferntree Gully in the Dandenong Ranges, 1857. [Sherbrooke forest, Victoria with two lyre birds in the foreground; Sherbrook forest; Ferntree Gulley [sic] on [sic] the Dandenong Ranges; Fern Tree Gully]

Colonial landscape photography: Fred Kruger

Such pictorial landscapes by painters were soon replaced by black and white photographic images. In the late 1830s photography was invented by, for example, de

Guerre, Nespca, and others and was in Australia in the early 1840s with Holterman, Lindt and the German-born Fred Kruger who was in Australia 1860-1888:

He enjoyed taking photographs from elevated perspectives as this gave him a pronounced depth of field and allowed him to create a highly distinctive arrangement of figures in the landscape

(http://www.ngv.gov.au/data/asset/pdf_file/0006/531339/fredkruger.pdf).

An understanding of such works as those of Von Guerrard and Kruger helps me to situate my own practice in Australian landscape representations. Referencing such influences clarifies where my work is historically and culturally situated.

Kruger's photographs have a "sense of narrative" as he "was a photographer who revelled in details" (<http://www.ngv.vic.gov.au/whats-on/exhibitions/exhibitions/fred-kruger-intimate-landscapes>). His work emphasises small-scale events and situations rather than the vastness of Von Guerard's paintings. In my own work I am aiming for narratives that combine these two aspects of landscape panoramas. Such landscape panoramas show how my own work has been preceded, and how new technical inventions are built upon past insights. In 2011, the NGV exhibited Kruger's rural landscapes. Kruger was employed by the Victorian Government in the mid to late 1800s to document rural life in the colony and the development of agriculture around the colony. He was also engaged to photographically document the Indigenous people of the Coranderrk Aboriginal Station by the Board for the Protection of the Aborigines.

Kruger encouraged his Aboriginal portrait subjects to dress in traditional clothing, and to engage in staged 'traditional' activities for the shoots, though this was no longer their way of life in the 1870s.

This gives us great historical insight into the attitudes held by the dominant colonial culture towards the nature and relevance of the Australian Indigenous people. On the one hand, it does serve as an historical document of traditional clothing, and on the other it indicates a mythological identification of the 'Noble Savage' whose worth and historical place had already been suppressed by European culture by the 1870s. Kruger is

arguably more interested in documenting this past era, knowing that these traditional ways are to recede further into oblivion as colonisation continues.

A further insight this work gives us is into the value that the photographic image accrues over time. As an historical document, even a snapshot with seemingly no importance at the time of shooting can, in the space of 100 years, come to tell us volumes about a moment and place, and communicate values and experiences across time with an amount of clarity and resonance that was perhaps only possible before in great architecture, and certainly always aspired to in painting, poetry and music. My work of aesthetic landscape photography participates in such photographic archiving. In offering VR experiences it also records relatively untouched natural landscapes that may already be under pressure.

Australian photographic narratives: Charles Bayliss

In her catalogue that accompanied an exhibition of Charles Bayliss's work, Helen Ennis (2008) records the importance of this early Australian photographer. She says of his work that "even when people are included ... Bayliss seems more interested in the space around them than in the people themselves". His work was made at a time when Australia was expanding in population and is known as 'the view trade' that reassured potential buyers of the growth and importance of Australia. Bayliss's work brings his "visual intelligence and unique visual style" to produce work that is "visually complex and formally elegant", but also "idiosyncratic" (Ennis 2008, p. 1).

More importantly for reflection on my artefact production, Ennis describes how:

Bayliss's picture making displays a debt to prevailing pictorial conventions, such as the topographic view and the aesthetics of the picturesque and sublime, but it also confidently declares its innovatory nature ... in the choice of unexpected vantage points and the creation of complex compositional structures (p. 1).

Ennis relates this both to declared "artifice" and "narrative". She sees this as "evident in the production of series and carefully arranged sequences of images" (p. 1).

Ennis describes how Beaufoy Merlin, owner of The American & Australian Photographic Company, was his mentor and “Merlin’s goal was to photograph comprehensively each town they visited in Victoria and New South Wales” (p. 2). Their aesthetic and artistic goal was also a recognition of culture and history as they stated that their photography was “a novel means of social and commercial intercourse” (p. 2).

Their work is of particular social and historical importance in relation to the gold rush as in 1952 “nearly 3,600 of the company’s glass-plate negatives” were “discovered in a garden shed in Sydney” and “subsequently donated to the Mitchell Library”. Another 1,000 photographic prints were later found by descendants of Holtermann who joined them in 1872.

Ennis (2008) notes that “early Australian photography reflected the processes of colonisation; it was shaped by local conditions and circumstances and in turn responded to them” (p. 5). Holtermann’s aim was to take photographic exhibitions to encourage international interest in Australian European settlement. In this sense, it was destination photography.

[Working on] large, wet plate-glass negatives was extremely difficult: each sheet of glass had to be coated with a mixture of collodion that contained light-sensitive salts, then sensitised in a bath of silver nitrate before being exposed in the camera while still wet ... after exposure, the negative had to be developed quickly (Ennis 2008, p. 6).

Today’s digital technology enables different techniques but there are still challenges and difficulties such as those described in this exegesis.

Bayliss’s work became more aesthetic and in his views of “modern leisure at Sydney’s waterside the composition is radically pared down...” (Ennis 2008, p. 7). Composition is integral to my image making. As in my work, Bayliss also “adopted the panoramic format” as it “provided a means of obtaining even more extensive and realistic coverage than a single frame-by-frame documentation ... which achieved a heightened sensory appeal” (p. 8). These techniques accord with my creative aesthetics. Whilst his works

“anticipate movement... the flux of human activity”, digital immersion techniques enable me to involve the user in such movement.

Bayliss “succeeded in producing the most famous works in nineteenth-century Australian photography: panoramas of Sydney” (Ennis 2008, p. 9). To enable Bayliss to take these, Holtermann had constructed a 27 metre tower as a viewing point. The importance of such a viewing point is relevant to my artefact as I selected such natural high points. His “largest negatives measured about 1 by 1.5 metres (each sheet of glass weighed 16 kilograms)”: they were “the largest produced in the world at that time” (p. 10). Modern technology has enabled large works without such physical weightiness.

Ennis critiques: “Bayliss’s main concern is not with an already nostalgic expression of a pioneering past or the creation of a vocabulary of Australiana but with the poeticising of place” (p. 13). This is evident in my work as I concentrate upon landscapes that evoke a sense of untouched place and space, and so I describe my work as poesis.

Ennis also describes Bayliss’s work as having both a geographic journey and “a journey of the eye ... drawing attention not only to the act of looking but to the varied means of constructing pictures”. Some of his compositions occurred naturally, others he “constructed for the camera” (2008, p. 15). This is significant to my understanding of my professional photographic practice and relates to ‘the gaze’ that I discuss later.

Australian landscape visions

In considering Australian photography, Robert McFarlane (2006) argues that the ‘borrowed traditions’ from Europe and the American West Coast have dominated Australian photographic aesthetics. However, he nominates several modern Australian photographers as bringing “a new vision of the Australian landscape” into perspective (<https://www.smh.com.au/news/arts/landscape-in-a-new-light/2006/07/24/1153593268873.html>).

This review indicates the possibilities of seeing Australia anew; perhaps even with another cultural input than the dominant European one: perhaps from an Indigenous Australian perspective, or perhaps from entirely new ways of seeing and constructing.

My work aims to provide images of Australian landscapes that evoke new VR experiences for the user and hence new and challenging views of Australia.

One of Australia's foremost photographers, Max Dupain's war experiences of photographing camouflaged landscapes in Australia and New Guinea are described by Ann Elias (2009) as "abstracted aesthetics of functional aerial camouflage photography" that "left him troubled and searching for greater truth through photography" (p. 370). The whole question of truth via photographic realism is both explored and questioned in the paradoxical work of presence and absence in my VR artefact.

In his discussion of shooting 'in the sunburnt country', Rod Giblett (2007) looks at how "landscape photography of Australia ... has played an important role in the formation and maintenance of Australian national and cultural identity" (p. 335). He is looking at professional artistic photographers so this is very apposite for my work as it situates it within the aesthetic tradition in Australian photographic art. He sees the work of major landscape photographers as falling within and subscribing to "... the modes of the sublime, picturesque and uncanny" (p. 337), and I borrow and then apply these elements to my own artefact and investigate it in these terms: the sublime; the picturesque; the uncanny. I discuss this more fully in a later section.

Giblett looks at phases of Australian art landscape photography from the early picturesque to "emerging nationalism in Australia" (p. 338). Nicholas Caire is cited as having his photographs used for travel promotion generally and in particular by the Victorian Railways to encourage travel to beauty spots in the bush (p. 338). Giblett sees that "the 'pictorial' tradition of Australian landscape photography that dominated from the 1860s to the 1930s thus falls firmly within the domain of the picturesque" (p. 338). It conforms to the traditions of landscape painting which he describes after Willis (1988, p. 142), where the aesthetic demanded that there had to be a particular non-centred horizon, one dominant highlight neither at the edge nor centred, and either landscape or sky had to dominate. He asserts that "landscape photography in tourism, conservation and culture has played an important role in forming and maintaining national identity" (p. 342). It has emphasised the picturesque.

Giblett states that this is exploitative as it creates

... unrealistic expectations of aesthetically pleasing or aestheticised landscapes that bear little relation to the lives of people, Indigenous and not, who live on or near them and who rely on them for their livelihoods (p. 343).

I explore this dichotomy further and challenge it, showing that sustainability is not necessarily compromised by aesthetic landscape photography such as in my artefact. Rather the VR element enables non-geographic virtual tourism and a re-prioritisation of the aesthetics of the natural world in a non-geographic gallery immersion.

Indeed Giblett himself goes on to say that “I have argued recently for a shift from mastery over ‘nature’ to mutuality with it”, opting for “symbiotic livelihoods in bioregions” (p. 343). I agree with Giblett that today “landscape photography could help to form and maintain a new Australian national identity around environmental sustainability”. Although it is not the main focus of this project, I further argue that providing virtual reality experiences of tourism destinations could take the pressure of geographic real-time visits from fragile landscapes.

The spiritual elements of the Australian landscape

Significantly in my artefact, I seek to understand and find the spirit of the Australian place that I am providing as an experiential narrative for my user. In putting forward the idea that both Indigenous Dreamings and European spiritual meanings have “imbued the landscape” with spirits, Juliet Ramsay (2008, p. 1) proposes that there is a deep spiritual element available in Australia’s pluralist society. I aim in my artefact to convey a sense of this through the immersive landscape photographic VR experience and the presentation of a timeless connection to place, unencumbered by human presence, seeking to connect the user directly to the location.

Ramsay surveys the importance of Indigenous “spiritual associations with landscapes” and their sense of country past, present and future, and notes that “loving the landscape for its inherent beauty and imbuing it with spiritual meaning did not come quickly to most of the new settlers” (2008, p. 1). She goes on to say that although most Australians live in cities, they have an agreed number of spiritually significant landscapes, citing Coopers Creek, the Barceldine Shearers’ Strike camp, the high country of the Snowy

Mountains, Mount Kosciusko, Hanging Rock, the Franklin and Gordon Rivers in Tasmania, and Gulaga, an Aboriginal sacred site on the North Coast of NSW.

Although this is a very restricted number of landscapes, the important aspect of this paper is that she argues for the spirituality of Australian sites: “the examples of landscapes with spirits have been selected to convey the acquisition of national identity through imprinting spirits and the iconisation of landscapes” (p. 7). This is a significant aspect of my own choice of sites within this project.

The Australian Indigenous Nations (see <http://www.aitsis.gov.au/>) had certain specified land areas that belonged to the people and to which they also belonged. These had quite specific borders. You did not travel on another nation’s land without diplomatic permission. Each nation had its own quite distinct language, most of which are now lost forever, and its own quite distinct cultural practices. The nations often came together for diplomatic discussions, dances, interchanges (etc.) often displayed as Corroborees. The Indigenous Australians shared a deep religious belief about their places in time and space which Indigenous people call ‘*The Dreaming*’. Basic to this belief is a great ancestor who created the land in a way which is always on-going. The past is the present is the future is the past (Bell 1983; Pascoe 2014; Smith 2001).

For Australian Indigenous people there are ‘Dreamings’ everywhere:

... the Aborigines evolved a close relationship with the whole natural world ... they are the only culture which has no myth of alienation from Nature, such as the expulsion from Eden of the Judeo-Christian tradition. On the contrary they believe that through their Great Ancestors they too are co-creators of the natural world (Haynes 1992, p. 127).

These ‘Dreamings’ are basic to Indigenous storytelling. Indigenous Australians’ “...legends of the Dreaming emphasized ... humanising and integrating natural phenomena with tribal institutions and customs” (Haynes 1992, p. 130). There is an understanding that the ‘Dreamings’ and the geographic areas under a certain nation’s control are bounded by Songlines. These are the rights to the stories of that area of land and those people who are on, in and part of it.

Ramsay (2008) asks: “can modern Australians accept the concept of spiritual places?” (p. 8). My photographic experiences provide an answer to this question of the importance of “associational cultural landscapes” (p. 8). This brings into focus the need for my project to think anew in my panoramic representations. The journey I undertook for this project is both personal and professional. It involved looking at the landscape with new artistic representational desires. My aim in doing this was to communicate a connection with a timeless sense of place; that is, to enable the user of my virtual reality panoramas to experience a direct environmental immersion unencumbered by the built environment or evidence of human intervention.

In this context, Gregory Ulmer’s (1994) discussion of Jacques Derrida’s concept of ‘deconstruction’ is relevant as it refers in particular to “how to produce the new out of the old, how to break a habit of thought” (p. 87). He sees this change as a ‘spearhead’. My work participates in this ‘spearhead’ process. Ulmer describes how “electronic writing is like a tableau vivant” performed so as to “gain access to the unfamiliar by means of the familiar” (1994, p. 115). Enacting my immersive experiences provided in my practice develops what he calls the “reality effect” (p. 115). Inherent in Ulmer’s thinking is a recognition of the “cultural code” (1994, p. 137) and its influence upon our lives. Nowhere was this more clear to me than at Nyirrpi, a very remote Aboriginal community in the Tanami Desert, six hours drive Northwest from Alice Springs. These photographs record this:







Plate 9 Nyirripi. Shots of the Tanami Desert around the community of Nyirripi, including images of women elders searching for bush tucker near Karrku, the site of the ancient ochre mine. Photographs by Daniel Stainsby, 2016.

This is one of the most remote Aboriginal communities in Australia, and also one of the most actively traditional. Some members of this community only made contact with the western world in 1984, which is difficult to comprehend. The women live very traditional lives, with social structures relating to skin names, Dreamings, daily activities and gender divisions strictly adhered to.

Karrku is of great importance to the Walpiri people, and had been functioning as an ochre mine for thousands of years – one of the oldest functioning mines on earth. One lady was kind enough to sing me to country, introducing me to the spirits, and also to tell me the creation story of the mountain. These women don't really speak English, but my guide was able to translate from the Walpiri, and the Elder Auntie was telling me about the guardian spirit man who lives in the mountain, and how I should go and visit him one day because he gets very lonely and he can't leave, 'poor bugger'. The women were really open and friendly and generous and it was a joy to spend time with them and learn their amazing historical knowledge of the land and its stories and significance. (Broome 2010; Bell 1983; Redmond 2002). This experience emphasised my spiritual reading of the landscapes I photographed. This fulfilled my aim to provide an interactive experience of the landscape that enable users to immerse themselves in it so that the spiritual or interconnected nature I found and sought to represent in my panoramas is available to them.

Landscape and memory

In an ecocritical sense, as a landscape photographer it became more and more apparent to me that I am unwittingly communicating within an Indigenous culture I don't understand in producing my aesthetic landscape work. This was evident to me in Tasmania, shooting at a location on Bruny Island at sunset. The indigenous name for Bruny Island is Lunawanna-Allonah, and it was the ancestral home of Truganini (c.1812-1876), a Palawa Aboriginal woman of historical significance. I got chills up my spine, shooting at this remote natural amphitheatre as the sun went down, imagining the gatherings of an Indigenous era only just passed on this land. Here, every feature of the landscape that I photograph will have powerful significance to a group of people, whether active or not, that I may never be aware of. The idea of resonance becomes a powerful one in this instance – event resonance, historical, cultural and even spiritual – when we comprehend the notion of the sublime in landscape art and photography. British historian and art historian Simon Schama's *Landscape and Memory* (1996), is an investigation into the claims humans have made over the psychic impacts left in locations around the world by various events.

There is sometimes a sadness inherent in the landscape when one makes the connection to past eras of human habitation and the brutal and sudden shift in eras so recently, and there is implicit in the nature of landscape photography the 'cultural colonisation' of the land. With an awareness of this history, I endeavour to avoid shooting at locations of known cultural sensitivity.

Much of my work came to be focussed on shooting in National Parks around Australia (Wight 2001). It's an interesting parallel with Ansel Adams's work and motivations, especially when considering notions of the sublime in landscape art. I did not realise when setting out at the beginning of 2012 how rewarding this approach would be in my 'painting with light'. "Photography is all about light ... not about objects or people or scenery, rather it is about how light reveals those things" (Lorenzo & Francaviglia 2007, p. 3). Marcella Lorenzo and Mauro Francaviglia discuss the use of light and colour in relationship to the human eye and digital photography which they say enables an art form in which "those with artistic ideas can realize their imagery in strikingly individual and unique ways" (p. 5). Moreover, it makes their actions into an artistic creation: "a

full understanding of light and color means that, in the hands of a master, modern photography is a rich, complicated and expressive art form” (p. 5). I explore this in my artefact, as I continually made such choices, as I discuss later as painting with light.

Landscape representation and Virtual Reality

Representation of the landscape is an ancient aim of humankind, and James Palmer (2003) looks at how changes in technology have facilitated it. He notes three reasons for landscape representations: “a vehicle to communicate information as well as for artistic expression and entertainment” (p. 1) and these are all relevant to my work, whereas his elements of economic benefit, functional services and resource quality are not so immediately or apparently apposite. However, the sustainability aspect of VR experiences is important, and I recognise that this mode of virtual reality looks to a future when geographical tourism may be impossible due to environmental issues such as degradation or travel impacts.

I am interested in how immersion acts to take the viewer from their known and familiar selves and environments into a compelling virtual reality. There is much discussion and development of this in museum experiences, and in this context Tiffany Sutton (2005) discusses immersion as a new “form of contemplation” (p. 1). She discusses regarding museum displays as a transformation of self in relationship to unfamiliar objects so that “your body is defamiliarized and your proprioceptive sense is transformed” (p. 2). She refers in particular to “video environment”, but much of what she says is relevant to my own practice. She discusses employing interactive technology to develop “... aspects of the environment that can only be noticed through immersion” (p. 7), and cites Bill Viola’s work *Five Angels for the Millennium*. Bill Viola is an artistic influence I cite and discuss later. Sutton is interested in what it is like to be immersed in a virtual reality environment and this is significant in my work.

She says that: “... the closer a representation is to being actually lived, the more moving it can be; and the more meaning, the more valuable” (p. 11), stating that this is also because you are more closely involved with the artist in the technological means of production as well as play. This: “... shows us powerfully and directly our mediated lives and the possibilities for them” (p. 12). My artefact acts to achieve this as I discuss

throughout this exegesis, particularly with reference to bringing new media technical possibilities with VR immersive panoramas.



Plate 10 Sunset. This image of the sun setting near Cooktown in Far North Queensland is illustrative of my continuing engagement with the landscape to develop my panoramas. Photograph Daniel Stainsby 2014.

Section 3: My Project

My artefact *Australia Felix: Immersive Visions of The Great Southern Land* presents an online experiential gallery allowing viewers/participants to engage with the digital work and to become immersed in a virtual experience of remote Australian locations. It expands upon established representations of the Australian landscape by producing for exhibition in the online gallery immersive 360° photographic pieces shot around the country.

In this exegesis, there are insights into how this element of the creative research and production required me to travel to various destinations in Australia to shoot the panoramic pieces. This follows the basic premise of this project that, as a creative practitioner, my goal is not to simply attempt to reproduce landscapes as faithfully as possible. It is, rather, to further expand the aesthetic element and appeal of the work by producing quietly interpretive pieces, working with visual technologies to develop the moods and meanings of the work for VR experiences.

Australia Felix, the artefact, has been conceived and produced as an engaging digital experience. It develops the photographic medium of 360° immersive panoramic photography, incorporating a number of different potential modes of engagement for the participant such as screen, headset, touchscreen, tablet or projection. The 360° pieces produce interactive panoramas of the locations that provide experiential involvement in the Australian landscapes, including the beach, the bush, the interior and the vast expanse of clear blue sky. Such Australian landscape “... has been, and still is, central to how Australia and many Australians see and define it, and themselves” (Giblett 2007, p. 335). This project acts to enable actual and virtual tourism, ecocriticism and an aesthetic experience of the Australian landscape.

In this exegesis I expand the work, feeling that the content of the project should include a sense of my own journey, the Australian road trip, as a touring experience/destination in itself (Davison 2005; Faine & Faine 2010). In this way the content of the work documents my journey around the country while I explore in my practicum the advantages of producing an interpretive immersive experience rather than a representative one.

This project addresses fear of the environment (ecophobia) that may exist because the majority of people today live urban existences. In doing so it opens up a sense of environmental wonder and involvement within the landscape.

This project explores the potentials of emerging media and technologies, just as early still photography itself replaced previous mediums such as painting, etching, drawing, or lithography. I bring the ‘artist’s eye’ into these new areas of dynamic visual and multimedia representations of place. In doing so I open up possibilities of the new rather than continue to reside within the known for both the artist and the participant. I do this by elevating the aspirations of 360° panoramic photography beyond the simply descriptive. In this exegesis I reflect upon how any reproduction/recording is an interpretation of an experience, and show how it engages me as a digital artist, pushing the boundaries of my oeuvre by utilising new electronic technologies and possibilities. In doing so, this project makes a significant and new contribution to knowledge through the two elements themselves and through their interactions (Holt 2003; Webb 2012).

This relies upon what Cotton describes as “the photograph as contemporary art” (2011), and John Starkowski calls “the photographer’s eye” (2009). Cotton claims that photography has an “enduring capacity to transform even the slightest subject into an imaginative trigger of great import” (p. 9), and furthermore that new technologies give rise to photographic practices that “draw attention to the many choices that a photographer must make when creating an artwork” (p. 10).

The practicum element of this project began with my aesthetic and artistic photographic realisations of the Australian landscape. As in all my photographic work, my own aesthetic is of elemental importance. This is at the heart of the creative process which the prize winning novelist Geraldine Brooks in the 2011 Boyer Lectures calls a ‘mysterious business’.

Artistic photography

My work is placed within the field of art. In a newspaper article on “John Olsen, Our greatest living artist, on squeezing juice from his final years”, Janet Hawley (2011, p. 10) describes him as thinking of himself as “a wandering minstrel of art traversing his

beloved Australian landscape” (p. 15.) This provides me with a poetic vision of my artefact production.

Described as Australia’s foremost living landscape artist, Olsen has a “huge pile of rejected works waiting for the bonfire” in his studio, and describes his failure rate as 20 to 1. He says he has “gained the confidence that he could learn through failure, so I never give up. Investigating your failures enlarges your capacity to create” (Hawley 2011, p. 16). This sense of self-critique is invaluable in my work and is especially evident through my practice of pre-shoots and post-production as well as my selection of technical equipment.

There is a great deal of sorting to do when considering what shots and even finished panoramas I finally use. Olsen describes his rejected works as “painting my think” (p. 18), which describes concisely my own work in relationship to my vision of the landscape. In his own self-rejected works, often still sought by dealers, Olsen calls this process of working out techniques and assessing results so as to reject as well as choose “quality control” (p. 16). This is essential to my own artistic practice and can only be made by my being satisfied with the work.

For Olsen, “the force of nature is my muse, my god”, and he urges us all to “seize the day” (p. 16) and feels “the primacy of the deep cadmium-yellow side of life. It’s such an optimistic colour” (p. 18). My landscape photography participates in artistic optimism about representation and immersion as well as painting with light and seeks to adventurously situate aesthetic landscape photography in a VR context.

For this project, however, I adjusted my aesthetic so as to produce more idealised representations of locations. For example, at Mt Buffalo when I reached the highest peak there was a small construction site at the lookout point. This was to be the foreground of the panorama I had conceived of shooting. To avoid this, I scaled the railing to find another vantage point with less intrusion. However, from my new perspective the work site was in the middle ground of my image which I felt compromised the purity of the panoramic landscape. This raises the question of removing or altering the image in post-production or including it as a genuine representation of the scene.

This discussion of illusion and reality in photography is a central way of explicating my VR work, as both illusion and reality are significant aspects of the experiences it produces. For example in producing a panorama of Winkypop (not included in the final online gallery) I aimed to provide an experience of being there, of entering into the moment both literally and figuratively.



Plate 11 Winkypop. This image of people on the lookout at the surf break at Bells Beach in Victoria shows how the inclusion of people in an image dilutes the impact of the natural environment. Photograph by Daniel Stainsby 2013.

VR and The Gaze

This project involves me in further artistic and academic reflections upon the ways in which the ‘tourist gaze’ (Strain 2003) can be stimulated and explored within a simulated digital environment. Strain defines the tourist gaze as “... the vicarious movement of the armchair tourist or the travelling eye of the tourist moving through geographical space” (p. 2). I take issue with this reductionist view as I develop new ways for the tourist gaze to interact with the Australian landscape in VR experiences. I agree, however, that “the tourist gaze shares with other cultural formations a series of social, historical and economic determinants” (p. 3), and I explore this within this exegesis, adding to this an ability by the virtual tourist to partake in the art photographer’s realisation of the aesthetic dimensions of the landscape. For example, people are drawn in by the engaging nature of interactive media and the possibilities that produce themselves for the viewer: that is, the interactivity itself draws people into my aesthetic realisations. Curiosity about what might be found in Australian landscape experiences,

then, becomes participation in what I reveal to them through my high aesthetic standards that aim to be both engaging and pleasing.

I am interested in exploring in my practice and in this exegesis what Ellen Strain (2003) calls private journeys in public places. As previously noted, from my own artistic point of view, this involves a move from still photographic technology and realisation to quietly dynamic VR. My production of *Australia Felix* resides within the area that Strain calls ‘the tourist gaze’, an experience that she sees as potentially leading to “more private or personal border crossings” (p. 1) for the tourist. In my artefact, I develop VR experiences that provide “new technologies of representation” leading to an “authentic human experience” (p. 2) as a ‘border crossing’ between still and immersive photographic narratives of place.

Manufactured realities

Central to VR is a discussion about manufactured realities. In creating ‘a sense of spatial immersion’, I explore in my photographic work – and in these observations – what Strain (2003) describes as “authenticity ... cutting through layers of expectation and language to deliver raw and authentic experiences” (p. 3/5) through the “manufactured realities” (p. 9) of VR.

In taking my preliminary still shots, my work challenges the importance of what Szarkowski (2007) describes as how,

the central art of photography, the act of choosing and eliminating, forces a concentration on the picture edge – the line that separates in from out – and on the shapes that are created by it (p. 8).

This ‘edge’ is not utilised in my VR production. It does not define my 360° immersive experience as I am producing pieces that capture all directions. They may be seen to utilise the screen as an edge but they are not a fixed four edged image as is a conventional still photograph. The edge continues on screen in my artistic action but it becomes fluid and can be altered by the user.

The selection of the edge both as a cropping device and as an artistic expression of the ‘photographer’s eye’ is, then, not an essential attribute of 360° immersive photography. However it presents a challenge as I can’t frame an image in any conventional sense. Nevertheless, the work exists both within a cultural framework and a technological one.

It is true that photography celebrates the photographer’s eye and the clarity of the resultant works, but Szarkowski reminds us that as well as “clarity in photography”, there is a celebration of what he calls ‘obscurity’ and defines photography as having “taught us to see from the unexpected vantage point” so that the photographer’s eye makes available “photography’s ability to challenge and reject our schematized notions of reality” (2007, p. 10). Nowhere is this more available than in work such as mine because my VR photography projects the user actively into locations that I have selected for their aesthetic merit.

Photographic poetry for new media: visual verses

My initial imaginings for the *Australia Felix* project were built around my artistic love for panoramic photography and the potential for immersive VR to expand as a photographic medium, offering new dimensions of experience to both photographer and interactive audience. I am thoroughly engaged with the systematic mechanics of panoramic photographic production and find myself motivated, even thrilled, by emerging technologies available to me. From a magnificent 36 megapixel camera providing amazing image clarity (if handled correctly), to finding the ideal lens combinations for said camera in my work, to constantly fine-tuning my technique and discovering ways to elevate the quality of creative output, I am inspired by the options available to me working in an ever-evolving multimedia creative space.

The overarching research is to show in the artefact and then discuss in the exegesis how my VR panoramic work falls outside established photographic genres, as it is fundamentally unusual in that the intended photographic output is not in print, nor is it in video, and nor is it cinematic or gaming oriented. Central to this is that *Australia Felix* is a screen-based work, whether that be through projection, a monitor, a plasma screen, a laptop, iPad or iPhone or headwear. It is not intended to be static in the conventional still photographic sense, nor is it to have a linear movement through time

and space, carrying the implied narrative inherent in cinematography. It is immersive in that the images are 360°, incorporate directional sound recorded on location, and perspective may be controlled by the viewer/participant. My panoramas show, and this exegesis discusses, how the work shares with still photography a sense of temporal suspension, a quality that carries with it otherworldliness not evident in the cinematic moving image.

The VR moment

Still photography has an unnerving precision in its ability to capture a moment, igniting subliminal narratives within the viewer, and often leaving implied questions unanswered. How did this moment arise? What is significant about THIS moment? And, importantly, what are the consequences to be? What is imminent in the narrative stillness of this work? That chronological stasis is not apparent in the VR work I shoot. The work, then, becomes what I call ‘fluid still’ photography, dynamic in form but carrying within it a sense of the frozen, and in this way it is an alteration of conventional photographic notions of time. The soundscapes, recorded separately on location, are integrated into the photographic pieces, presented on a loop of around one to three minutes. These recordings do follow a linear temporal structure, but do not convey a constructed narrative, as would be the case with spoken word or a musical accompaniment to the visuals. As such they serve to enhance the immersive multimedia experience, bringing directional stereo sound and richness to their respective photographic pieces. They also create a slight disjuncture, playing off the imagery and drawing the viewer deeper into a moment by engaging another, very powerful sense.

With this awareness of narrative, non-narrative, structure and immersion, I came to realise that my project is essentially about conveying an experience. Even more, it is about conveying an interpretation of an experience, and, as such, carries within its own narrative systems and structures, and is essentially a form of writing or inscription. This brought me to the further realisation that my work is really an exploration of the possibilities for writing for new media. I am engaging the narrative of the Australian landscape, communicating my own experiences of its isolation, abundance, power, harshness and beauty through the new literacy of the digital age. I am researching how content can evolve along with technology to create new genres and how a digital artist

can ‘write’ for new media. This is relevant and important creative and scholarly work: there is much new technology emerging in digital culture, but relatively little worthwhile aesthetic VR content.

The creative breakthrough: an epic VR visual poem

As a ‘writer’ for new media, my thinking led me to ask: what exactly am I writing? And what is the final piece that will actually materialise out of this amazing journey around Australia? I then began to borrow more literary terminology. As a landscape photographer, perhaps I was writing, visually, in natural history? Or was it a kind of biography of place? The work isn’t documentary in the filmic sense, nor is it photojournalistic, with that genre’s stringent adherence to strict rules about image enhancement and modification.

It was when I borrowed from poetic literary terminology my work began to crystallise for me and the project became much clearer. I began thinking of myself as a visual poet, constructing an ode to a place (Bohn 1993; Osborne 2000). From this, I was able to borrow concepts from an established literary form to help give structure to my own work. Each of my immersive VR pieces could be considered a stanza, with each serving as a lyrical interpretation of a location. The systematic production of each piece demonstrates an approach that may be likened to a strict poetic form, the creation of a visual haiku or sonnet (Collier 1986).

This was my creative breakthrough (Breen 2004; Fleming 2007; Kraft 2005). From this point, the intention of the work, as well as its structure, became clear: I was researching the potential of digital modalities to convey poetic photographic experiences, and, as such, attempting to expand notions of what content for New Media can be. Henry Jenkins describes this as “convergence culture where old and new media meet” (2010, title); Gunther Kress describes it as “going into a different world” (2005, introduction).

Thus the work ultimately consists of the immersive experience of a visual poem, constructed from a number of finely conceived and crafted stanzas, each interpreting the landscape with a lyrical sensibility and some poetic license. This suite of visual verses draws the viewer into a fluid still image, moving on the screen independently of

participation, although the user may select and interact with the panoramas should they choose to do so. This fluid still image is accompanied by directional stereo sound of that particular location, and remains on screen for a specified time, until fading out to black, when another panorama with sound fades back in.

In this way, the viewer is taken on a journey through the *Australia Felix* poem, stanza by stanza. I do not believe it is necessary for the pieces to follow a pre-determined order, and I feel that to have the pieces selected randomly enhances the engagement of the work, and moves it into a more interesting artistic space, providing a different interaction each time a user/participant visits the online gallery.

Sublime solitude

Throughout the process of shooting for *Australia Felix* my work expands upon an established convention in landscape art: working with notions of the ‘sublime’. That is, creating images to inspire awe in the viewer through the representation of a relatively untouched natural world. In this sense I am refining or reappropriating for a new medium an established artistic genre, that of landscape.

The work also explores solitude (Ennis 2004). Emerging online media is generally focussed on connectivity between individuals. This work seeks to disconnect from that function, transporting the individual, alone, to a place of removal, repose, and relaxation. In this sense, the work seeks to create in the virtual gallery a hallowed engagement space, a space of escape, of transportation, of ‘teleportation’. This also acts to overcome ‘ecophobia’ as I discuss later in more detail.

The prioritisation of the visual quality and production of the individual pieces, as well as the construction of and immersion in this virtual gallery space, places the work in a ‘fine art photography’ (Palmer 2012; Pocock 2002) context, rather than a more ‘technologically based’ genre, such as gaming, or more practical, commercial applications, such as panoramas used to sell real-estate.

Immersive 360° photography has shown in my practise how VR acts to place the user in a reproduced reality: the panoramas are convincing as a real world experience of ‘being there’, and users

“might feel completely immersed and totally present. Indeed the holy grail of VR would be to design something like the production of some virtual space that might be experienced as indistinguishable from real space” (O’Neill 2005, p. 150).

Australia Felix aims to realise this for the viewers/users of the panoramas in the digital gallery. Through VR they are able to visit Australian landscapes, experiencing them as interactive immersive pieces.

The outback experience



Plate 12 The Lost Cities, NT. This image illustrates the harshness and remoteness of much of the ‘Top End’ landscape. Photograph by Daniel Stainsby, 2014.

This project concerns both the geographic and artistic journey that I made as well as the personal one. As I travelled, I changed and this is evident in my artefact as well as in my experiential reflections. Life in regional Australia is so different from that of urban Australia that I often felt as though I may as well be travelling on the moon (Roberts 2010). As soon as you leave the hubs of civilisation that in some regions are hundreds of kilometres apart the requirements for survival become pretty serious. A reliable and appropriate vehicle is important, as is enough water to sustain you should anything go wrong, and ideally some means of communication. People break down all the time in the Australian outback because they do not realise that most cars simply aren’t designed to endure these extreme conditions – huge fluctuations in heat from day to night, dust, humidity in the north, and unmade roads. Only 48% of roads in the Northern Territory are bitumen, and many of them get washed away in The Wet, whether made or not.

Also, many of the dirt roads get washed back to the coarser rocks during the wet season,

resulting in treacherously rocky tracks that can easily cause damage to the undercarriage of low clearance cars, as twice happened with mine, as I recorded in my journal entries.

It really is such a different world in the outback, and the contrast between Indigenous and non-Indigenous experiences couldn't be clearer (Selby 2004). It must be so frustrating to view this landscape through Indigenous eyes: this, their ancestral homeland, being so completely dominated by the culture of modern Australia. From a non-Indigenous person's perspective, it feels so alien and remote here, genuinely like a kind of lunar outstation. There are so many conflicting politics, motivations and identities here that most people seem in a state of resignation and a kind of tense truce. There are a lot of people drawn here from outside to work in areas of health, education, and the arts, not to forget law enforcement, resulting in a very interesting and diverse non-Indigenous population, more urbane than might be found in many other Australian regional centres. There is definitely a sense that this is a place that many people come to and 'do their time in', ultimately to return to more developed parts of the country. This has given rise to a term amongst the Aboriginal people for the people who come to work in the outback – 'clouds'. They're white, they drift in, and then they drift away... (Sutton 2001).

O'Neill (2005) discusses the difficulty of defining exactly what presence might mean in this digital context: he suggests that it is experiencing a place that you are not in as though you are there. Moreover, he sees that this virtual placement also involves a sense of displacement from the space that you occupy in reality. This sense of displacement is necessary, I believe, if the user of my immersive 360° photographic experience is to enter fully into the VR world and hence enter into total immersion.

For O'Neill, any presence necessarily means 'involvement': the two cannot be separated. This involvement has another necessary element: the technology becomes "transparent" (p. 151). My work "... allows for the impression that one is able to look around inside the virtual world" of assembled "photographs of a real place" (2005, p. 153). This:

brings a remote world to the location of the user in a particular high fidelity way, creating an environment that appears very realistic. The real-time

rendering also allows for motion parallax and occlusion in the virtual world over a very small area, so that depth perception and the closeness of objects is enhanced (O'Neill 2005, p. 153).

He calls this 'backward space'. In my work there is no 'forward space', that is:

...the images disappear and there is no element of agency within the world other than the sense of ego motion. Nothing can be touched, picked up or moved, there is no forward presence, the user does not inhabit the virtual space (O'Neill 2005, p. 153).

The main aim of my work is to establish that sense of what O'Neill calls 'ego motion' within the user. This is the agency: that the user moves from real time and space to immersion in another geographic destination through a VR experience. In this powerful focussed sense I believe that the user does 'inhabit the virtual space'.

In his discussion of space and person, O'Neill suggests that "... people generally visit virtual spaces as if they were tourists..." and this is entirely appropriate for the intentions of my work, in which the 'spectacular' and 'interactive' (p. 156) play important roles as photography enables interactivity that inhabits spaces in multiple ways, times and places by multiple 'players'. The interactor who visits my digital gallery is involved in bringing the text to life, just as a reader is with a literary work (Eagleton 1989, p. 89). We bring our own cultural and personal experiences with us as we make a journey, and landscape photography itself is embedded in European cultural ideas and practices such as the grand tour and the romantic unspoiled landscape.

From the real to the hyperreal

I recognise the importance of visual narrative in our understanding of our environment. For example, the purpose of the National Museum of Australia is "to develop a compelling narrative of the nation". The exhibition *The Garden of Australian Dreams*, in rejecting a linear view of landscape representation in Australian national and cultural development aims at: "challenging the visitor to think about landscape, rather than to experience passively a reconstruction of nature" (Wallis 2004, p. 113). My work is also engaged in challenging the user. Wallis notes the "difficulties of conveying the fluid

relationship between environment and human interaction through static representational techniques reliant on artefact and text” (p. 110).

New electronic visual literacy in digital culture offers opportunities that transcend much current understanding of representations in new media. Today, the real is being replaced, even superseded, by the hyperreal: “It is no longer a question of imitation, nor of reproduction, nor even of parody. It is rather a question of substituting signs of the real for the real itself...” (Baudrillard 1983, p. 2). This simulation in the creation of simulacra means that “truth, reference and objective causes have ceased to exist” (1983, p. 3). For Jean Baudrillard, this is not an innocent occurrence as “behind the baroque of images hides the grey eminence of politics” (1983, p. 4). As a result, “the dominant class ... exploit the reserve of signs, the system of values, in order to confuse the class consciousness and mystify proletarian consciousness” (1981, p. 2).

Baudrillard sees ownership and dominance through the means of production is being replaced by “mastery of the process of signification” (1981, p. 3). In the context of this exegesis, his critique of the mass media itself is relevant as it considers the social and cultural influence and importance of the visual interactive simulacra of e-interactions. His view of the mass media as disallowing personal interactions (1985, p. 577) is debateable in terms of interactive screen materials. Social control and power that we saw in the hands of media moguls in the 20th and early 21st centuries is being challenged by social networking sites, citizen journalism and personal blogs and websites that deliver information globally. Reality has been transformed by virtual reality.

Immersive and interactive environments are creations both of the real world and the virtual world: they are present and they open up singular opportunities. I see immersive and interactive possibilities as being combined on the screen with aesthetic realisations for the implied user. This means that the gap between the user and the creator is closed, as both have roles in making and implementing the materials. Both, also, are users and appreciators of VR as choices are presented by the artist and choices are made by the user. The major element, then, is one of multiple choice possibilities. Uri Margolin (2002) expresses the similar idea that:

the most intense engagement with a work of art ... would occur if the manipulative and immersive activities could be maximised at the same time: the experiencer would then both ‘be there’ imaginatively *and* influence directly the nature and future direction of the domain in which he or she is immersed (p. 710).

Indeed, the 2015 Deloitte Media Consumption report indicates that consumers’ digital and real lives are entwined.

<https://www2.deloitte.com/content/dam/Deloitte/au/Documents/technology-media-telecommunications/deloitte-au-tmt-media-consumer-survey-2015-100815.pdf>

Immersion is a state of being there, and so is interactivity. New domains of action present themselves as possibilities for VR. In doing so the line between the actual and the electronic possibilities is blurred and the search for any ‘reality’ becomes inconsequential. In my photographic VR representations in *Australia Felix*, immersion in the ‘non-actual domain’ means an “active engagement with a work of art” (Margolin 2002, p. 710) as my oeuvre is aesthetic photography which relies upon my artist’s eye.

In the next section I discuss how the digital technology enables my artist’s eye to enter into new engagements with landscape representations. I acknowledge the importance to my understanding of my project of discussions about technobiophilia and ecocriticism.

Section 4: Theoretical Perspectives

Biophilia and technophilia

The central element of this project is my bringing together the natural world and the VR one. This leads me to look at the academic debate and discussion about whether these two elements of a love of nature (biophilia) and a love of technology (technophilia) can be brought together at all much less as technobiophilia.

The term biophilia was first used by Edward Wilson (1984) to describe the affinity for life in the web of human existence in nature and as nature. “The drive towards perpetual expansion – or personal freedom – is basic to the human spirit. But to sustain it we need the most delicate, knowing stewardship of the living world that can be devised” (p. 140). This describes his belief that expansionism and stewardship are not conflicting goals.

Biophilia is seen by Wilson as acting to develop human knowledge about the importance of nature to human existence:

for reasons that have to do with the very fiber of the brain, the fauna and flora of a country will be thought part of the national heritage as important as its art, its language, and that astonishing blend of achievement and farce that has always defined our species (1984, p. 145).

Wilson opens for us the opportunity to see biophilia as an intrinsic part of human existence, and a driving force in the human psyche.

Yet David Orr (2004) sees technology as a problem for this, as it “now allows us to move much further toward the total domination of nature than ever before” (p. 132). For him, VR is threatening, as: “immediately ahead is this transformation of human consciousness brought on by the conjunction of neuroscience and computers that will simulate whatever reality we choose” (p. 134). Thinking such as this places biophilia and technophilia in complete unresolvable opposition to one another. According to Orr, the inevitable result is a fear of nature: ‘biophobia’. This locates humans outside nature as we seek to subdue and overcome it, and inevitably “... shrinks the range of

experiences and joys in life” (p. 135). Biophilia, on the other hand, disallows “a politics of domination and exploitation”, as it contains an exuberance for “elemental things like flowing water, wind, trees, clouds, rain, mist, mountains, landscape, animals, changing seasons, the night sky, and the mysteries of the life cycle [that] gave birth to thought and language” (Orr 2004, p. 141). Although Orr sees biophilia as reconnecting humans with this natural world, he continues the disconnection between the bio and the techno that can be seen as a false dichotomy: we are part of nature and the development by humans of technology is also part of nature and must be reconciled with it.

Technophilia may be seen as the inevitable move of humanity away from any non-technical elements in the natural world. Wilson (1984) calls technophilia the force of “the machine in the garden that threatens nature” (p. 111). He proposes that nature is “richer even than the human intelligence”, as “the living world is the natural domain of the most restless and paradoxical of the human spirit” (p. 10). Ron Eglash (2009) proposes, however, that technophilia can be seen as “... capable of fighting for social justice and earthly survival” (p. 80). He states that the real questions in discussing technology are to ask “what it is to be human?” and how can we “best support movements for social justice and earthly survival?” (p. 82), as technophilia is not new: humans have invented technology from earliest times. Is the technical, as he terms it, ‘artificiality’, or is it a significant element of the natural itself? The power that resides in applications of the technical are political: that is, they come from the activities of humans. Knowledge that comes from human studies may involve technology as natural too, and Eglash (2009) says “... an unfortunate conflation between the artificial/natural dichotomy and identity dichotomies like male/female in gender or black/white in race, or upper class/working class in economic standing” (p. 84). He sees technophilia as having possibilities for education, social justice, and spirituality as “those of us who love both people and machines with equal passion should never be afraid of who we are” (p. 86). This accords with my artistic activism that places nature in the technological milieu as I discuss later as technobiophilia.

Ecocriticism and landscape aesthetics

Through PLR, I am led to another significant question: can the apparent split between technophilia and biophilia be seen as a false dichotomy? (Brand & Fischer 2013; Fregonese & Brand 2013)

Arising from postmodern literary critical theory, eco-criticism originally directed scholars to evaluate representations of nature in poetry or prose. It identifies an uneasy alliance between nature in literature being praised as somehow pristine and untouched by humans and the importance of recognising human contributions to environmental degradation (Huggan & Tiffin 2015).

Applying eco-criticism to nature writing – in *Australia Felix* a visual interactive text – is useful, as it highlights the tension between aesthetic representations and the realities of the very negative effects that humans have had and continue to have upon the landscape (Buell 2011).

Australia Felix is a celebration of the aesthetic landscape. These representations are from landscapes that are sought after because of their relatively pristine nature. This project is a celebration of areas of great natural beauty, often in national parks. I also recognise, however, that it participates in representations that could be critiqued as misleading or even false given the perilous nature of global conservation.

Jodi Adamson (2001) calls attention “... not to the ‘pristine’ natural world celebrated by many American environmentalists but to the contested terrains ... of environmental degradation” (p. 1). *Australia Felix* is a text providing visual narratives about the natural landscape; it offers interactive experiences of what might be described as indeed the ‘pristine’ natural landscape. As such, it also offers scholarship opportunities to critique these 360° interactive experiences from a position that Michael Cohen (2004) gives to the ecocritic who is a scholar who “would rather be hiking” and who conflates narratives about “the wild, natural, biocentric” for urban audiences (p. 10). Ecocriticism draws attention to the seemingly irreversible and irrevocable spoiling of the natural landscape through human degradation by showing the relatively ‘natural’ aesthetic landscape.

In taking ecocriticism from the literary text to the visual interactive experiential VR text, *Australia Felix* looks at the environment as a non-human actor bringing together nature in its 'pristine' state and the human in nature. In integrating my personal landscape narratives with a critical analysis about aesthetic representations of landscape, I move beyond the contested terrain of environmental degradation and/of pristine nature to an artistic celebration of the natural world in VR. In doing so, *Australia Felix* adds to possibilities for ecocriticism to transcend representations of nature as a text providing celebration alone. Instead there is a sense of yearning that is also apposite for ecocriticism. In reading and writing my texts I provide possibilities for analysis of human behaviour towards the environment, including the need for carefulness and for consideration of Indigenous peoples. This accords with aims of ecocriticism to bring localities into focus in ways that indicate the needs for future environmental protections (Cohen 2004, p. 20). This 'stewardship' means a recognition of environmental justice for traditional owners as well as for the land.

Our perception of the environment is culturally shaped, but the journey I have taken through Australia for this project has shaken many of my cultural 'givens' about nature, the environment and ethical responsibilities in representations. Ursula Heise (2008) looks at how ecocriticism acts as a theoretical approach to understanding how our textual productions can "... reduce or nullify the distance between the experiencing body and experienced environment...". She too is concerned about "... obfuscating the material reality of environmental degradation". *Australia Felix* acts to bring together environmental textuality "...in its relation to cultural and rhetorical traditions, on the one hand, and social as well as scientific realities, on the other" (pp. 511-512). It does so because of the new textual terrain offered by VR. Heise sees ecocriticism as providing a site in which globalisation needs consideration from an ecological perspective. Such critical analyses of nature-oriented textuality act to "connect environmentalist thought to literary and cultural studies..." (p. 382), and, in this project, to immersive artistic landscape photography.

Global ecological issues can be readily identified through my project as it participates in electronic opportunities for global use. In doing so, it provides a site for discussion

about the material from the point of view of protection of aesthetic landscape sites. This accords with Heise's (2008) conclusion that:

ecological issues are situated at a complex intersection of politics, economy, technology, and culture; envisioning them in their global implications requires an engagement with a variety of theoretical approaches to globalization, especially, for ecocritics, those that focus on its cultural dimensions (p. 514).

The global reach of my multimedia digital text confronts what Heise identifies as "the persistence of localism" and provides an opportunity to analyse "... what it means to inhabit a globalized society through vastly increased mobility, contemporary media and communications technologies..." (p. 384). The space of ecocriticism is dominated by a sense of "... environments increasingly degraded and dangerous, direct effects of our and our ancestors' behaviours..." (Estock 2009, p. 203). Reflections upon making aesthetic landscape VR panoramas in this project open up some of my own disquiet about ecological and environmental issues: for example, about Broome and the Great Barrier Reef as well as my own carbon footprint in touring Australia. Simon Estock (2009) speaks of the strength of nascent ecotourism as 'activism' and of how theory can change or influence the world through its critical application to the pressing environmental issues. His thinking about the influence of academic insights on practice in the conservation area causes a scholarly reflection upon practice that has ecological implications.

Ecophobia

In *Australia Felix* my practice acts to indicate the importance of the aesthetic landscape to human insights and experiences of natural beauty. This works against what Estock (2009) identifies as 'ecophobia': "an irrational and groundless hatred of the natural world ... it is what makes looting and plundering of animal and non-animal resources possible". In an ecocritical evaluation, this involves extending "ethical considerations beyond humanity to the land..." (Estock 2009, p. 208). Nature is, he says, neither good nor kind, but 'morally neutral'. An investigation of beauty in nature, such as in *Australia Felix*, is a statement of support for a consideration of the importance of

conservation and environmental care. It indicates that whilst nature may be morally neutral, humans are a part of nature and can act eco-positively.

Estock states categorically that:

a viable ecocritical methodology ... must ... recognise that ecophobia is rooted in and dependant on anthropocentric arrogance and speciesism, on the ethical position that humanity is outside of and exempt from the laws of nature (2009, p. 217).

Australia Felix engages the enactors within the experience of nature as participants rather than as voyeurs, and in doing so it alerts them to the need for environmental consciousness leading to conservation of the natural aesthetic landscapes it offers for their experience in virtual reality.

Australia Felix does not claim to offer "... narrative solutions to environmental problems..." (Heise 2008, p. 390): indeed, what single narrative could do so? Instead it resides in an environmental space of aesthetic landscape experiences that emphasise the importance of the human self within and as part of the natural ecosystem. It also accords with the ecocritical position of "... reading for nature with an awareness of colonial history" (Vital 2008, p. 87). Throughout my travels for this project I have cultivated an awareness of the Indigenous Australians and their relationship with the landscape. Anthony Vital notes the relationship between postcolonial critique and ecocriticism and states unequivocally that 'non-human nature' must be spoken for (pp. 87-88). He asks the provocative question: "where is non-human nature in the text?" (p. 94). Ecocriticism addresses this question as it is

driven by concern about the unviability of our current treatment of the natural environment in the longer term, and by conviction of the need for an ongoing re-examination of our underlying attitudes to nature (Goodbody 2007, p. 13).

Axel Goodbody (2007) identifies the singular aspect of ecotheory as being humans speaking for nature. In doing so, a wide variety of texts (p. 21) can be analysed for their capacity to "reunite us with the earth" (p. 16).

In the context of considering my project, Goodbody (2007) poses some interesting, important and relevant questions:

... to what extent ... can aesthetic appreciation of nature be freed from the various (often conservative and reactionary) functions it has served in the past, and reconfigured in the service of ecology? Can literary and artistic representations of natural beauty, by mobilising feelings for nature, actually overcome the split consciousness which has led us to distinguish between aspects of nature to which we are sentimentally attached, and others which we ruthlessly exploit? To what extent can writing, film, art and life practices further a caring, consistently sustainable relationship with the natural environment as a whole? (p. 37).

Australia Felix addresses these questions both through the performativity of the artefact and throughout this exegesis, exemplifying Goodbody's definition of aesthetics as providing "the key to changing people's attitudes towards the environment and combating the alienation and destruction of modern society" (2007, p. 39).

My digital production in this project also opens up what Serpil Oppermann (2010) identifies as "new entryways into ecocriticism" that "suggest our story is tangled up with the story of the planet and its non-human life, perhaps more today than ever before" (p. 17). Ralf Brand and Jan Fischer (2013) suggest that the division can be overcome, even within the environmental movement where one camp sees technology as destructive and the other as providing answers to environmental degradation by humans. Technophilia underpins sustainable development and emphasises behavioural choices and "the power of reason" (2013, p. 242), and Brand and Fischer reject the "...unhelpful degree of bipolarity"(p. 243) between it and biophilia.

This project acts to cross the divide between technophilia and biophilia (Brand & Fischer 2013, p. 243) as it enables virtual reality in my online gallery as an experience of nature without visiting physically. Vittorio Gallese and George Lakoff (2005) propose that this is made possible through neuropsychology as:

when one imagines seeing something, some of the same part of the brain is used as when one actually sees. When we imagine moving, some of the same part of the brain is used as when we actually move ... imagining is a form of *simulation* – a mental simulation of action or perception, using many of the same neurons as actually acting or perceiving ... the same mental structures that carry out action and perception carry out inference (pp. 457/458).

It is, then, neurologically as well as creatively and environmentally possible to bring together reality and virtual reality, as in technobiophilia.

Technobiophilia

As this project progressed, the journey became one of personal development in a way that transcended VR tourism whilst developing my interest into a more spiritual and environmental concern. This is consistent with technobiophilia. Although environmental concerns are central to human existence on this planet, different governments and peoples give very varied attention to them. One way to strategise interest in such issues is art itself that has, according to Audrey Stewart (2004), “...potential non-traditional methods to empower and engage the public in environmental dialogues” (p. 1), such as is offered by my gallery.

In coining and considering the term ‘technobiophilia’, Sue Thomas (2013) stated that:

when we first entered cyberspace, we took the natural world along too ... these incongruous couplings of abstract technology with a deeply grounded and atavistic earth-bound connection have continued to evolve in powerfully affective ways (p.11).

This project participates in that evolution of the technical aspects of VR with artistic representations of natural landscapes. Like Ulmer, Thomas (2013) sees this as having a type of electracy that she nominates as ‘transliteracy’, as it involves the convergence of reading, writing and interactivity “across a range of different platforms and media, including both the virtual and physical universe” (p. 13).

Thomas (2013) sees the unbounded world of the internet itself as "... an ecosystem of networks complex beyond our imagining" (p. 13), and suggests that interacting with natural ecosystems "soothes our connected minds" (p. 26). My project develops this soothing interaction, but takes issue with her assertion that wilderness landscapes no longer exist. This may be true in England and, as I have discussed previously, in many parts of the world people may have "... a sense of some kind of default wild countryside, and are always trying to get back to it. But of course it never existed" (Thomas 2013, p. 29). She compares our experiences of the natural world as bounded and 'nearby' like cyberspace which is "enormous yet we can only experience a small part of it at any one time" (p. 47). This project focuses that technobiophilic VR experience on the vast natural landscapes of Australia Felix. Although Aboriginal peoples and colonising incomers have entered most areas at some times, I note that the loneliness and atavistic nature of my spiritual as well as professional engagement could be described as technobiophilia.

As "landscape photography in Australia" has "played an important role in the formation and maintenance of Australian national and cultural identity" (Giblett 2007, p. 335), this project extends the limits of traditional interpretations by its immersive technology as well as its metaphoric contrasts. In doing so it promotes the importance of electracy alongside literacy and numeracy.

Electracy

All of the work I am undertaking in my project involves a deep sensitivity to digital visual literacy. Ulmer's work is well known in this area; for example Jenny Edbauer (2002) describes Ulmer as interested in "how new media enhance and extend personal and social creativity" (http://enculturation.net/4_2/edbauer.html). Ulmer proposes that electracy people will practise 'extimacy' by which he means:

a simultaneous space of exteriority and intimacy that influences the way individuals relate to their culture ... to bring a singular kind of personal electronic reasoning to bear on public problem solving (in Edbauer 2002).

He surveys how personal problems and actions outside the academy, as well as one's own community history and presence, "informs the imagination used in applying reason to one's work" (2002, p. 126). Hence, in our period of digital media, known and normalised boundaries between the personal, social and academic are breached so as to continuously invent (Maybury 2010).

Ulmer (2003) states that "... the first communication of an electrated person is reflexive, self-directed" (p. 5). My own work in the artefact and exegesis displays this, but so does the opportunity for interaction that my artefact offers. Ulmer's 'popcycle' describes discourses into which members of society are placed so that their cultural identity is established (p. 24). My work contributes to electronic technology experiences that add to the VR of users. Electracy proposes that "...some feature that went unnoticed in its printed form would become discernable when recorded in photography" (Ulmer 2003, p. 43) and "... this power of the photograph *to stimulate involuntary personal memory* is the point of departure for electrated practice" (p. 44). My work acts to involve the user so that this personal response is triggered immersively in VR experiences. Ulmer (2003) discusses 'diegesis' as "the imaginary space and time of the world created ... that part of the story world that persists through adaptations, translations, and remakes or retellings of the original narrative" (p. 97). My diegesis takes 'Australia Felix' and retells it through replicating the 'elsewhere' for the interactor. In doing so, it explores what is present and absent, the spiritual and the uncanny.

The uncanny

The uncanny (unheimlich) is described by Sigmund Freud (1919) as the opposite to the normal or usual (heimlich). It is identified by him as an intuitive response to the abnormal within normal aesthetics. Because it is a feeling, "people vary so greatly in their sensitivity to this" (Freud 1919, p. 219). However, it is always involved with the familiar becoming unsettling: "... this uncanny is in reality nothing new or alien, but something which is familiar and old-fashioned in the mind and which has become alienated from it..." (Freud 1919, p. 241). He sees this as a repressed feeling that becomes evident within an uncanny experience: "as something which ought to have remained hidden but has come to light" (p. 241). This comes from primitive mankind as our "primitive forefathers once believed these possibilities were realities" (246) and is a

76

phase of development that leaves residues of the uncanny within. In such a situation “... something we have hitherto regarded as imaginary appears before us in reality...” (p. 243). Freud asks if this is found as a means of emphasis that can arise from “... the uncanny effect of silence, darkness and solitude?” (p. 243). The uncanny underpins my creative works and I have captured this in the following earlier pieces that display real images with feelings of the uncanny being evoked by their representations:



Plate 13 Forecourt of the San Francisco Museum of Art. Photograph by Daniel Stainsby, 2005.

This panoramic image was captured in the forecourt of the San Francisco Museum of Art. The photograph represents an exploration of the internal and external spaces of the building, as well as spaces of thought and experience for the individual. A cast of Rodin’s *The Thinker* sits in the atrium of this classical building, connecting the viewer to a reflective moment juxtaposed with the formality of the architecture.

Plate 14 The *Arc de Triomphe*. Photograph by Daniel Stainsby 2005.

My following photograph of the *Arc De Triomphe* illustrates through the angle of representation what Freud calls the ‘*umheimlich*’, which is the opposite of familiar or ‘*heimlich*’, destabilising the expectations of viewing this iconic structure.



Landscape, virtual reality and the uncanny

Technically, this *Australia Felix* project develops a “hybridisation of photography and the virtual world of the 3 dimensional synthesised image” (Guesdon 2006, p. 193). The conceptual and the technical relate as together they ask us to consider the relationship between reality and VR. They also relate metaphorically, and their metaphoric relationship asks me as the practitioner to consider how our Euro-western cultural influences are, in Australia, inevitably transposed into new landscape and virtual environments. Furthermore it challenges the concept of reality itself. Through photography, metaphor and reality become images of VR. Celine Guesdon considers “that the photographic image is capable of truth, that it can be seen as a trace of reality” (2006, p. 193). In this project however I challenge the traditional concept of photographic truth and develop an understanding of VR. In doing so, the project also develops the capacity for VR and reality to merge culturally, metaphorically and technically. At the same time, I do agree with Guesdon that photography is reinventing itself “... through the transformation of its own technical specifications” (p. 194). This demonstrates something of my understanding of the uncanny as intrinsically involved in my VR panoramas that encourage immersive involvement.

Freud (1919) states that:

our conclusion could then be stated thus: an uncanny experience occurs either when infantile complexes which have been repressed are once more revived by some impression, or when primitive beliefs which have been surmounted seem once to be confirmed (p. 247).

Clearly creative works provide this opportunity and Freud says: “... fiction presents more opportunities for creating uncanny feelings than are possible in life” (1919, p. 250). Fiction is narrative and such narratives are the basis for my creative VR panoramas. My photographs involve the telling and the receiving of stories and “... the storyteller has *peculiarly* directive power over us; by means of the moods he can put us into, he is able to guide the current of our emotions...” (p. 250).

I identify the *unheimlich* with Ulmer's description and use of the 'chora' that is the Greek name for a sacred space that grounds our existence in the world (Ulmer 2003, pp. 100-101). Ulmer defines it as providing a 'choral category' for electracy that "gathers and holds heterogeneous information in place by means of a shared mood and atmosphere" (p. 101). My work fits what he calls a "personal chora that sorts the world of our experience into a pattern of coherence" (p. 101). Thus my experiences of my shoots act to enable the user to enter into the experience.

Ulmer advises us that heuristics (the use of logic) enables us to "examine a scene" so as to uncover "an invention that might be found in it" (2003, p. 119). Research and reflective thinking can then lead to recognising in familiarity "an unfamiliar register" that he calls the 'uncanny' (p. 120). In reflecting upon the process of my own creativity in making the artefact, I can identify elements that are heuristic and uncanny.

For example, this famous rock formation in Kalbarri National Park exemplifies the dry red landscapes of north Western Australia. High strata clouds were particularly striking at this location, as was the vivid green of the Murchison River and the sparse vegetation creating a leopard pattern across the arid landscape.



Plate 15 Nature's Window, Kalbarri NP, WA. This image indicates how my work records heuristic intuitive engagement in identifying uncanny elements of the landscape. Photograph by Daniel Stainsby 2016.

Ulmer (2003) notes the freeing aspect of VR in which "...many of the constraints of daily life are irrelevant: it is a realm in which the omnipotence of wishes, dreams, desire, fantasy ... may be given free rein" (p. 229). My work encourages this through

VR experiences of the Australian landscape by producing interactive experiences that draw the viewer into uncanny atmospherics.

New electronic textual possibilities for my photography

Whilst I have looked briefly at some elements of historical landscape photography in Australia, my major interest lies in implementing the new space between computer/human interface and aesthetic landscape photography, of which I am an art practitioner. This leads me to think about new electronic textual possibilities for the performance of my practice. There is no logical linear progression here, but rather a lateral poetics or artistic experimentation of which Ulmer (1994) says: “The goal of heuristics is not only to reproduce historical inventions ... but also to invent new poetics” (p. xii). This is done by experimentation rather than replication. Part of this exegesis is to reflect upon my creative process so, as Ulmer has it: “this concern does not stop with analysis or comparative scholarship but conducts such scholarship in preparation for the design of a rhetoric/poetics leading to the production of new work” (p. 4).

Ulmer sees new possibilities for artistic expression in ‘hypermedia’ and that these come from the individual artist rather than from an application of the technology: “... the design process should and could begin with conceptual and psychological considerations and then work to the mechanics...” (1994, p. 23). Rather than Enlightenment scientific methodology, Ulmer sees hypermedia as “networked” and “associational” (p. 34), and it is this association laterality that my work explores for and with the user.

As new models of spatial relations evolve through electronic technology, Ulmer sees that information is “evoked” rather than discovered through logic (1994, p. 36). He discusses “reasoning with memory rather than logic” (p. 37) as digitisation means that there are multiple “possibilities through which a multitude of paths may be traced” (p. 38). This will lead to “a spirit of creativity” (p. 49). My work investigates this for myself and for potential users in the poetic representations and interpretations of the Australian landscape. For example, Nambung Western Australia:



Plate 16 Nambung, WA. This panorama provides opportunities for immersive experiences of the poetic beauty of remote Australian landscapes. Photograph Daniel Stainsby2016.

Just south of Cervantes, the coastal regions of Nambung National Park; the crepuscular rays spilling out over the cloud bank created an unusual atmosphere that only lasted for a few minutes and changed constantly with the movement of the low clouds.

The image is utilising High Dynamic range of 3 stops, but in this instance it is clear that I'd be better off using a wider dynamic range of 5 or 7 stops, so as to bring more detail into the vegetation on the dunes. This can be achieved in more involved post production, but it is always best to get the correct capture in camera, and alter the files and exposures as little as possible, so as to achieve the highest quality of RAW, or NEF images.

As previously noted, Ulmer (1994) discusses Derrida's concept of 'deconstruction' and refers in particular to how it concerns "how to produce the new out of the old, how to break a habit of thought" (p. 87). He sees this change as a 'spearhead'. My work participates in this process. Ulmer describes how "electronic writing is like a tableau vivant" performed so as to "gain access to the unfamiliar by means of the familiar" (p. 115). Enacting my immersive experiences provided in my practicum develops what he calls the "reality effect" (p. 115).

The Eureka experience: invention, intuition, want and curiosity

How does my work explore what Ulmer (1994) calls "a network in which to catch invention" (p. 138)? As noted, a major part of Ulmer's work is to investigate the 'chora' and resultant 'chorography'. I am influenced by his statement that describes it "as a

method of invention [that] writes directly the hyperbolic intuition known as the eureka experience” (p. 40). He describes intuition as a contrast to logical analysis,

crossing all the sensory modalities in a way that may not be abstracted from the body and emotions ... hypermedia provides for the first time a machine whose operations match the variable sensorial encoding that is the basis for intuition... (p. 140).

Intuition is a major aspect of my creative aesthetic as I show in the selection and production of my panoramas.

My work also participates in “curiosity” that underpins “popular adventure” in its content as well as its form (Ulmer 1994, pp. 164-165). It is not a copy of the geographic landscape spaces, but “another text” (p. 201) that has in its making an “accompanying risk”, as choreography “promises to engage the user’s premises in the process of learning...” (p. 202). In my VR photography, the users are engaged in possibilities of working the space for their own results.

The Artistic Oeuvre, the VR tourist gaze and the journey of this project

This journey began as a contribution to VR tourism, but it became much more than that in its investigation of aesthetic Australian experiential landscape in photography.

As indicated throughout, performativity, visual imagery and photographic experience interest me in relationship to my work. My initial interest in VR tourist photography explicated enabling tourists to find their place in the world and to understand and interpret this place within a wider context. This remains of great relevance to my work, as is the ideal that the tourist experience is “primarily nonverbal and visual”, and tourist photography offers “a naturalized, integral part of the tourist experience” (Hammond 2010, p. 4).

This scopophilic view of the tourists’ experiences enables them to place themselves vis a vis others. This experience is highlighted in my 360° interactions as the visual can be manipulated by the user to “scrutinize ... the subject in greater detail than may be

apparent to the naked eye” (Hammond 2010, p. 4), or in my work, to the lived geographic experience.

Sharing the same story-telling goal, my work is introductory as well as commemorative. Thus the would-be tourist can have an experience of their future visits as well as re-visit sites. Hammond (2010) describes photography “as a medium used to ‘capture’ the essence of a subject and, in doing so, to provide an ideal...” (p. 19) of the tourism experience that is “a visual storytelling technique” (p. 20).

My project’s initial aim was to enliven tourists’ experiences through their interactive journeys of exploration. The simple tourists’ gaze provides an experience that may be described stereotypically as “vulgar” (p. 25), but that I harness for dynamic interactions that enliven the aesthetics of the experience. Hammond makes the interesting point that art photography and popular photography are opposed through:

a generalized hostility to visual culture in Western thought and the association of photographic practices with popular culture ... rendering it suspect as a serious form of expression comparable to the written word (2010, p. 25).

Material such as my artefact provides an introduction to the tourist experience and also a memorial of it. Thus it enables the tourist space to engage in a personal experience that may not be associated with the necessity for personal photography that is a major example of “... insensitive and intrusive behaviours frequently associated with tourists...” (Hammond 2010, p. 26). As my project developed beyond virtual tourism, these observations merely record how this project began. As I show throughout this artefact and exegesis, my project moved well beyond this initial intention and scope.

Section 5: Creativity and Technology

Photographer and/as the camera

Creativity in photography obviously involves technology and this is particularly so for this interactive project. In narrating my self-reflective story of working with some of that technology I address questions of authenticity in photography, I also consider the photographer and/as the camera, immersive representations and post-production and aesthetic decision making to reach an ideal audience.

One major technical concern in shooting panoramic images is the exposure latitude of the camera and the dynamic range of the resulting image, with regards to accurately capturing detail in highlights and shadows, as well as correctly exposing midtones.

In every 360° image, the photographer is shooting directly into the light source (in landscapes this is generally the sun) and also directly away from the light source, trying to capture details in the shadows. One of the solutions to this has been to shoot a number of exposures, to catch the highlights and shadows, and to merge the images in postproduction.

Combined exposures have always been a technique used by skilled photographers. Contrary to popular understandings, these photographic processes have really only been digitised in the era of the 'digital darkroom', rather than being products of Photoshop and the digital photographic age.

The great Antarctic photographer Frank Hurley was criticised for using the technique of double exposures in his work, so as to capture detail in the highlights and shadows of the extremely bright Antarctic landscape. In the darkroom, he would combine exposures in the enlarger, layering them one above the other, to preserve detail in the light tones and detail in the dark. He was especially criticised for creating images with different skies overlayed, to enhance the visual impact. His perspective was that it was his intention to convey the sense of being at the location and experiencing the environment, and this did not necessarily mean being bound by the limitations of the technology available.

[View Frank Hurley's striking colour photography of the expedition](#)

It is an interesting question, and it brings up the ever-present subject in photography of authenticity (Guthey & Jackson 2005). Explorations and understandings of place, authenticity and experience are central to the *Australia Felix* project, as I discuss in more detail later.

The technical aspects of this project also mean looking at International Organisation for Standardisation (ISO) colour spaces for the RAW photographic output (ProPhoto, then converted to sRGB for screen, or any other specified colour space such as those specific to a printer), and getting a much clearer idea of the final output.

In this area I continue to build on the concept of new media poetry. The work does not have to be dramatic or involving like a game, but is presented as a poetic meditation on the Australian landscape, with four channel directional sound recorded on location: each panorama fades in from black, slowly rotating, is navigable by the viewer/participant, then fades out, to black, and is followed by another randomly selected panorama. There are also controls to skip to a next or previous panorama, and possible access to location information. I do not want the work to stray too far from being creative and photographic, I am not attempting to be documentary or encyclopaedic.

Emphasis is on visual quality, beauty of colour and clarity of the image, for, as Vilem Flusser (2000) warns: “the photographic apparatus lies in wait for photography; it sharpens its teeth in readiness” (p.21).

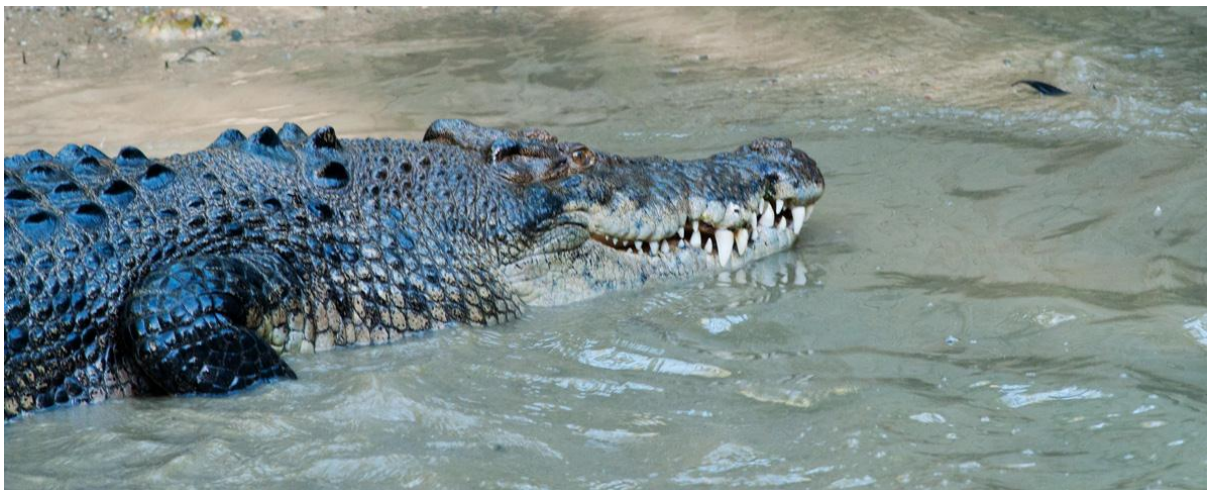


Plate 17 A crocodile lies in wait in the Daintree. Photograph by Daniel Stainsby 2014.

Vilem Flusser: The eye of the camera, the teeth of the camera; the creative aesthetic and photographic techniques.

For Vilem Flusser (2000) the photographer is not an illiterate snapshot taker (p. 57) and so needs to use the best camera equipment. As he produces his philosophy of photography, Flusser recognises the importance and influence of this equipment itself. In the hands of the dedicated artist and professional, Flusser sees ‘magic’ in the ways that images are produced that deal with time and space. For him, this same ‘magic’ is a central aspect in the decoding of photographic images, as their visual power involves the production not of descriptive maps but of images that project the world itself and that enact the putting aside of written descriptions (p. 15). It is quite evident that photographic apparatus is significantly implicated in this. Let me revisit Flusser’s comment that: “the photographic apparatus lies in wait for photography; it sharpens its teeth in readiness” (p. 21). Such a description itself acts to exclude the snapshot from being photography of any importance. He also describes professional photographers’ artistry as having the power to “create, process and store symbols” (p. 25) in an artistic production.

This artistic photographer is not separated from the equipment, but is complementary with it because when photographers are “inside their apparatus and bound up with it ... human beings and apparatus merge into a unity” (Flusser 2000, p. 27). The photographer has some freedoms in this partnership, but it is a “programmed freedom” because “in the act of photography the camera does the will of the photographer but the photographer has to will what the camera can do” (p. 35). At the same time, recognising that the “imagination of the camera” (p. 36) cannot be exceeded by the will of the photographer, the photographer builds images that are enabled through exploring the possibilities that the camera offers. Thus, in the final understanding of the photographers’ art, “only the photograph is real” (p. 37).

Visual images are dominant in our contemporary culture and many of them result from photography. For Flusser such images arise from an inseparable union of camera and photographer, so an understanding of photography can only be reached when we

recognise the artistic aims of the photographer and have an understanding of the impact of the equipment upon this.

There is relevance here to my work, yet underpinning Flusser's search for a "philosophy of photography" is the description of the photograph as "... an immobile and silent surface patiently waiting to be distributed by means of reproduction ... they can be put away in drawers" (2000, p. 49). He rejects those photographs that are by snapshot-takers who are "consumed by the greed of their camera..." (p. 58). He emphasises not reproduction of what is there to be recorded, but an intention always of "... seeing in continually new ways" (p. 59). New ways of seeing and recording are today provided by electronic camera equipment that can move the work into interactive experiential actions accessible in VR. Although his 'magic' contains critical capacities being utilised in reading photography, Flusser still seems to see the visual narrative experience as being one of reception rather than interaction. He is critical of a contemporary photographic universe because "we have become accustomed to visual pollution" (p. 66). Is our contemporary visual world is made up of amateur photographs that have made visual representations commonplace rather than aesthetic?

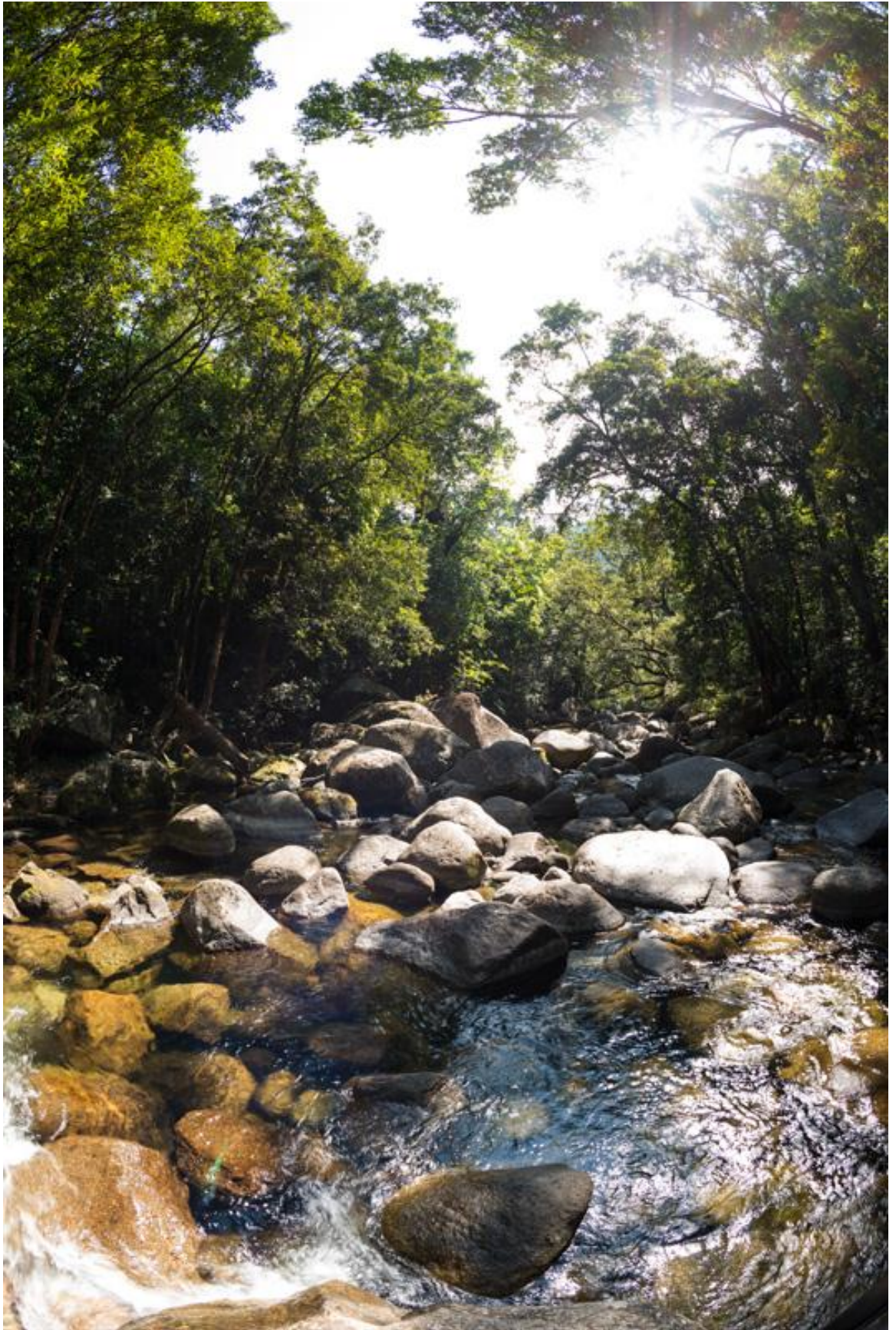
For Flusser (2000) a philosophy of photography will enable such redundant visual images to be critically evaluated and such critiques will prevent us from becoming robotic in our "post-industrial society" (p. 70). This involves recognising the potential dominance of automated photography:

it is consequently the task of a philosophy of photography to expose this struggle between human beings and apparatuses in the field of photography and to reflect on a possible solution to the conflict (p. 75).

His proposed 4 basic aspects of photography – image, apparatus, program and information – may provide an understanding of what he calls the photograph as a plaything that exists today within a space of chance that places human freedoms against automation. In doing so it involves the photographer in "playing against the camera" (2000, p. 80). It is the "experimental photographers" who have acted thus: "consciously attempting to create unpredictable information..." (p. 81). Indeed, it is to feel exposed to the teeth of the camera

High Dynamic Range techniques in panoramic photography and questions of authenticity in photography

Authenticity in photography is an interesting question, and an ever-present subject in any discussion of photography (Chandler & Livingstone 2012). I found as I worked on this project that many people I encountered commented that there is something inherently inauthentic about photography, even if they are not aware of that suspicion themselves. Perhaps this is because photography does seem to present a realistic representation of a location, whereas in fact there are a multitude of interpretive elements at play in the process of photographic capture, from the camera and lens combination used, to the perspective, location, time of day and post-production techniques to name a few. For example, this following image of Rex Creek in the Daintree National Park was metered to correctly expose the foliage in this high contrast scene. The image was also bracketed three stops over and three under this exposure, by exposure time, so as to capture the highlights and shadows in the image. Note the lack of detail in the sky.





DaintreeRexCreek_0.TIF



DaintreeRexCreek_1.TIF



DaintreeRexCreek_2.TIF



DaintreeRexCreek_3.TIF



DaintreeRexCreek_4.TIF



DaintreeRexCreek_5.TIF



DaintreeRexCreek_6.TIF



RexCreekHDR.tif

This contact sheet shows all the exposures (shot in high quality RAW format) for this single image, one of six used on the horizontal axis to stitch a panorama. The final image is the HDR image processed through Photoshop.

I shot every location in multiple exposures for this project, resulting in large amounts of data, but I felt that it is better to have too much information than too little.

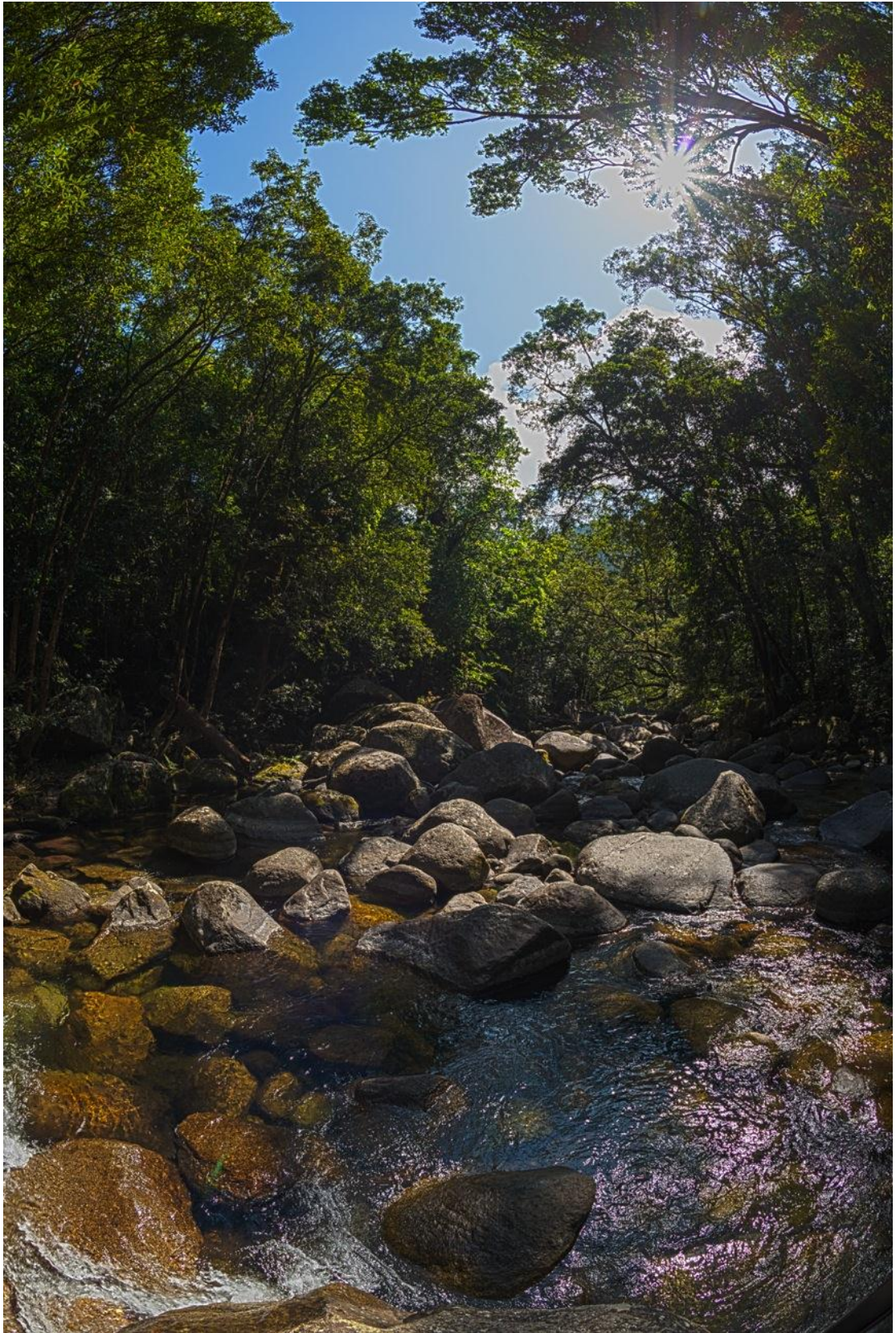


Plate 18 Rex Creek, Daintree, Queensland. Photographs by Daniel Stainsby 2015

These shots exemplify high dynamic range (HDR) techniques.

This image demonstrates the HDR technique, but also its flaws in tone and gamma (the range of the midtones). The information is all there, but the image looks muddy and unrealistic. This is something I improved with further editing utilising dedicated programs such as Photomatix Pro, developed for tone mapping and exposure fusion. Another issue that this program resolves better than Photoshop is that of ‘ghosting’, which occurs when foliage moves between exposures, almost inevitable in landscape photography, no matter how calm the conditions may seem.

These are creative questions that were certainly on my mind at the moment of capture, but were only properly resolved in the postproduction phase of the artefact development. I thought at the time that it may be, after all, that the single exposure, with the Nikon D800’s estimated exposure latitude of 12 stops, is perfectly adequate for the pieces I am producing. I also thought that, as this is digital and it is not presenting the difficulties that multiple film exposures would (cost, practicality) it was better to capture the information in all circumstances than be left without it at the end.

Visual quality

Working on the technical aspects of the project means looking at colour spaces for the RAW photographic output (ProPhoto, then converted to sRGB for screen, or any other specified colour space), and getting a much clearer idea of the final online digital output. For this, I utilise a cross platform program that can be accessed as an app from a smartphone, tablet, PC and can also be presented via a gaming console, Wii, projection HD screen or HD touchscreen or VR headset. These various disseminations of the work will not be difficult, the key is to have a strong core to the work.

The artistry of photography relies upon what John Szarkowski (2009) calls ‘photographic style’ arising from “the sense of possibilities that the photographer today takes to his work” (p. 6). In his attempts to define the photographer’s eye, Szarkowski says that:

... the first thing that the photographer learned was that photography dealt with the actual ... the world itself is an artist of incomparable inventiveness, and

that to recognize its best works and moments, to clarify them and make them permanent, requires intelligence both acute and supple (p. 8).

He describes how this means the simulcra evolves from the reality. This is pertinent to my work as an art photographer of Australian landscapes in/as VR.

The photographer and the camera

In Margaret River, near the famous surf beaches of Prevelly, I noted that the weather rolls in off the Indian Ocean bringing with it the famous waves loved by surfers and moody, fast moving, changeable clouds that made it a perfect spot for me to refine a new technique that I was developing for shooting panoramic 360° work.

It had occurred to me earlier in Broome that, since I was going to be shooting so many seascapes for this project, it would be interesting to bring in more sophisticated photographic techniques to my capture of the locations. Specifically, I became interested in the idea of using Neutral Density (ND) filters to allow me to use longer exposure times in my work, effectively creating a very different visual record of the scenes. The longer exposures achieved with use of ND filters record any moving water as misty in appearance, and can create a very pleasing, dreamy impression when well done.

Here I met with a technical hitch; shooting with extremely wide angles, let alone a fisheye lens as I do, is generally not performed with filters over the front element of the lens, because of the practical difficulty of affixing one to the lens, along with inherent problems with vignetting that result from the optical characteristics of such wide angle lenses. This explains why I have not found any other panoramic photographers using ND filters in their 360° work, and made me all the more keen to develop a new technique to achieve it.

After consultation with numerous pro photography stores, my photographic mentor John Day, Nikon Australia and the Internet, I discovered that the Nikon 10.5 fisheye would accept rear filters, cut to size, in a specially designed slot. This lens, one of which I had kept from my earlier kit as a backup lens for my new setup, is designed for the smaller DX sensor cameras (a digital DSLR range from Nikon that was standard before

94

they started producing ‘full frame’ (FX) DSLR format that I now use with my D800) but is compatible with the FX format cameras, producing a smaller image in pixel dimensions relative to the FX lenses.



Plate 19 Nikon 10.5 DX Fisheye (Google images).

This lens is able to be modified by cutting off the inbuilt lens-hood ‘petals’ to produce a larger image on a full frame camera, such as the D800. This allows for the capture of a 360° panorama in four shots around, even three at a stretch due to its large angle of view (180°).

I decided to take the lens to a fitter and turner to have it modified, rather than run the risk of damaging the lens myself by attempting to perform the surgery without the proper equipment.



Plate 20 Shaving the inbuilt lens-hood off the Nikon 10.5 Fisheye (Google images).

With this shaved Nikon 10.5 fisheye, I am able to capture a panoramic image with fewer shots around; however it is still at the sacrifice of pixel dimensions. With this lens, as opposed to my full frame 16mm Nikon Fisheye, I finish up with a stitched panoramic image of around 12,000 by 6,000 pixels, which is just over half the size of what I am able to achieve in pixel dimensions from my standard setup. Still, this is a reasonably generous size for panoramic imagery, and until very recently, with the development of the Nikon D800 36.6 megapixel camera, was really an industry standard. It still provides ample detail for web use, though possibly not as much as I would like to produce larger prints or display with good zooming capabilities on high definition screens.



Plate 21 Nikon 10.5 Fisheye rear gelatin filter holder (Google images).

Armed with a new gelatin 10-stop-ND filter (a 3x3" sheet of which I ordered from the US for \$160!), I was able to experiment with developing a new shooting technique of longer exposures along the coast at Margaret River. Initially the results were not as pleasing as I'd hoped: there was a yellow colour cast to the filter, and it was difficult for the software to stitch together moving clouds, but I decided it was worth persevering with the technique because, when perfected, it would produce beautiful immersive images.





Plate 22 Sunset off Prevelly panoramas. Photographs by Daniel Stainsby 2016.

Of these early attempts, the only image that I believe comes close to working as I'd hoped is this last one, shot at sunset off Prevelly, with the longer exposure of 30 seconds. Throughout shooting, I continued developing this technique as it certainly didn't work as flawlessly or appealingly as I'd hoped straight off. I came to understand

that if I used it only in low light conditions and with exposures of up to a minute, I could get some very interesting results with capturing misty clouds and waters.



Plate 23 Prevelly. Detail from the image, demonstrating the softening of the water and clouds, exposure 30secs. Photograph by Daniel Stainsby 2016.

Immersive representations and postproduction

I have given much thought to the question of editing, and what is acceptable, and if it is necessary to disclose changes in the images to viewers. I have come to the conclusion that my intention is to communicate an experience redefined. I am not documenting a series of places: I am highlighting aspects of the experience of being in certain places, at certain times. To this end, I think it's perfectly reasonable to eliminate anything I regard as a distraction from any image, whether it's a road or a footprint or a group of people. Further, I don't think it's even necessary to disclose any of the editing to the viewers. These are idealised landscapes: paintings with light. Their function is not merely to be

accurate, it's to be engaging, and to transport the viewer to another, imagined, virtual space that is both real and not real.

Throughout the editing process I have kept in mind concerns about the content of the artefact, specifically how the experience will actually feel for the viewer. Will it be sufficiently engaging to sustain the interest of an audience that is accustomed to a barrage of dynamic gaming, televisual and cinematic imagery? My intention is to produce a work of more subtlety than people may be used to seeing in screen-based media. In prioritising the subtle qualities of the image, I'm hoping to emulate the experience of entering a gallery to view an exhibition of work.

My artefact utilises immersion as a digital form of representation that enables an interactive VR gallery experience for users. Galleries and museums are increasingly utilising such experiences and my gallery builds upon this physical location and hallowed cultural space. In asking about the role of VR, Leonard Steinbach (2011) considers its contribution to museum displays as "... compelling, memorable and visceral experiences". This is because they "... are more naturally engaging for audiences by conveying real physical depth perception and illusions of tangibility and tactility" (p. 41). My artefact offers an immersive experience of "real photographic elements" (p. 42) that is comparable. Steinbach sees great value in the "fully immersive environment, a virtual space where you can see, experience and control a world created for you" (p. 44). This is significant to the realisation of my work which is built upon judgements arising from my creative aesthetic.

Among other VR representations he considers, Steinbach (2011) describes an immersive experience of statuary 'The Mourners' that:

... permits rotation, panning, and zooming-in of the statues from three perspectives: above, below, and straight-on. These angles enable viewers to appreciate fine details and aspects that would otherwise remain hidden (p. 48).

He defines this immersion as having "an important added value: it imparts that special dimension and tangibility that lets one *feel round it*" (p. 48).

Coming from considerations of immersion in both literature and cinema, Scott McQuire (2007) is interested in how,

immersion is an elusive and ambiguous quality ... that has been frequently associated with new generations of media ... because of their capacity to reorient the senses and thereby reinvent existing bounds of time and space... (p. 146).

In immersion, narratives are embodied in virtual sensations such as movement and revelation building a fertile ambiguous relationship between the real and the virtual, the “inside and outside” (p. 148). This is part of what McQuire calls “the increasing importance that contingency and chance have assumed ... in contemporary art” (p. 152). He describes immersion as a space “... in which technological intensification attempts to *occupy* the senses...” (p. 153), it provides “multiple and heterogeneous dimensions in which we are inevitably imbricated” (p. 155). Investigating such dimensions of immersion has expanded my practice of landscape photography and is made available in the gallery.

Aesthetic decision making: postproduction

In making the artefact, postproduction was an essential process as I made a sequence of still images into VR immersive experiences (Grau, Price & Thomas 2000). My goal was to make immersive environments that provide virtual real-life experiences of subtly constructed landscape narratives. This involved me in making numerous aesthetic decisions regarding postproduction so as to reach the highest level of experiential communication.

In digitally processing these images, I massaged the original files to suit the medium, and to maximise impact and effect specific to the output medium (in this case screen). The original RAW image files can be too flat to properly communicate the experience of the location. There are flaws in the original media, so I gently emphasise the best qualities of the photographic files I have to work with. For example, in the previous images I removed the photographer’s shadow by patching in another shot taken at the same day and time (this is situation and light specific, a moving cloud can change the

image completely). This made me very aware of shadows and their difficulty in future capture situations.

I am also aware of the Fourth Wall. By this I mean the theatrical term, referring to direct (interruptive) interaction with the audience. I have made the creative decision to remove my presence in the images, so creating something of a theatrical experience for the audience. This is significant to the conceptual development of the work, as it shifts it from being a documentary work, to being a more constructed interactive performative experience. I continually make aesthetic choices regarding light, textures, colours, times and locations.

Making this artefact involved me in experiencing a meditative calm, which I intend to convey to the users, for their own experience, as appropriate. This project depends upon my creative aesthetic decisions regarding taking original photographic stills into digital interactive panoramas. This involves such considerations as the light/exposure in original files carefully selected from multiple exposures. All are images captured originally in High Dynamic Range, for details in highlights and shadow. This can produce unnatural-looking effects, in conflict with a sense of being ‘in’ the ‘light/space’ rather than technically recording for a conventional photographic print. Realising the digital screen-based medium is colour additive, that is, it EMITS light, compared with photographic prints or paper that absorb and reflect light and are colour SUBTRACTIVE. I also learnt to resist being limited by perfectionism, that is, allowing the artefact to evolve with its own idiosyncrasies and imperfections. This involved me learning to navigate that balance between ideals and realisation in making the artwork.

Challenges and considerations

One of the most challenging things for photographers working with large panoramic images is to develop a practical, and practicable, workflow. From capture to output this is all digital, but the size and nature of the files for panographers such as myself create their own unique problems, and decisions have to be made early on that must be adhered to through the production process for consistency throughout the project. Considerations that need negotiating include:

- selecting the correct raw Nikon Electronic Format (NEF) image files produced, each of which captures the best MOMENT within a panorama, as I may have shot many of the same frame, to catch a bird, whale, wave etc.
- selecting the correct series of image exposures to work with for the panorama desired
- raw (NEF) processing in Adobe Photoshop using the Adobe Camera Raw (ACR) converter, a professional industry standard, and keeping the files at maximum (capture) resolution
- optimising colour and tonal range and sharpening within each series of images, seeking to reproduce the desired impression of a location, and also following the technical guidance of the histogram, tagging with a ProPhoto RGB colourspace
- taking these optimised .tiff images into the program PTGui for stitching as one large equirectangular image, approximately 20,000 x 10,000 pixels
- correcting stitching flaws, masking moving objects, optimising output technically and aesthetically
- saving the stitched image as 16bit .tiff
- bringing this image into Photoshop for final colour enhancement and optimisation, as well as any retouching work that is required, whether it be the removal of people from a scene, a car, a road...
- saving this file as a .psb or Photoshop large document
- converting the colourspace of this file to sRGB, collapsing the layers, converting the colourspace to 8 bit and saving the image for web (.jpeg): at this point, no more editing can be done on the image without loss of image quality
- taking this .jpeg to KRPano, and creating a multires(olution) panorama file

This is the editing process I work with, which brought me to a point where I had enough panorama html folders to then figure out how to arrange my work into a functioning online gallery. This meant developing the post-production visual aesthetic and consistency of the work.

It is very difficult for me to allow a flaw in the work, particularly because I worry that people will take offence at my oversight and sloppiness in the production. Nothing, in

fact, could be less true, and at every point I am fastidious about my creative production. Greg Shapley (2011) puts it thus:

photography has gone from being a mere mechanical tool for documentation to a highly flexible set of creative processes, all with diverse and sophisticated histories that have added an enormous amount to the visual vocabulary available to the artist (p. 5).

A significant contribution to the genre of Digital Panoramic Immersive Photography

As I discussed earlier, I developed in this project a new technique for long exposure, particularly in working with water to capture its lovely movement, as in this shot in Albany Western Australia:



Plate 24 Albany, WA. Working with the technique I developed to soften the movement of the water. Photograph by Daniel Stainsby 2016.

A gelatine filter affixed to the rear of the fisheye lens allowed me to have longer exposures in full daylight, and thus capture the evanescent nature of water as it continually, albeit slowly, moves. I conceived of this technique as I was driving and looking at the misty effect of water on the Western Australian coast line, the way the clouds moved, and patterns in the sky. This technique takes up to ten seconds longer and is far more labour intensive and prone to error. However the greater sensitivity and visual impact of applying this technique to the 360° panoramic format provides greater aesthetic realisation of the landscape. The effect is applicable to print as well as immersive panorama, and provides a dynamic movement in the shift away from literal

interpretation, to emphasising the experiential. It produces a very beautiful effect without overworking the piece.

Visual quality

The finished document of Australia Felix is a personal aesthetic vision. When I select the right spot to capture the landscape, when I have the equipment charged and calibrated and technically ready, when the light comes to illuminate what I set out to capture: this is the artistic eye in practice. It involves ‘creative knowing’ of when it’s right to shoot, and this comes from the artist’s eye and the aesthetic experience: it is profoundly satisfying.



Plate 25 Kakadu: Image with people included (on right)



Plate 26 Kakadu: Image with people removed. Photographs by Daniel Stainsby 2015

A number of decisions were made shooting here. For example, creating a sense of participation with the space in this image at Kakadu meant erasing about 20 people. This was so as to achieve a sense of connecting with place and moment – people in a shot draw emphasis away from the experience that I want to convey. This is not a documentary or a narrative of the individuals (since erased) being in view in the space. It is a communication between the viewer and the location that is not diluted or mediated by unintentional interference.

In shooting Kakadu I had to confront the fact that the National Park was always busy, but I wanted to capture its ‘essence’. This involved:

- taking out the shadow of the photographer (incompletely achieved in the above example)
- taking out distracting people in the image
- taking out any distractions from the essential narrative I am building and conveying
- communicating a vision, story and interpretation of landscape
- relaying and ‘re’-presenting the experience of ‘being there’ as a refined version, without distractions that caused interference for the user/viewer/participant
- expressing the experience as its ‘essence’ is ‘re’-defined and ‘re’-presented

The great landscape photographer Ansel Adams pioneered the ‘Zone System’ (Reinhard 2002), which is now regarded as foundational to the development of photography. To simplify his brilliant concept, all shades within a (black and white) image, from black to white, should be situated on a graduated scale from 0 to 10, nought being absolute black, and 10 being absolute white. For an image to demonstrate correct exposure, nothing should be 10, or absolute white, except a light source, such as the sun. Conversely, nothing in any well-developed photographic print should be black except a hole or the night sky. A well-exposed image should contain detail in every tone except nought and ten. This is particularly difficult to achieve when working with 360° panoramas, because it is generally necessary that the photographer shoots into the sun, an extremely overwhelming light source. In the Kakadu photograph, the smoke haze from Northern Territory burn offs assisted me in my ‘exposure latitude’ by mediating

the direct light from the sunset, diffusing the light, and evening out the exposure values of the scene.

Ideal audience

In making these digital panoramas my ideal audience utilises new media for relaxation, entertainment and cultural engagement. Thus they are ready to experience being taken into a panorama for three minutes, each image fading into and out from black as the audio fades in first to situate and intrigue the participant. They are interactors quite prepared to go on a journey that they can stop and re-enter in a relaxing digital ‘zone-out’. My work offers them a realisation of the beauty of the luminous digital palette, enabling them to experience painting with light.

Potential users are everywhere. A 2010-2011 Australian Government review of communications shows that most Australians use the internet regularly, particularly via mobile phones. In 2011, “15.4 million people (83 per cent of the total population aged 14 years and over) used the internet” (ACMA 2011, p. 18). Indeed, “the average volume of data downloaded per subscriber (excluding mobile handset subscribers) increased by 56 per cent to 25.1 gigabytes during the June quarter of 2011 compared to the June quarter of 2010” (p. 17). Obviously, the cultural practices in Australia embrace the internet, underpinning VR experiences such as my artefact as Australians are well-educated in the everyday use of electronic media. In Ulmer’s terms, Australians are ‘electrate’. This has global relevance as the interactive immersive experience has become accessible to a wide global audience through private or educational/public access. The interactive experiences enable the navigator to make a specific journey of her or his own which may never be replicated.

The audience is not a passive receiver in the experiential immersive art gallery. In their description of the Beta Space gallery in the Powerhouse Museum in Sydney, Ernest Edmonds, Zafer Bilda and Lizzie Muller (2009) define it as a “hybrid environment in two ways: first it draws together art and technology, and second it blurs the boundary between production and exhibition” (p. 142). They also have audience feedback of this experiential art space, finding that “there is no simple single description of audience engagement” (p. 149). Yet all texts may be seen to seek an audience, and to have a

purpose: for example, Umberto Eco (2005) writes of writing “a story I found beautiful” (p. 311), noting as a caveat that “constraints are fundamental in every artistic operation” (p. 322). He then adds “the beauty of the story is that you have to create constraints, but you must feel free to change them in the course of writing” (p. 323). He says that you only write a shopping list for yourself, “every other thing that you write, you write to say something to someone” (p. 334) as “one writes only for a reader”. My interactive texts arise from visual images I found beautiful and wish to provide for others to experience.

The relationship of the artist to the audience is one of setting up an idea that Eden Litt (2012) calls “the imagined audience” (p. 330). He defines this as: “a person’s mental conceptualization of the people with whom he or she is communicating” (p. 330), and asks how this is envisaged for interactors in new media spaces such as my ideal or imagined audience. In his study of social media interactions, Litt notes that today “social media platforms have altered the size, composition, boundaries, accessibility, and cue availability of our communication partners during everyday interactions, making it nearly impossible to determine the actual audience” (p. 332). This discourse online differs from an imagined audience, who choose to visit my gallery and who may then become my ideal audience through the recognition of their interests in experiential aesthetic landscape VR.

The artistic work itself may be seen to contain its imagined audience (Eagleton 1989, p. 87), and this audience involves cultural and social backgrounds. These are brought to the internet as global spaces that are accepted as new media possibilities for aesthetic realisations of creative works.

VR: the changing audience

The goal of VR is to make the audience feel that they are really there and that they also have a role to play in the experience itself. Whilst many developments are relatively recent,

the term VR was coined by Jaron Lanier in the late 1980s, but the origin of VR technologies can be traced back to Ivan Sutherland’s work on interactive

computing and head-mounted displays in the mid-1960s (Schroeder 1993, p. 964).

Such a simulation of the real world was envisaged as enabling the user to operate the interactions and was first employed in an art gallery installation in the early 1970s by American computer artist Myron Kreuger. However, “it was only during the 1980s that the technical means became available to produce systems that were more than prototypes” (Schroeder 1993, p. 965), and this technology quickly became taken up by the games industry. Artistic VR and immersive experiences were then developed in museums in particular. For example the Louvre and Hermitage created virtual tours of their extensive collections, involving online viewers in acting to experiment with locations and to change positions and points of view to suit themselves.

The history of the development of VR applications, then, is relatively recent and has become more widespread as digital technology has become more widely available and easier to use. Today, immersive VR environments create a sense of ‘being there’ that has also been the goal of previous experiential devices. There are historic artistic and creative panoramas that are well-recorded such as the nineteenth century Georama: “a giant sphere whose interior was painted to model the surface of the globe”, and “the celestial globe of the 1900 Paris exhibition” (Belisle 2016, p. 313). In the Georama – a sphere of approximately 12 metres in diameter – “viewers could ascend a spiral staircase to a viewing platform and examine labelled images of the oceans and continents surrounding them” (p. 317). Such panoramas acted like digital immersive VR does today to ‘break representational barriers’. The very word panorama was patented in 1787 by the painter Robert Barker and was “initially called *la nature a coup d’oeil* ‘nature at a glance’” (p. 315). Advertisements and accounts emphasise a sense of really ‘being there’; the panorama “promised to construct an image that visually cohered in the same way that nature itself visually cohered” (p. 316). As in my digital panoramas the idea was to convince the participant that they were actually there in the represented scenes. However, unlike mine, the participant was unable actively to direct their positions vis á vis the representations.

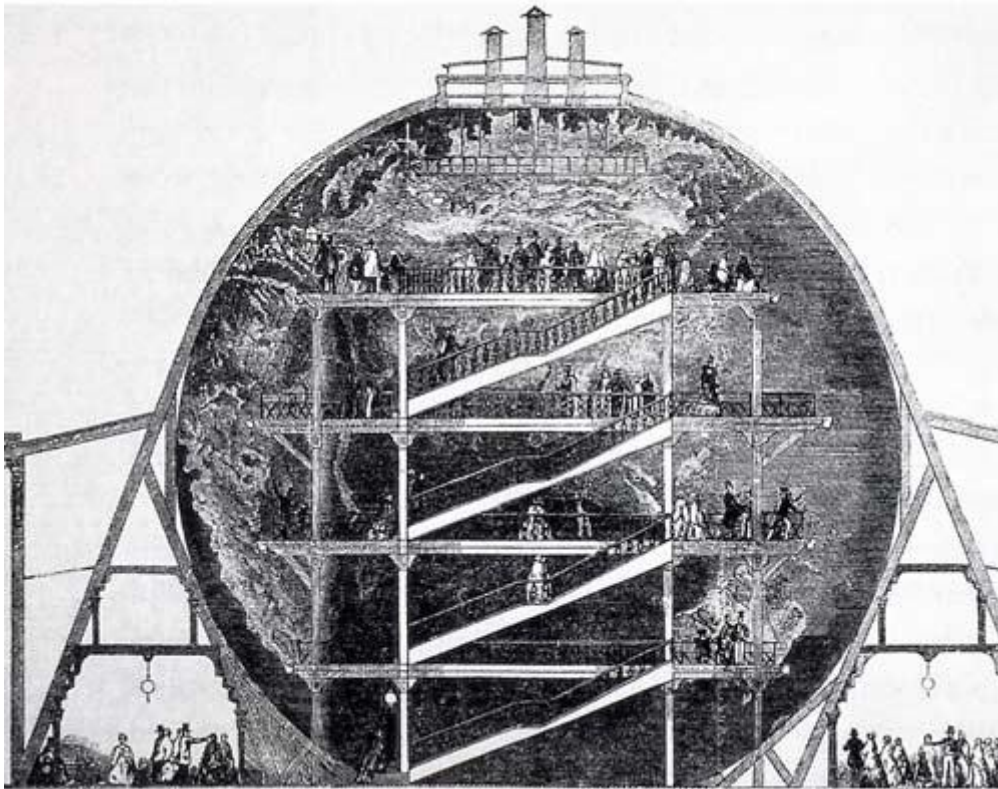


Plate 27 Mr Wyld's large model of the Earth. *The Illustrated London News*, 22 March 1851, p. 234.

Georamas wrapped the world around viewers whereas today digital 3D immersive panoramas such as mine are concerned to produce “the reality effects of verisimilitude” on a smaller scale (Belisle 2016, p. 320). As panoramas met with film and cinematic experiences, change occurred from their physical dimensions to the work of the cinematic camera. Today “a clear line of development leads from panoramic enclosures through cinematic spectacles to today’s digital, projection panoramas” and acts “to translate the mobility of the viewer to that of the image” (p. 325). Further, Brooke Belisle claims that:

today’s digital panoramas also perform and produce ideas about how nature is ordered, how aesthetic representation should recapitulate that order, and how a spectator might perceive and know not only a recapitulation of reality, but also the construct of reality itself (2016, p. 331).

This construction of reality describes the significant change from a passive to an interactive audience.

Are interactive immersive VR experiences able to be more direct and realistic than other audience/user experiences? Immersive VR technology enables what Wanmun Wu and Cha Zhang (2014) discuss as the “ultimate goal of telecommunication ... to enable fully immersive remote interaction in a way that simulates or even surpasses the face-to-face experience” (p. 1229). Certainly, digital immersive VR communication technologies provide both new opportunities and new challenges for the production of aesthetic photography in my project, as I discuss throughout this exegesis.

New media texts are developing in a period of extremely rapid technological change, and this involves the user as a producer with skills to utilise the technology. To allow for this, more simple and useable digital programs and materials have evolved. Take, for example, the emergence of headsets that enable users to select interactive experiential VR. Initially very expensive, such devices are now available in inexpensive cardboard and also through iPhone applications. Such interaction and participation gives us an entirely new idea about electronic textuality and discourse, as the user-interactors can produce their own experiences as they enter immersively into making their own versions of the panorama.

In their discussion of this, Delai Felinto, Aldo Zang and Luiz Velho (2013) survey the ways that digital photography opens opportunities for artistic photographers using the ‘digital carving toolset’:

As creative artists we can not stand to merely capture the environment that surrounds us ... Since we can not place our rendered objects in the real world, we teleport the environment inside the virtual space of the computer (p. 8).

This enables VR for users who are active participants. Marzio Guarnaccia et al. (2012) discuss the immersive panorama as the “visualization and exploration of real scenes on the computer screen ... a category of virtual reality applications whose approach can be image based ... a collection of images are stitched” (p. 130) so as to form the interactive immersive VR experience that is placed in the hands of the user/interactor.

The audience for *Australia Felix* are involved in an entirely new digital activity. As S. Elizabeth Bird (2011) states, today there is a profound change in the use of media by an

“active participating audience”. She cites Axel Brun’s neologism ‘produser’ as “representing an entirely new way of seeing the media ‘audience’” (p. 502). The produser is neither active nor passive in the traditional descriptions and definitions of audience, and it is not within the scope of this project to elaborate upon this or upon technical use of programs such as Web 2.0. However, in its relationship to my project, such produsage may indicate a series of choices about what to view and how to interact with the virtual reality landscapes.

In games playing, for example, Rob Cover (2004) calls this “directed play and participation” (p. 187) in a text that can be reconfigured through interactivity. As in games playing, my audience are active users so any comparison of active and passive audiences is challenged when interaction and participation bring audience and text together as one. This challenge is not confined to electronic discourse through new media productions such as games alone. In their study of real, imagined and media-based events Ruthanna Gordon et al. (2009) found that “overall, prose-based media have a greater resemblance to imagination, whereas screen-based media have a greater resemblance to reality” (p. 70). They discuss the VR experience as one of illusion that the “virtual experience is not mediated” (p. 85) and ‘real’ physiological reactions occur. Such illusions of a reality “act to reduce the number of cues available to differentiate virtual reality-based memories from those originating in the real world” (p. 85). The VR active audience is described by Bird (2011) as “we the people” who will “own the digital mediascape, and will be able to share, if not completely dictate the terms” (p. 507). This is often described as a new democratisation of the participant-audience.

Such democratisation and produsage is evident on a minor scale in the use of immersive VR techniques in this project. Interaction and participation is central to *Australia Felix*, where the user makes decisions about interacting with the landscapes. This addresses a gap in the scholarly literature about the audience interactors of digital aesthetic landscape panoramas and adds to knowledge about the artistic freedom of combining high dynamic range imaging to enable the seamless combination of photographic landscape panoramas for audience/user immersive interactions (Bloch 2013).

A 'sense of living movement'

The 'consumption' of aesthetic landscape experiences in VR in my digital gallery is founded on an inspiration to experience what may otherwise be unavailable or even lost in the relationship of humans with and in nature: that is, a *desire*. This idea is based upon Umberto Eco's statement (2005) that "... man does not just perceive but can reason and reflect on what he has perceived" (p. 253). In his writings about dreams, Sigmund Freud deliberated upon this question: "How did pictures convey not only an idea, but a sense of living movement?" (cited in Rose 2001, p. 79). Virtual reality representations in my gallery provide one answer to this as they "dramatize" an idea, providing what Freud said of dreams that they: "construct a situation out of these images; they represent an event which is actually happening" (cited in Rose 2001, p. 79). Further, he states that:

only in art does it still happen that a man (sic) who is consumed by desires performs something resembling those and that what he does in play produces emotional effects – thanks to artistic illusion – just as though it were something real (cited in Rose 2001; p. 107).

Is it impossible for us to produce vision that is not culturally constructed, or is it possible for the artist to see a particular perspective or vision in her or his practicum? I look at what Joanna Sassoon (2004) has to say about the "politics of pictures". She asserts that "archivally nuanced studies reveal that as whole objects, and indeed for each of their constituent parts, photographic archives are the products of specific cultural and social relations" (p. 16).

Her study moves from what "photographs are of, to understanding actions by which they were created and how they functioned" (p. 16) so that "photographs can become containers of evidence of other kinds of histories". In doing so, it reminds me that I come from a particular background and that my photographs are from a particular time and place in history, although not conceived or executed primarily as historical documents.

Preceding photography in Australia were other visual representations of the Australian landscape such as by ST Gill. Although I am not undertaking such an historical record, it would be remiss not to mention the background to my work in landscape panoramas in illustrated newspapers and journals as well as in artworks and book illustrations. Peter Dowling (1999) asks: “what better medium than graphic journalism to both reassure colonists and inform those back home of how Australia’s emigrant Anglo-Saxon race was rapidly civilizing a former wilderness” (p. 110). Dowling records the impact of photographic representations once there was “photomechanical image reproduction in the 1880s” (p. 110). Dowling considers that photojournalism was seen as ‘truth’ and pictorial representations as ‘art’ in this period. My photographic work in the artefact involves the artistic aesthetic judgement thereby drawing reality representations together with art in the VR experience.

Sound

For aesthetic and artistic reasons, it is important to me to add ambient sound so as to increase the immersive VR experience of my Australian landscape panoramas. The possibilities of enhancing the visual are increased when the sea breaks on the sand, the river gurgles, wind ruffles trees, or the desert speaks its subtle sounds.

Although this is not the major focus of this project and demands further research, the reality aspect of Virtual Reality means for me the matching of ambient sound with the visual virtual experiences. The exploration of the use of sound and headsets or tablets (etc.) is relatively new and this project brings to the literature an understanding of the challenges that engaged me in making ambient sound a contributory factor in the Gallery.

I had worked on another project with a digital sound artist Cath Clover (<http://ciclover.com/>) and I had been impressed as to what sound brought to the aesthetic landscape photography I then practised.

In capturing the sound I used a Zoom H2N digital recorder on my dependable Manfrotto tripod. As the recorder is sensitive I often waded into the sea or sat in forest or desert waiting for sound interferences such as people, dogs, planes or machines to

leave the area. In post-production I used the WaveLab Elements audio editing program to fine tune the recorded sound for use in the panoramas. This was quite a demanding activity for me and took some time as well as re-visiting sites to get sound that was of a high quality and clear of background distractions.

As sound in such VR aesthetic panoramas is relatively new, there is little academic research and discussion as yet. In 2004 Stefania Serafin and Giovanni Serafin noted that: “Although it is well known that sound enhances the sense of presence, i.e., being in a specific place, quantitative results on sound quality and quantity and specific sound design patterns for virtual reality and immersion are not yet available” (p. 1). Today, my work involves the addition to the panoramas of ambient sound that creates a more nuanced sense of being there, of enhancing the relationship between place and its sound. Adding a soundscape to the panoramas develops an audiovisual effect by matching the seen with the heard (Riecke et al 2009). Although there has been “surprisingly little research on auditoryvection or cross-modal influences” (Riecke et al, np), I have found that in this project ambient sound does add to the depth of the immersive VR experience. As Bernhard Riecke et al state “moving visual stimulus” is “enhanced by a corresponding moving auditory cue”. In doing so my work addresses a gap in the literature: as Riecke et al note: “even though the auditory modality plays a rather important part in everyday life when moving about, there has been surprisingly little research on the relation between auditory cues and induced self-motion sensations” (np).

In the insertion of sound into the artefact and the discussion here, this project adds to the knowledge of the way that auditory cues add to immersive VR panoramic landscapes. The current debate shows them to be complementary and not giving stand-alone VR information. However, “auditory information can influence self-motion perception” (Riecke et al, np). More importantly, sound enables the interactors with my panoramas to feel that the experience of immersion is as close as possible to the real world experience. Riecke et al (2009) argue that although such auditory cues have hardly been researched, realism can be effected through their addition to VR and “can be utilized to enhance visually induced self-motion”, thus increasing ‘believability’ (np). They stress the importance of sound quality to ensure this occurs and note that their experiments did

show that ambient sound enhanced participants' experiences as sound "can also have a strong cognitive or higher-level influence on experienced self-motion and presence in virtual environments". When auditory cues are employed, they postulate that there is a more compelling illusion of presence: of being there as "in general, whenever the corresponding situation in the real world would be accompanied with specific sounds, one would expect to hear these sounds in VR, too". They also advocate more research in this area, and this project contributes to that.

Another important element of my VR panoramas is enjoyment, and ambient sound adds to that affective experience: "the concept of enjoyment-which captures the entertainment nature of the technology of interest - is an important motivation for participation in virtual worlds" (Huang et al 2013, p. 492). Huang et al are looking at VR worlds for tourism and marketing, and this has relevance to some aspects of my project. Whatever the purpose of the interactor in my gallery, "positive emotions play a crucial role in influencing virtual experience in computer-mediated environments" (Huang et al, p. 493). Although Riecke et al (2009) see that "spatial aspects of moving stimuli seem to be dominated by vision and not audition", I felt an artistic compulsion to add ambient sound to bring the VR immersive experiences to a more affective level. Affective technologies deal with the emotions that are produced, sustained and curated digitally.

Human-computer interactions involve emotional responses; indeed, Lesley Axelrod and Kate Hone (2005) note that:

"Emotions are now recognized as complex human control systems, crucial to decision making, creativity, playing and learning. Affective technologies may offer improved interaction and commercial promise. In the past, research has focused on technical development work, leaving many questions about user preferences unanswered" (p. 1192).

Such affective interactions as occur in my gallery are powerful and are made more so when sound is added to the visual immersive experience. Interactors "who love both people and machines with equal passion should never be afraid of who we are" (Eglash 2009, p. 86). Ron Eglash sees VR as offering answers to the question "what

it is to be human?” (p. 82). In combining the visual and the auditory, this project develops further insights into human interactions in VR aesthetic panorama immersions.

Section 6: Artistic influences

Artists and influences

Although it is most often a solitary experience, artistic practice arises within and through cultural communities, even when it creates anew as a response against them. This is especially so when new technologies emerge. Artistic experiences of creativity are enhanced by reference to other practitioners, in this case contemporary photographers and digital artists in particular. I discuss artistic influences showing how they are not cited as enabling my work directly or as providing paths that are well-trodden that I might take, but rather how artistic influences are a part of the aesthetic community to which practice belongs.

Artistic influence is explicated by conversations between Susan Finley and J. Gary Knowles (1995) when the two researchers examined autoethnographically their artistic activities so as to gain "... insights into practice as researchers and into other elements of our personal and professional selves" (p. 110). They invite a particularly dynamic view of what art productions consists of for them:

the act of 'doing art' is part of our everyday experiences, whether we imagine a pirouette on the ice, flick the wrist in the articulation of a sweeping brush stroke, design for an evening jacket with bold imprints and textures of appliqué ... at every turn we engage in artistic endeavour (p. 132).

However, there are more immediate artistic actions that are significant in my photographic practice. Today, New Media art and technologies present new opportunities for the realisation of my creative vision to, as Julianne Pierce (2001a) says "... achieve ongoing development of conceptually rigorous and technically sophisticated artworks" (p. 14). Digital media provides a space for my New Media art form to be both innovative and of a professional standard.

New Media immersive photography: a new aesthetic

Since the 1980s, electronic art in Australia has challenged means of representation. Pierce (2001) says: "... a digitally literate and savvy art culture was making its presence

felt, not just in Australia but internationally” (p. 14). Digital art began to “...increase its profile and achieve ongoing development of conceptually rigorous and technically sophisticated artworks” (p. 14). Today, this contemporary New Media has achieved global recognition as an art form, and the *Australia Felix* project contributes to what Julianne Pierce (2001) calls “the dialogue and debate surrounding an intelligent digital culture”, as well as to the digital art culture itself. Pierce, in her review of the Phoenix Halle exhibition space in Dortmund Germany (2007), describes it as showing concern:

with transformation, the future and the meeting of past and present ...with a focus on media art as a dynamic form of practice ... exploring how artists create meaning and interpret rapid states of change in our contemporary post-industrialist society (p. 53).

For her, New Media art is a dynamic term describing what artists can do with technology, particularly interactivity (Pierce 2001a, 2001b, 2007a, 2007b).

The online gallery

In constructing the online gallery, I decided that it provided the greatest access for imaging an interactive experience of the Australian landscape. The challenge is that “gallery exhibitions of new media art present difficulties for traditional display as artwork utilising digital technology resists objectification” (Paul 2008 p. 33). It is discussed by Charlie Gere (2008) as a significant influence of our “increasingly technologized society” (p.13) on gallery presentations, although VR remains marginal in “the spaces of contemporary art” (p. 13). He discusses the transformations in artistic practices that new technologies inevitably bring about, describing New Media art as having “proliferated after the war” and evidences, among others, John Cage’s work from the 1960s as he discusses its development to today’s New Media art forms (p. 15). Moreover, he sees such art as being displayed in galleries (such as the Tate) in ‘static’ form “in that they do not alter in response to interaction or their environment”, nor respond to a digitised environment that alters time and space. For the arts world, he argues, “the increasing complexity and speed of contemporary technology is a cause for both euphoria and anxiety”, and “visits to most galleries and museums today make art seem still very much a matter of producing objects like paintings and sculptures” (p. 23). New Media offers something more than static realisation of artistic objects. Gere

sees the gallery exhibition space as important not only for contemporary New Media so central to our lives (particularly young people's), but also as determining the future through "what we choose to archive and preserve..." (p. 25).

For Darren Tofts and Lisa Gye (2007), digital media and new art forms that result from its possibilities involve Ulmer's 'electracy' involving an understanding of: "... the possibilities of writing beyond the book ... for the making of new and experimental work", or what Ulmer has called "electronic rhetoric ... compositional practices that are unique to the composer and to the place or space of their invention" (Introduction).

The artistic endeavour is clearly not static in New Media as Tofts and Gye (2007) reveal: "association and the audacious conduction of its threads guide the creative act as an ongoing process of discovery and assemblage" (Introduction). This is a description of what Pierce discusses as an 'active circuit', and Tofts and Gye (2007) describe as "a vibrant and ongoing engagement with the kinds of technologies that were being encountered on a daily basis at home and at work" (162). Unfortunately, Tofts and Gye record that New Media art has dropped in profile and now suffers from a series of setbacks based most significantly upon what he calls "interactive fatigue" as

...the surprising novelty of a new kind of agency in and involvement with screen-based art was underscored by a more pervasive utilitarian literacy that was becoming habitual and, therefore, no longer spectacular (2007, p. 165).

Australia Felix acts in part to challenge and perhaps change this ennui as the computer as medium creates new forms and genres for artists "... digital art can be considered the purest form of experimental design (it can) engage us in an interactive experience of form and content" (Bolter & Gromala 2003, abstract).

Traditionally, galleries were exhibition spaces in which a narrative was displayed or told. Today, they are moving towards immersive experiences that involve what David Dernie (2006) calls 'experience design'. For him, "making exhibitions is increasingly recognized as a significant form of creative expression" in itself, as "at the heart of any exhibition is the notion of communication, and the focus of the designer is to articulate the intended message" (np). Pam Locker (2012) suggests that:

one of the most stimulating challenges for the exhibition designer is the exploration and experimentation involved in the search for the most appropriate communication media within emerging interactive environments (np).

Making my online gallery has presented me with challenges as I seek the best way to exhibit the VR immersive narratives of my aesthetic landscape experiences of Australia.

In *Australia Felix*, the New Media gallery is a display of interactive experiential VR landscapes. Leo Manovich (2001) defines new media as "... the cultural objects which use digital computer technology for distribution and exhibition" (p. 13). This complicates visual experiences that he describes as once "gazed at, rather than interacted with" (p. 13). Today, the still image of "... one continuous representational scene" is also able to be treated as "a set of hot spots ('image map') making interactive multimedia" (p. 13), and "navigable landscapes" (p. 14). Such aesthetics and immediacy, Manovich argues, build upon cultural consciousness and previous media technology, and upon "ideas rather than technologies" (p. 18).

Nevertheless it is New Media digital technology that enables building a globally accessible gallery in a period that "on the world wide web, anyone can be a museum curator" (Walsh 2007, p.19). Peter Walsh (2007) stresses the importance of art in photography and vice versa: "artists were involved in the development of photography" (p. 19), and "photography helped inspire a new kind of specialized art museum, which was itself to transform the way art was displayed and interpreted for the public" (p. 24). He calls this the post-photographic museum, and notes that it has been replaced by the "post internet art museum" (p. 30) that is represented in my online gallery production. My Gallery exemplifies this as it enables active participants/users to be interactors with the work rather than a passive audience responding to it. This inspired me to continue to respond to the possibilities of the technology in engaging with and presenting the landscape anew.

I was once fortunate enough to see the work of American video artist Bill Viola at the National Gallery of Victoria in Melbourne, *Ocean without a shore*.

<http://www.ngv.vic.gov.au/whats-on/exhibitions/exhibitions/bill-viola>.

The work was visually stunning, and as a photographer I was struck by Viola's prioritising of image quality in his video works. The piece, which was beautiful, was created for installation at a chapel in Venice for the Biennale in 2007. Viola consulted Steven Spielberg regarding the cinematography for the work.

Viola had presented his High Definition (HD) video works on HD screens, and it was clear that he understood the technical elements, colour calibration, and pixel dimensions, of his work. As a consequence, the figures in the work seemed to be nearly alive, the thematically perfect ghostly apparitions in a darkened hallowed gallery space, stepping into life through a wall of video water, then receding again to colourless limbo.

Artists and inspirations

It is through gallery representations that art becomes accessible to all, and online gallery representations enable global digital public access. My own experiences of them have led me to influences that would otherwise be more difficult to access. For example, Hiroshi Sugimoto's seascapes provide a meditative elemental elegance that somehow manages to communicate a sophisticated insight into the nature of being and existence and avoid seeming simple. This is in part due to the technical precision of the images, some of which are exposures of up to half an hour, and their presentation as clean cut square images.

<http://www.sugimotohiroshi.com>

<http://www.sugimotohiroshi.com/seascape.html>

Another example is Murray Fredericks's elemental landscapes shot on Lake Eyre in South Australia that echo the elegant bifurcation of Sugimoto's work. Fredericks reminds me to regard the textural features in the landscape, patterns in the clouds, lines in the rocks, as well as the awareness of beautiful variations of light at various times of day, especially dusk and dawn.

<http://www.murrayfredericks.com.au/projects/salt/ - 1>

<http://www.murrayfredericksphotography.com.au>

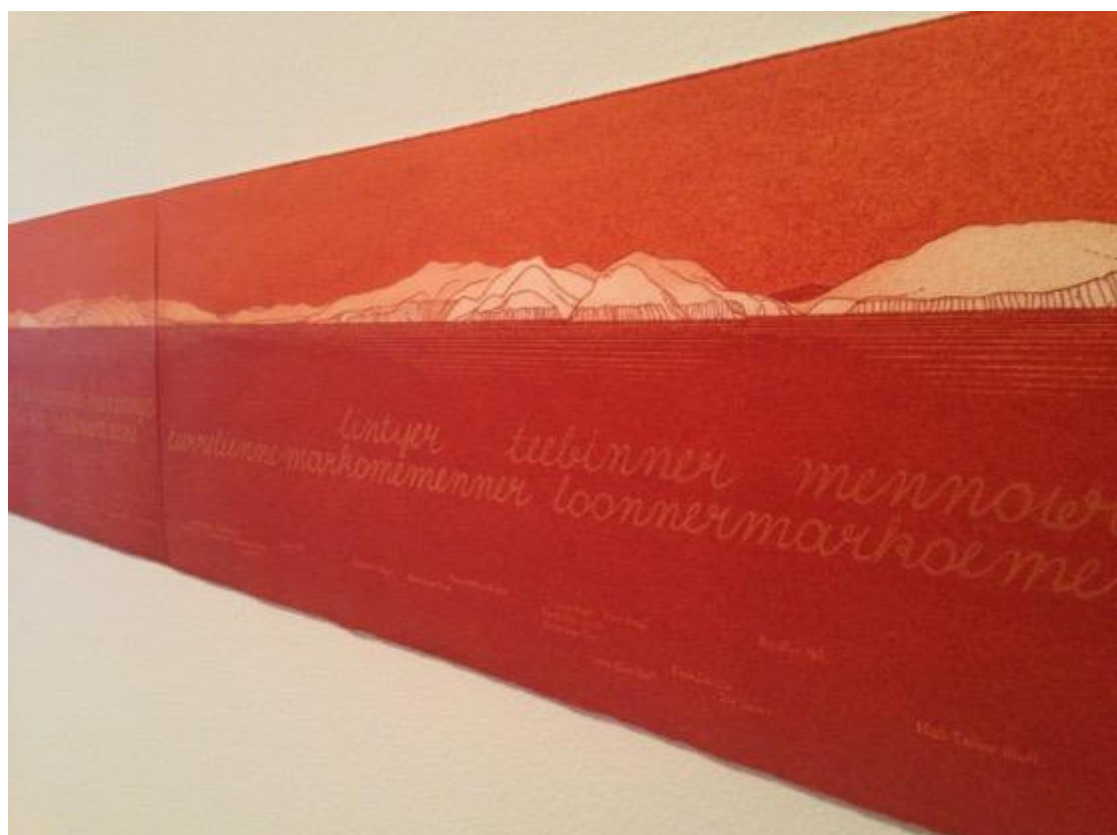
I recently discovered the work of artist Bea Maddock at an exhibition at the Brisbane Gallery of Modern Art.



Plate 28 Bea Maddock exhibition. This illustrates her inventive interpretation of the panoramic format in relation to the Australian landscape and its history. Photograph by Daniel Stainsby 2015.

Born in Hobart in 1934, Maddock is known as a printmaker, but her work is not exclusively limited to this genre, spanning the fields of installation art, encaustic painting and jewellery making. Her work engages with Australian history and has a particular awareness of Aboriginal cultures prior to European colonisation.

The beautiful and technically exquisite work *Terra Spiritus* is regarded as her magnum opus. From its very title, this work refuses the colonial positioning of Australia as ‘Terra Nullius’, as claimed by Captain Cook in 1770, thus laying the legal foundations for the English colonisation of the east coast. Maddock’s title of accessible Latin acknowledges a different comprehension of the significance of the land.



textual information online in its various guises from print to VR interactivity (Ciccoricco 2004). Due to the growing intricacy of digital narratives, David Ciccoricco indicates that making meaning from them “makes it difficult to ‘map’ meaning” (2004, p. 5), and suggests that linearity and literalness is not viable. He calls this “the ‘panoptical impulse’: the project of instilling measures (both material and cognitive) to ensure that a more comprehensive globalizing perspective is gleaned” (p. 6). This may be one aspect of my work, but it is not necessarily relevant to the engagement of the user in VR interactivity. Ciccoricco recognises that such a digital text “values not simply an exposed end-product but also the meanings located in the process of its unfolding” (2004, p. 8). Digital media creativity and literacy, then, offer us new ways of producing meaning. This is a significant element of my artefact with its VR interactivity and unfolding experiential form.

The challenge to traditional print-based textuality and discourse offered by New Media involves understanding and utilising what Maya Eagleton (2007) discusses as “not a lesser cousin of printed text but a distinct language form governed by its own freedoms and constraints” (p. 1). She argues that ‘cyberliteracy’ involves both self-expression and communication “in a particular semiotic system” (p. 4). This exegesis explores how my artefact participates in such a system of meaning and interpretation through VR.

Interested in Viola’s starting-point with video, Raymond Bellour, in an interview with him (1985), elicits that Viola was unsuccessful in his traditional photography course but was saved by a teacher, Jack Nelson, whom he called a “rare open-minded teacher”, who began an “experimental studio”(n.p.). For me, such an experimental aspect is intrinsic to my practice as I stretch the boundaries between aesthetic photography that is traditionally still, and the new opportunities offered by immersion through electronic technologies. For example, in my artefact, I push my practice to utilise aspects of New Media in a poetic/interactive/photographic experience.

Asking: “Will there be condominiums in data space?” Viola takes a ‘poetic approach’. Viola (cited in Violette 1995) speaks of ‘immediacy’ as the basis for a new conceptual art that “will take on a new meaning” (p. 11) in a non-linear form driven by the viewer. Thus: “viewing becomes exploring a territory, traveling through data space” (cited in

Violette 1995, p. 12). He sees this as “*the* primary medium” (p. 12) of both art fields and the culture.

Contemporary digital art

In enacting images and narratives in my creative artefact, I am undertaking what Flusser, “one of the founding fathers of media theory” (Ieven 2003, p. 1) calls a new type of universe, because each medium presents the world according to its own inscription, but becomes a determinant of how those using the medium see and construct the world. Flusser (2000) states that images are necessary so as to make a challenging and even incomprehensible world accessible to humans. He states of such mediated images: “instead of representing the world, they obscure it until human beings finally become a function of the images they create” (p. 10). Thus our “manner of beholding is of major importance for how one envisages the world” (Ieven 2003, p. 3). So VR emphasises our human capacity to live neurologically within an immersive digital experience.

My photography becomes a New Media interpretive factor in enabling ways of envisaging *Australia Felix*. Flusser calls this image-making reality “the magical world view” (cited in Ieven 2003, p. 10). In his discussion of the relationship of written with visual texts, he sees a need to decode them differently. For him, images are a more simply decodable text and written texts call for a more abstract decoding. As I have shown in my reflections upon my creative New Media imagery, I am bringing together a poetic textual discourse with a visual one. In doing so, I am utilising New Media apparatuses that Flusser (2000, p. 26) describes as inherently different from traditional photographic images in which “time and space can no longer be conceived as separate entities” (cited in Ieven 2003, p. 10). He describes this as leading to a “bottomless universe” in which we must learn to “really play with the programme – instead of letting the programme play with us” (cited in Ieven 2003, p. 10). The relationship of the visual text with insights into poetic representations is central to *Australia Felix* and is a significant aspect of enquiry into ways of utilising and understanding New Media within the academy.

Immersion not representation

Digital photography relies upon the aesthetic eye of the artist capturing the moment, but it also utilises programs that insert themselves between “the artist and the artistic expression” (Lorenzo & Francaviglia 2004, p. 6). There are other advantages that Lorenzo and Francaviglia identify:

... immediate feedback means that a photographer can experiment and learn at an unprecedented pace, then making some decisions about how realistic or abstract the imagery can be. Camera movement combined with a slow shutter speed can create fluid images full of energy (p. 8).

In immersive VR experiential photography, artistic decisions must be made about stitching the images together. Aseem Agrawarla et al. (2009) describe the process I am undertaking as a “digital photomontage”, which consists of choosing “good seams within the constituent images so that they can be combined as seamlessly as possible” (p. 294). These “selective composites” may then provide “relighting, extended depth of field, panoramic stitching, clean-plate production, stroboscopic visualization of movement, and time-lapse mosaics” (p. 294). In this way the ‘digital photomontage’ provides both artistic and user gratification:

...digital photography can be used to create photographic images that more accurately convey our subjective impressions – or go beyond them, providing visualizations or a greater degree of artistic expression (Agrawarla et al. 2009, p. 294).

Unlike traditional postproduction, the digital photographer undertaking a project such as mine aims to: “treat a stack of images as a single, three-dimensional entity and to explore and find the best parts of the stack to combine into a single composition” (Agrawarla et al 2009, p. 294). In *Australia Felix* this also means that the digital photomontage is able to be entered into by the user for a singular experience. As I show in the artefact and discuss in this exegesis, this interactivity involves further artistic decisions.

Such interactive aesthetic photographic experiences of the Australian landscape as in *Australia Felix* involve more than imaging a flat landscape. Rick Doble, Marcella Lorenzi and Mauro Francaviglia (2004) see that digital photography depicts dynamism as it is “uniquely capable of recording space/time image” (p. 381). This is so because it enables shots to be seen and evaluated immediately as they are taken; it is low cost; it has stabilizing control that “allows photographers to handhold shots at a very low shutter speed such as ½ second with no camera shake” (p. 381); it contains EXIF exposure data that:

lets the photographer go back and review settings, such as shutter speed, that were used with different photographs and then allows the photographer to learn from and build on that information (p. 384)

and expressive control for:

while Digital Photography is a technical craft, it is also an expressive medium. Different photographers can make very different images that reflect their personalities and their artistic visions. As a result the world in motion can be both accurately recorded and also depicted in an expressive and individual manner (Doble, Lorenzi & Francaviglia 2004, p. 384).

We construct meaning from signs. This is true in digital media as in any produced text, and is the subject of my VR immersive photographic experiences in this project. Immersive panoramic photography as a medium choice for my project “is significant to the extent that the choice of a certain medium, e.g. computer games vs. film, modifies the way in which story is shaped, presented and received” (Ryan 2003, p. 1).

This exegesis draws together practice and research and brings new knowledge to the academy by addressing the paradox described by Webb (2012):

art is about producing aesthetic objects, and not being bound by (social) conventions; the academy is about producing knowledge, and operating according to (scholarly) conventions. The first relies on the imagination and the second on reason: though of course there is considerable reason in artistic production, and considerable imagination in academic work. Where they

particularly connect is in the fact that in both art and the academy, there tends to be a search for innovation; and in both fields, the rewards are symbolic rather than economic (np).

Virtual technologies: demonstrations of digital applications for VR photography

As previously noted, computer interactions offer us ways to make a vast range of amazing experiences available as if they are truly occurring. Bolas (2013) describes VR as “the ultimate computational experience”(np). For him, such VR immersion will one day be indistinguishable from reality, although that is “still far away”. However, fully automatic immersive VR very nearly achieves for the user “the closest experience to reality” through devices such as head mounted display units, input devices or Cave Automatic Virtual Environments (CAVE).

Since 2012 the XL Catlin Sea Survey has been documenting the state of coral reefs around the world using underwater scuba-guided 360° panoramic photography. This survey is funded by a large American insurance firm, listed on the New York Stock Exchange as XL Catlin, along with a number of other private and institutional partners, including the University of Queensland. The stated interest of the XL Catlin company is to fund documentation and scientific assessment of the state of sensitive areas of the natural environment, such as coral reefs, so as to draw attention to how global changes are occurring. The XL Catlin Sea Survey has set out to create a:

... baseline record of the world’s coral reefs, in high-resolution 360-degree panoramic vision. It will enable change to be clearly monitored over time and will help scientists, policy makers and the public at large to see and understand the issues reefs are facing and work out what needs to be done to best protect coral reefs now and into the future. <http://catlinseaviewsurvey.com/about>

Google Earth has now partnered with Catlin Sea Survey, and some remarkable underwater VR experiences have been created.

<http://catlinseaviewsurvey.com/about>

<https://www.google.com/streetview/#oceans/>

Icelandic pop-artist Björk released a 360° immersive video for her single release 'Biophilia', utilising (and drawing my attention to) YouTube's recent incorporation of 360° immersive photography and video players on their online service. At the moment, this functionality is only compatible with the Google Chrome web browser, but will no doubt be included in upcoming version of Safari, Explorer and other browsers.

<https://www.youtube.com/watch?v=gQEyezu7G20>

(Please note – above link works best when viewed on Google Chrome, iOS or Android web browsers, providing full functionality.)

In the endeavour to make a VR immersive environment more naturalistic, Byagowi et al. (2014) utilised an Oculus Rift device which “includes a gyroscope, an accelerometer and a magnetometer” (np) so as to orient the user's head to allow them to experience a convincing virtual reality. They found that “Oculus Rift has shown great results in terms of providing a naturalistic immersed virtual reality environment, in which the user can navigate and feel present...” (np).

Head-mounted devices such as Oculus Rift make stereoscopic images from the user's position “simply by including two virtual cameras in the software” (Bolas 2013, np). As the Oculus Rift is a headset focussed on gaming, it's not necessarily relevant or essential to my project. However, “virtual reality popularity is increasing” (np) among current computer users, and such devices as this offer insights into VR.

There is increasing popularity for VR and that immersive display technology is beginning to replace conventional monitor. There is discussion that head-mounted display devices (HMD) might cause motion sickness more than monitors that are conventional. This is relevant to my project as the interactor-simulated VR experience on a conventional screen has no reported motion sickness and has not resulted in this in my own experience. Much of the discussion about 'cybersickness' arising from the use of HMDs comes from gaming and its search for true VR experiences that aim to place the user within that digital world. This is not necessarily so for all Immersive Virtual

Environments (IVE) and virtual hand techniques are a viable alternative in gaming to HMDs.

Although not essential to engagement with the *Australia Felix* artefact, use of HMDs is presented as an option to the user in the online gallery.

'Images of Thought'

I have described my work as photographic poetic stanzas. The relationship of poetry with photography is discussed by Peter Szto et al. (2005) as an "exploration into expressive/creative qualitative research". They describe using "visual representations of reality (photography)" to participate through new media applications in the "compression of experiences expressed in words (poetry)" (p. 135).

They see that the contribution of such creativity to research relies upon the recognition of PLR actions, reflections and deliberations drawing together practice and theory so as to make an inductive connection between their artistic expression and empirical knowledge (Szto et al. 2005, p. 138). They describe this as: "research generated through poetry and the arts begins by investigating a particular case, yet seeks to penetrate the depths of that case to present more universal truths". They also describe photography as exploring "the social function of the camera to capture, document, and express perceptions of the world" (p. 139).

My project draws together these two important tools of research about people and place with New Media possibilities. As photography and poetry both ask for a creative personal input and response, putting my photography within the poesis and laterality of photography as a suite with stanzas intensifies what Roland Barthes in 'Camera Lucida' called "pensive" (p.38) and hence "subversive" (p.33), as the photography itself philosophises images and thinks. Hanneke Grootenboer (2007), in discussing a photography exhibition, describes this as the images of thought leading to "interpretive approaches that encompass close reading, semiotics, visual rhetoric, notions of effect, and the aspect of speculation in meaning-making in general" (p. 1). In this exegesis I demonstrate how such 'images of thought' are enhanced by poesis as a metaphor for the structure of *Australia Felix*. The artistic realisation of the landscapes involved me in

making the images my own: in thinking about how best to capture what I could see and in utilising the technology to make the panoramas that I had captured first in my vision and mind then through photography and post-production.

Conclusion

This exegesis has entered into what Bolt (2006) called dialogic interactions that bring a new interpretation to the work of the artefact. The artefact explores the use of New Media for aesthetic immersion for a digitally literate community. The exegesis develops insights into ecocriticism and technobiophilia. In utilising digital technology for my artefact production, a gallery of VR experiential landscape panoramas, I am aware of the ever-changing nature of New Media artistic possibilities. In this exegesis I have reflected upon these and shown the potential of using new technologies such as Oculus Rift. Such headsets can be utilised by my gallery viewers in their VR experience of my project, along with screen-based viewing.

My photographic methods are visible through the artefact and are described and reflected upon in this exegesis. Such PLR is shown as a powerful methodology in bringing creativity into scholarship. Whilst the exegesis does not act to justify the artefact as scholarship, together the two elements of *Australia Felix* bring new and significant knowledge to the academy.

For the audience, this scholarly and artistic journey begins in the *Australia Felix* digital gallery. This practical display of my photographic textual discourse demonstrates the powerful impact of VR experiences of immersion in the Australian landscape. By utilising the issues and ideas raised during the creation of these panoramas in my reflective journal, I record myself as data for this exegesis. This autoethnographic methodology illustrates technical, personal, spiritual and creative aspects of my journey around Australia. I place this within academic discussions about such aspects of creativity in this exegesis.

My own creative experience is conveyed to my 'ideal audience' as an online immersive gallery that provides them with a VR experience. In doing so it builds upon more traditional Australian landscape representations to enhance the participants' insights into the virtual experience of travelling around Australia to unusual and often difficult to visit places. My panoramas, then, bring my insights and experiences into play for VR. As I have discussed in this exegesis, these add mood, aesthetic realisations and interpretations to the works.

The exegetical journey

In this exegesis I expand the discussions about VR in the literature. I enter into the theoretical debates about the relationship of the natural and geographic world, looking at such scholarly issues as biophilia, technophilia and technobiophilia. Moreover, I situate my creative work within the areas of ecocriticism and electracy.

Throughout this project, I produce evidence that the artist and researcher are one and that the two elements of PLR add significantly to scholarship. I refer to artistic influences that have enabled me to develop further insights into the aesthetic community to which my photographic work both belongs and contributes.

The written text of this exegesis adds to the immersive text of the creative section of the project. Linda Candy (2011) describes this as enhancing artists' "personal effectiveness through conscious individual reflection" (np). She sees research as an action further augmenting that creative knowledge "to add knowledge where it did not exist before" (np). In PLR she describes practice as "the central focus", as the research questions arise from the practice. This is an invaluable contribution to knowledge about creativity as it comes from the creative practitioners who become academic researchers. Nigel Krauth (2011) describes this as the artists disclosing or even unmasking their creative processes in relation to a given artefact.

Creativity itself is often seen as something mysterious: Krauth's description of unmasking some of its processes in PLR is very evocative. The autoethnographic model of the writing in this exegesis demonstrates the central role of myself as researcher in producing both the artefact and this scholarly exegesis (Ings 2014). Welby Ings describes this as exploring "territories of the self" (p. 676). My self-narrative enquiry in this exegesis adds to knowledge about the creative digital photographic process in the same way that my artefact reveals my artistic commitment. Just as Ings describes this process, I have found it to be "highly transformative" (p. 678).

Representations of the Australian landscape, as I discuss earlier, are inevitably imbued with a cultural attitude and understanding. In his discussion of the power of the land, Paul Carter (1996) argues that colonisation of Australia has led to a refusal fully to

understand this that involves a silencing of the landscape itself: ‘The colonists’ eagerness to remove every vestige of vegetation cannot be explained simply as a mistaken theory of agriculture; it expresses an overwhelming need to clear away doubt: “not to make the land speak in accents all its own, but to silence the whispers, the inexplicable earth and sky tremors” (Carter 1996, p. 9).

In the *Australia Felix* gallery I represent the various landscapes that captured my eye and imagination in my voyages throughout Australia. In doing so, I realise artistically the power of the relatively untouched environment in Australia: the outback, the sea, the sky and the distance. For Indigenous Australians “land is the heart of life” (Gard et al. 2005, np). In their study of VR recording in Digital Songlines, Stef Gard et al. discuss how VR representations work by “recreating an experience, a way of interacting with the country” (np) that is also applicable to my landscape panoramas by a non-Indigenous Australian photographer. Their focus is upon the spiritual significance of the experience, not the technological implementation, whereas in this project I articulate the importance of each in discussing technobiophilia.

Landscape photography is described by David Curtis (2009) as meeting the challenge to convey inspirational representations and experiences of “remote and unspoiled regions” (p. 174). He describes this as “ecological art” that has as a framework ecological theories and has led to the development of an ecological aesthetic that acts to celebrate and even lead to the restoration of the land itself. Moreover:

modern life , dominated as it is by technology, artificial environments, processed food, mass production of consumables and mass transformation of landscapes, has disconnected most people from the natural environment, but the arts provide a way of re-establishing that link (Curtis 2009, p. 183).

I have discussed such ecophilia in this exegesis and provided relevant VR immersive experiences in the digital gallery.

Furthermore, Curtis explicates this in terms of colonisation, comparing Indigenous Australians’ dedication to the land in very favourable terms, and asserting that:

to prevent environmental collapse, it will be necessary for humans to accept that humans and non-human nature are connected and interdependent ... through their ability to connect people to the natural environment by generating and sustaining an emotional affinity with the natural environment, the arts have a role in this (2009, p. 183).

My own reactions to the spirituality of the landscape are expressed in the artefact and discussed in this exegesis.

The creative journey

The artefact and exegesis together record my creative journey in making the VR immersive experiential panoramas in *Australia Felix*. This PLR has enabled me to bring to scholarship the issues and ideas involved in and arising from my journey and its intersection with my practice.

In her discussion of nature-human relationship, Meaghan Lowe (2009) looks at how performative elements of photography involve an “environmental aesthetic of engagement” (p. 106). She describes such environmental aesthetics in terms relevant to this project, seeing them as an essential element of the arts as “landscape representations are not simply depictions of natural views for disinterested regard, but also expressions of socially and economically determined values” (p. 108). She develops the discussion of the place of landscape photography within this paradigm, seeing it also develop into “debates regarding the politics of land preservation and management” (p. 109). That is, photographs go further than mere pictorialism and I have shown this in the opportunities provided for immersive VR experiences of Australian landscapes that challenge the “politics of land preservation and management” by their dynamic and even mythic representations. My creative personal and photographic journey has alerted me to the power of the landscape in confronting ecophobia and developing ecophilia, and this is relevant to ecopolitics as Lowe describes them. She sees ecopolitics as being able “to rescue the power of myth as a possibility for providing situated stories that help educate and guide people’s actions” (2009, p. 117).

My VR landscape photographic art is based upon creative insights and realisations so as to develop immersive experiences of the nuances of the Australian landscape rather than a static representation of a given place. Such a reflective and receptive attitude to the natural environment in Australia is described by Curtis (2009) as “creating inspiration” through pictorial representations of “Australia’s natural areas, its deserts and shores [that] have long been a source of inspiration for artists” (p. 174). *Australia Felix* contributes to this body of creative landscape representation through the VR New Media gallery.

My creative journey has developed my self as a person and as an artist-photographer. Artistic creativity is evidenced throughout both elements of this project. Ruth Richards argues that “everyday creativity” occurs as “an intimate part of our everyday life – and involves our most basic feelings, values and the ways in which we process information” (Richards 2007, p. 500). She delineates another aspect that she calls “eminent creativity”, which develops artistic creations noticed as such on a broad scale. In enabling VR experiences of my creative output, this project has attributes of both, and this describes the importance of the initiator of the creative text to the everyday creative experience.

Australia Felix, then, provides a viewer/interactor with a sense of the Australian geography, landscape, climate and experience via a virtual immersive 360° experience. This landscape is too often described by a colonising culture, seen and recorded by people who have:

come from the north to a continent that has come from the south, with a physical history that is nothing like that of any of their homelands ... we live in old landscapes ... there is much to learn ... but we have been slow learners (Seddon 2005, preface p. xv).

The photographer’s absent presence

Adrian Franklin (2006) asks us to question what we actually see when we “look at wilderness photography”. In doing so, he queries its purpose and asks us to understand the wilderness anew rather than invoking “the European aesthetic tradition of the

Picturesque” (p. 1). All ‘empty’ (unpeopled) landscape photographs ask the viewer to suspend disbelief for, as Franklin notes, the unseen photographer is always an absent presence. This presence influences the viewer to be there in some sense and as such Franklin sees it as a threat to the very virgin wilderness that they view:

The paradox of wilderness is that its putative emptiness of humanity must be ruptured by the desire for co-presence ... from the very first days ... wilderness photography was used to create an aesthetic appeal for an embodied experience with the real thing (2006, p. 3).

Franklin sees this in a pejorative sense, but I consider that my VR panoramas also create valuable ecological environmental insights for the viewer/participant.

At the same time, the critical position taken by Franklin deserves consideration although my artefact is not involved in wilderness photography as a tourist destination virtual experience per se. Franklin argues that “aestheticism of nature for leisure and tourism” is central to the post-colonial development of an Australian self-image “wilderness as a concept and cultural innovation was intimately bound up with the forces of nation formation and nationalism itself” (2006, p. 9), as “cathedrals of nature” were available where ancient European ruins were not. He surveys the impossibility of a wilderness that conceives of itself without human agency, opening a space for sustainable eco-tourism and hence eco-photographic interactions such as in my artefact.

Ending “on a positive note”, Franklin shows us that preserving the wilderness means that “we must establish greater access and multiple points of knowledge and entry” so that “the humanity of nature can tell more stories, and take all kinds of photographs” (2006, p. 16). My artefact contributes to this in particular through expanding the immersive possibilities of the work using touchscreen/headset/screen technologies. As described in this exegesis and as available in the artefact, such digital platforms enable VR users to interact with wilderness experiences that might not otherwise be available to them.

'Fieldpath'

Methodology in scholarship is “the ‘how’ of research” that “contains the limits and holds the research strands in place as the researcher weaves the textures of new knowledge” (Grierson & Brearley 2009, p. 5). Ways of knowing have been broadened in scholarship as the academy accepts and utilises what Martin Heidegger called his fieldpath or *der feldweg*: “... ways of framing, knowing and being, looking and listening, analysing, being-with, proposing, acting and reflecting, constructing, performing, deconstructing, and learning” (p. Grierson & Brearley 2009. vii). This all-encompassing list of qualitative directions in methodology well-describes the narrative core of PLR. Elizabeth Grierson and Laura Brearley (2009) see this as a very satisfactory way of introducing into scholarship the influences of new technology on bringing into academic knowledge “fine art, photography, theatre, music design, dance and film...” (p. 3). In their discussion of practitioner-researchers, they aim to find “a way to legitimate the creative arts as a knowledge field equal to, but different from, the sciences...” (p. 4). The artefact and exegesis model participates in what Grierson and Brearley describe as needing “both the creative and technological know-how for the creative research production as well as the linguistic and theoretical acumen to write critically engaged and well-considered text” (p. 7).

Perhaps the most significant question about autoethnography, creative reflections and PLR is: “where am I in the text?” (Grierson & Brearley 2009, p. 18). Grierson and Brearley say of this that, while scaffolds matter:

... there is a particular kind of making and doing that is at stake in the realm of creative arts as a formalised research practice in the academic setting. It has the components of aesthetics and the potential always of making-new as a defining characteristic; taking intuitive leaps as it engages with its lineage of practice. Thus discourses of creativity are, by implication, generative (p. 18).

It is scholarly scaffolding that this exegesis offers. Lesley Duxbury makes a useful distinction between art practice and the scholar-practitioner's work: “... research through art involves a self-conscious reflection ... it needs to reveal its processes and illuminate the thinking that underpins the material manifestations and it needs to be

experienced” (Grierson & Brierley 2009, p. 57). For them, “research is not complete until it involves someone to experience it” and this involves “inclusion of the viewer as an active participant in the work rather than as a passive observer” (p. 59). This is true of the artwork, while for Elizabeth Grierson, Emma Barrow and Kipps Horn the academic framework meets “... some external obligations of a scholarly kind, such as the requirement for identifiable questions, structures, scaffolds and frameworks” (in Grierson & Brierley 2009, p. 129).

Where to?

This PhD journey has enabled me to develop a large body of work to use as a data resource for practice and research. New potentials abound as new technologies engage the use of VR. In the immersive VR interactive text of *Australia Felix* the audience/participant is enabled. In the future this will become even more apparent as electronic immersive discourse is always changing for the user as the technology develops. The technology is changing rapidly and as I am making this work I accept that further steps in technology can take the photographic data of *Australia Felix* into new and exciting dimensions. For the purposes of this project I have built a gallery that enables users to enter into the landscape photographic panoramas through relatively simple technology that is readily available to online users. The electronic data can in the future be readily re-engaged with new technologies as they develop.

In bringing together these technological advances for VR with an aesthetic understanding of landscape photography in this project, I have developed a practical application of technobiophilia. In discussing *Sense of Place and Sense of Planet*, Ursula Heise (2008) proposes a philosophy and practice of ‘eco-cosmopolitanism’ which she defines as “environmental world citizenship” and “deterritorialization” (p. 10). This is a sense of how the world is a whole in environmental terms: inclusive of all creatures, habitats and spaces. In looking at forms of aesthetic representations, she gives us an example relevant to my work:

the iconic representation of the ‘Blue Planet’ seen from outer space has been superseded by the infinite possibilities of zooming into and out of local, regional, and global views... (Heise 2008, p. 11).

The sense of place that this project *Australia Felix* illuminates is closely connected to the Australian aesthetic landscape representations in my new media gallery. Though shot within the bounds of Australia, my work seeks to deterritorialise landscapes as a celebration of nature.

Whilst clearly representing Australian landscapes, *Australia Felix* is also related to global environmental issues: the panoramas are not only a representation of a geopolitical territory. My work acts to enable a sense of the aesthetics of the non-urban landscapes that has moved into global experiential art spaces able to be accessed without damage to the landscape itself. Such VR is readily accessible to individuals through the online gallery space; thus, whilst representing the local, it is not confined to it.

The practice and theory engaged within this project have come together in building a greater understanding of the importance of photography in building ‘eco-cosmopolitanism’ and in bringing forward issues of environmental beauty and the love of nature as a part of the technological global society.

New technologies will continue to evolve and to provide new opportunities for me as an art photographer. The artistry of photography as I explore in this artefact and exegesis, utilises technology but arises from and relies upon aesthetic sensibility. In this project I have explored how immersive VR photography has enabled me to relate to the Australian landscape in developing my digital creative work. This new and significant contribution to knowledge has also led to environmental considerations that enrich the project as they arise from my own development as a photographic artist.

In making an artistic journey around Australia, then, I have realised for myself and for my ‘ideal audience’ the importance of love of the environment. Further, in doing so, I have brought together the artistic possibilities of digital technology with a love of the environment, thus exploring and realising technobiophilia.

In this project, through the complementary interaction of the artefact and exegesis, I have made insights into the personal, ethical and artistic journey I have undertaken available to be explored both as immersive VR and as knowledge.

References Cited

- Adamson, J 2001, *American Indian literature, environmental justice, and ecocriticism*, The University of Arizona Press, Arizona.
- Agrawarla, A, Dontecheva, M, Drucker, S, Colburn, A, Curless, B, Salesin, D & Cohen, M 2004, 'Interactive digital photomontage', *ACM Transactions on Graphics*, vol. 23, issue 3, pp. 294-302.
- Axelrod, L. & Hone, K., (2005), April. E-motional advantage: performance and satisfaction gains with affective computing. In *CHI'05 Extended Abstracts on Human Factors in Computing Systems* (pp. 1192-1195). ACM.
- Bacon, E 2014, *Journaling – a path to exegesis in creative research*, Text, vol. 18, no. 2, np.
- Barrett, E & Bolt, B (eds) 2007, *Practice as research: approaches to creative arts enquiry*, IB Tauris, London.
- Barthes, R 1977, *Image music text*, Fontana, London.
- Barthes, R 1981, *Camera Lucida: reflections on photography*, Hill & Wang, New York.
- Barthes, R 1985, 'On photography', in *The grain of the voice: interviews 1962-1980*, transl. from the French by L Coverdale, Jonathan Cape, London.
- Barthes, R, 1974, *S-Z*, Oxford University Press, Oxford.
- Bassett, C 2007, *The arc and the machine: narrative and new media*, Manchester University Press, Manchester.
- Baudrillard, J 1983, 'The precession of simulacra', in J Baudrillard, *Simulations*, trans. P Foss & P Patton, New York, NY.
- Baudrillard, J 1981, 'Requiem for the media' *For a Critique of the Political Economy of the Sign*, trans. C Levin, Telos Press, Saint Louis, MO, pp. 164-184.

- Beinart, W & Hughes, L 2008, 'Empire and visual representation of nature, 1860-1960', *The Australian Journal Compilation*, vol. 6, issue 5, pp. 1177-1193.
- Belisle, B 2015. Nature at a glance: immersive maps from panoramic to digital, *Early Popular Visual Culture*, vol. 13, no. 4, pp.313-335.
- Bellour, R 1985, *An interview with Bill Viola*, viewed 14 April 2012, <<http://www.jstor.org/stable/778491>>.
- Bilda, Z & Muller L 2009, 'Artist, evaluator and curator: three viewpoints on interactive art, evaluation and audience experience', *Digital Creativity*, vol. 20, no. 3, pp. 141-151.
- Bird, SE 2011, 'Are we all producers now? Convergence and media audience practices', *Cultural Studies*, vol. 25, no. 4-5, pp.502-516.
- Bloch, C 2013, *The HDRI handbook 2.0: high dynamic range imaging for photographers and CG artists*, Rocky Nook Inc., San Rafael, CA.
- Boas, YAGV 2013, 'Overview of virtual reality technologies', *Interactive Multimedia Conference 2013*, Southampton.
- Bohn, W 1993, *The aesthetics of visual poetry 1914-1928*, University of Chicago Press, Chicago.
- Boland, D & McGill, M 2015, Lost in the rift: engaging with mixed reality, *XRDS: Crossroads, The ACM Magazine for Students*, vol. 22, no. 1, pp.40-45.
- Bolas, M, Hoberman, P, Phan, T, Luckey, P, Liff, J, Burba, N, McDowall, I & Krum, D 2013, 'Open virtual reality', *VR, IEEE*, 18-20 March, Lake Buena Vista, Florida, pp. 183-184.
- Bolt, B 2006, 'A non-standard deviation: handlability, praxical knowledge and practice led research', *Speculation and Innovation: Applying practice led research in the creative industries, Conference Real Time Arts*, vol. 74 (special issue), Queensland University of Technology, Queensland, Australia.

Bolter, D & Gromala, D 2003, *Windows and mirrors: interaction design, digital art, and the myth of transparency*, MIT Press, Cambridge, MA, USA.

Boote, D & Biele, P 2005, 'Scholars before researchers: on the centrality of the dissertation review in research', *Educational Researcher*, vol. 34, no. 6, pp3-15.

Bourgeois, P 2002, 'Ethnography's troubles and the reproduction of academic habitus', *Qualitative Studies in Education*, vol. 15, no. 4, pp. 417-420.

Brand, R & Fischer, J 2013, 'Overcoming the technophilia/technophobia split in environmental discourse', *Environmental Politics*, vol. 22, no. 2, pp. 235-254.

Breen, B 2004, 'The 6 myths of creativity', *Fast Company*, issue 89, December, p. 75.

Brooks, G 2011, *Boyer Lectures 2011: The idea of home*, viewed 12 February 2012, <www.abc.net.au/radionational/programs/boyerlectures/boyer-lectures-2011-the-idea-of-home/2947332>.

Buell, L 2011, 'Ecocriticism: some emerging trends', *Qui Parle: Critical Humanities and Social Sciences*, vol. 19, no. 2, pp. 87-115.

Byagowi, Ahmad, et al. 2014, 'Design of a naturalistic navigational virtual reality using oculus rift', *Journal of Medical Devices*, vol. 8, no. 3, 030946.

Candy, L 2006, *Practice based research: a guide*, CCS Report: 2006-V1.0 November, University of Technology, Sydney.

Candy, L 2011, 'Research and creative practice', in L Candy & E Edmonds (eds), *Interacting: art, research and the creative practitioner*, Libri Publishing, Oxfordshire, pp. 33-59.

Carpentier, N 2011, 'CONTEXTUALISING AUTHOR-AUDIENCE CONVERGENCES: "New" technologies' claims to increased participation, novelty and uniqueness', *Cultural Studies*, vol. 25, no. 4-5, pp. 517-533.

Carter, P 1996, *The lie of the land*, Faber and Faber, London, UK.

Chandler, L & Livingston, D 2012, 'Reframing the authentic: photography, mobile technologies and the visual language of digital imperfection', paper presented at the *6th Global Conference Visual Literacies: Exploring Critical Issues*, Oxford, July 3-5.

Ciccoricco, D 2004, 'Network vistas: folding the cognitive map', *Image [&] Narrative*, issue 8, May, viewed 10 April 2013,
<www.imageandnarrative.be/inarchive/issue08/daveciccoricco.htm>.

Cohen, M 2004, 'Blues in the Green: ecocriticism under critique', *Environmental History*, vol. 9, no. 1, pp. 9-36.

Cotton, C 2011, *The photograph as contemporary art*, 2nd edn, Thames & Hudson, London.

Cover, R 2004, New media theory: electronic games, democracy and reconfiguring the author–audience relationship, *Social Semiotics*, vol. 14, no. 2, pp.173-191.

Crombie, I 2010, *Stormy Weather: contemporary Australian landscapes*, NGV photography exhibition, Melbourne, Australia.

Crouch, D 2010, 'Flirting with space: thinking landscape relationally' *Cultural Geographies*, vol. 17, no. 1, pp. 5-18.

Cruz-Neira, C., Sandin, D.J. and DeFanti, T.A., 1993, September. Surround-screen projection-based virtual reality: the design and implementation of the CAVE. In *Proceedings of the 20th annual conference on Computer graphics and interactive techniques* (pp. 135-142). ACM

Cummings, JJ & Bailenson, JN 2016, 'How immersive is enough? A meta-analysis of the effect of immersive technology on user presence' *Media Psychology*, vol. 19, no. 2, pp.272-309.

Curtis, D 2009, 'Creating inspiration: the role of the arts in creating empathy for ecological restoration', *Ecological Management and Restoration*, vol. 10, no. 3, pp. 174-184.

Davison, G 2005, 'Everybody loves a roadtrip: The touring spirit', University of Melbourne Archives, Melbourne, viewed May 2016, <[https://archives.unimelb.edu.au/explore/exhibitions/past-events/everybody-loves-a-road-trip/everybody_loves_a_road_trip!](https://archives.unimelb.edu.au/explore/exhibitions/past-events/everybody-loves-a-road-trip/everybody_loves_a_road_trip!>)>

Dernie, D 2006, *Exhibition design*, Laurence King Publishing, London.

Desai, PR, Desai, PN, Ajmera, KD & Mehta, K 2014, 'A review paper on oculus rift – a virtual reality headset', *International Journal of Engineering Trends and Technology*, vol. 13, pp. 175-179.

Doble, R, Lorenzi, M & Francaviglia, M 2009, 'The future of Futurism', *12th Generative Art Conference*, Politecno di Milano University, December.

Dowling, J 2012, 'Resorts plan for the Great Ocean Road: Council applies to rezone coastland', *The Age*, 23 March, p. 3.

Dowling, P 1999, 'Truth versus art in nineteenth-century graphic journalism: The colonial Australian case', *Media History*, vol. 5, issue 2, December, pp. 109-126.

Duncanson, K 2009, 'The scene of the crime: The uneasy figuring of Anglo-Australian sovereignty in the landscape of Lantana', *Law Text Culture*, vol. 13, issue 1, viewed 20 February 2012, <<http://ro.uow.edu.au/ltc/vol13/iss1/4>>.

Guthey, E & Jackson, B 2005, 'CEO portraits and the authenticity paradox' *Journal of Management Studies*, vol. 42, issue 5, pp. 1057-1082.

Eagleton, MB 2002, 'Making text come to life on the computer: toward an understanding of hypermedia literacy', *Reading Online*, vol. 6, no. 1, viewed 25 March 2015, <http://www.readingonline.org/articles/art_index.asp?HREF=eagleton2/index.html>.

Eagleton, T 1989, *Literary theory. An introduction*, Basil Blackwell, Oxford.

Eco, U 2005, 'Innovation & repetition: between modern & postmodern aesthetics', *Daedalus*, vol. 134, no. 4, pp. 191-207.

Edbauer, J 2002, 'Writing in extimacy: a review of Greg Ulmer's *Interne Invention*', *Enculturation*, vol. 4, no. 2, viewed 16 April 2015, <http://enculturation.net/4_2/edbauer.html>.

Edmonds, E, Bilda, Z & Muller, L 2009, 'Artist, evaluator and curator: three viewpoints on interactive art, evaluation and audience experience', *Digital Creativity*, vol. 20, no. 3, pp.141-151.

Eglash, R 2009, 'Oppositional technophilia', *Social Epistemology*, vol. 23, no. 1, pp. 79-86.

Elias, A 2009, 'Camouflage and the half-hidden history of Max Dupain in war', *History of Photography*, vol. 33, no. 4, pp. 370-382.

Ellis, C & Bochner, A 2003, 'An introduction to the arts and narrative enquiry: art as enquiry', *Qualitative Enquiry*, vol. 9, pp. 506-514.

Ellis, C, Adams, TE & Bochner, A 2011, 'Autoethnography: an overview', *Historical Social Research/Historische Sozialforschung*, vol. 36, no. 4, pp. 273-290.

Ennis, H 2004, *Olive Cotton: photographer*, National Library of Australia, Canberra.

Ennis, H 2008, essay 'The space of modernity', in *A Modern Vision: Charles Bayliss, Photographer, 1850-1897*, exhibition catalogue, National Library of Australia, Canberra, pp. 1-20.

Estock, S 2009, 'Theorizing a space of ambivalent openness: ecocriticism and ecophobia', *Interdisciplinary Studies in Literature and Environment*, vol. 16, no. 2, pp. 203-226.

Faine, J & Faine, J 2010, *From here to there: A father and son roadtrip adventure from Melbourne to London*, ABC Books, HarperCollins, Sydney, Australia.

Felinto, DQ, Zang, AR & Velho, L 2013, 'Production framework for full panoramic scenes with photorealistic augmented reality', *CLEI Electronic Journal*, vol. 16, no. 3, pp.8.

Finley, S& Knowles, JG1995, 'Researcher as artist/artist as researcher', *Qualitative Inquiry*, vol. 1, no. 1, pp. 110-142.

Firth, N 2013, 'Get your head in the game', *New Scientist*, vol. 218, issue 2922, p19-20.

Fleming, L 2007, 'Breakthroughs and the "longtail" of innovation', *Opinion & Analysis*, Fall.

Flusser, V 2000, *Toward a philosophy of photography*, Reaktion Books, London.

Franklin, A 2006, 'The humanity of wilderness photography?', Eco-Humanities Corner, *Australian Humanities Review*, issue 38, April, viewed 12 December 2011, <<http://www.australianhumanitiesreview.org/archive/issue-April-2006/EcoFranklin.html>>.

Fregonese, S & Brand, R 2013, *The radicals' city: Urban environment, polarisation, cohesion*, Ashgate Publishing, Surrey, UK.

Freud, S 1919, The Uncanny. The standard edition of the complete psychological works of Sigmund Freud, vol. xvii (1917-1919): an infantile neurosis and other works, The Hogarth Press, London, pp. 217-256.

Fried, M 2008, *Why photography matters as art as never before*, Yale University Press, New Haven, USA.

Friedman, E 2001, 'The ethics of autobiography', *Biography*, vol. 24, no. 4, pp. 938-941.

Gallese, V & Lakoff, G 2005, 'The brain's concepts: the role of the sensory-motor system in conceptual knowledge', *Cognitive Neuropsychology*, vol. 22, no. 3/4, pp. 455-479.

Gallop, J 2002, *Anecdotal theory*, Duke University Press, Durham, USA.

Gard, S & Bucolo, S 2005, 'Capturing Australian indigenous perception of virtual landscape', in *VSSM 2005 : proceedings of the eleventh International Conference on Virtual Systems and Multimedia : Virtual reality at work in the 21st century : impact on society, 3 – 7 October 2005, Belgium, Ghent*, QUT Digital Repository, <<http://eprints.qut.edu.au/>>.

Garrod, B 'Understanding the relationship between tourism destination imagery and tourist photography', *Journal of Travel Research*, vol. 47. no. 3, pp. 346-358.

Gartner, M, Seidel, I, Froschauer, J & Berger, H 2010, 'The formation of virtual organizations of electronic institutions: a 3D e-tourism environment', *Information Sciences*, vol. 180, issue 17, pp. 3157-3169.

Gaye, L, Holmquist, L, Hakansson, M & Ljungblad, S 2004, 'Context Photography: modifying the digital camera into a new creative tool', *Conference Proceedings, CHI, April 2004*.

George, EW & Reid, DG 2008, 'The power of tourism: a metamorphosis of community culture', *Journal of Tourism and Cultural Change*, vol. 3, no. 2, pp. 88-107.

Gere, C., 2008. New media art and the gallery in the digital age. *New Media in the White Cube and Beyond: Curatorial Models for Digital Art*, pp.13-25.

Gettler, L 2012, 'Focussed on the negatives', *Management Today*, April, pp. 10-11.

Giblett, R 2007, 'Shooting the sunburnt country, the land of sweeping plains, the rugged mountain ranges: Australian landscape and wilderness photography', *Continuum: Journal of Media & Cultural Studies*, vol. 21, no. 3, pp. 335-346.

Glaskin, K (ed.), 2008, *Mortality, mourning and mortuary practices in Indigenous Australia*, Ashgate Publishing, Surrey, UK.

Goodbody, A 2007, *Nature, technology and cultural change in Twentieth Century German literature: the challenge of ecocriticism*, New perspectives in German studies, Palgrave Macmillan, UK.

Gordon, R, Gerrig, RJ & Franklin, N 2009, 'Qualitative characteristics of memories for real, imagined, and media-based events', *Discourse Processes*, vol. 46, no. 1, pp.70-91.

Grau, O, Price, M & Thomas, GA 2000, Use of 3D techniques for virtual production, White Paper WHP033, BBC Research & Development, London.

Gregory Crewdson 2006, [DVD], ABC DVD, Sydney.

Grierson, E & Brearley, L 2009, *Creative arts research. Narratives of methodologies and practices*, Sense Publishers, The Netherlands.

Grootenboer, H 2007, 'Introduction: "The thought of images"', *Image [&] Narrative*, issue 18, viewed 30 July 2015,

<http://www.imageandnarrative.be/inarchive/thinking_pictures/grootenboer.htm>.

Guarnaccia, M, Gambino, O, Pirrone, R & Ardizzzone, E 2012, 'An explorable immersive panorama', in *Sixth International Conference on Complex, Intelligent and Software Intensive Systems (CISIS)*, IEEE, pp. 130-134.

Guesdon, C 2006, 'Toward a new kind of: photosynthegraphy', *LEONARDO*, vol. 39, no. 3, pp. 195-197.

Gummage, B 2011, *The biggest estate on Earth: how Aborigines made Australia*, Allen & Unwin, Melbourne.

Hammond, J 2010, 'Photography, tourism and the Kodak hula show', *Visual Anthropology*, vol. 14, no. 1, pp. 1-32.

Haseman, B & Mafe, D 2009, 'Acquiring know-how: research training for practice-led researchers', in H Smith & R Dean (eds), *Practice-led research, research-led practice in the creative arts*, Edinburgh University Press, Edinburgh, pp. 211-228.

Haseman, B 2006, 'A manifesto for performative research', *Media International Australia incorporating Culture and Policy*, no. 118, pp. 98-106.

Hawley, J 2011, 'A beautiful life', *The Saturday Age - Good Weekend*, 10 December, pp. 18-21.

Haynes, R 2000, 'Astronomy and the Dreaming: the astronomy of the Aboriginal Australians', in H Selin & S Xiaochun (eds), *Astronomy across cultures: The history of non-Western astronomy*, Springer, Netherlands.

Heise, U 2006a, 'The hitchhiker's guide to ecocriticism', *PMLA*, vol. 121, no. 2, pp. 503-516.

Heise, U 2008b, 'Ecocriticism and the transnational turn in American Studies', *American Literary History*, vol. 20, Spring, pp. 381-404.

Heise, U 2008, *Sense of place and sense of planet: The environmental imagination of the global*, Oxford University Press, New York.

Holt, N 2003, 'Representation, legitimation, and autoethnography: an autoethnographic writing story', *International Journal of Qualitative Methods*, vol. 2, no. 1, pp. 18-28.

Huang, Y.C., Backman, S.J., Backman, K.F. and Moore, D., 2013. Exploring user acceptance of 3D virtual worlds in travel and tourism marketing. *Tourism Management*, 36, pp.490-501.

Huggan, G & Tiffin, H 2015, *Postcolonial ecocriticism: literature, animals, environment*, Routledge, UK.

Ieven, B 2003, 'How to orient oneself in the world: a general outline of Flusser's theory of media', *Image & Narrative*, issue 6, viewed 19 September 2014, <<http://www.imageandnarrative.be/inarchive/mediumtheory/bramieven.htm>>.

Jenkins, H 2010, *Convergence culture: where old and new media meet*, New York University Press, NY.

Jenkins, O 2003, 'Photography and travel brochures: The circle of representation', *Tourism Geographies*, vol. 5, no. 3, pp. 305-328.

Jones, B, Sodhi, R, Murdock, M, Mehra, R, Benko, H, Wilson, A, Ofek, E, MacIntyre, B, Raghuvanshi, N & Shapira, L 2014, 'RoomAlive: magical experiences enabled by scalable', *Adaptive Projector-Camera Units UIST'14, October 5–8, Honolulu*.

Kraft, U 2005, 'Unleashing creativity', *Scientific American Mind*, April.

Krauth, N 2011, 'Evolution of the exegesis: the radical trajectory of the creative writing doctorate in Australia', *TEXT: Journal of Writing and Writing Courses*, vol. 15, no. 1.

Kress, G 2005, *Literacy in the new media age*, Routledge, UK.

Lindsay, M 2012, 'James Price Point: environmental significance ignored in failed impact assessment', *The Conversation*. MISSING DATE PUBLISHED

Litt, E 2012, 'Knock Knock. Who's there? The imagined audience', *Journal of Broadcasting & Electronic Media*, vol. 56, no. 3, pp. 330-345.

Locker, P 2012, *Exhibition design*, AVA Books, Lausanne, Switzerland.

Lorenzo, M & Francaviglia, M 2007, 'Painting with light: generative artworks or "setting in motion" the fourth dimension', *10th Generative Art Conference, GA2007*.

Lowe, M 2009, 'Dreamworld and reality: an exploration of environmental aesthetics in contemporary photography', *TOPIA: Canadian Journal of Cultural Studies*, Vol. 21, pp.105

Mäkelä, A.M. and Nimkulrat, N., 2011. Reflection and documentation in practice-led design research. *Nordes*, (4).

Mäkelä, M 2007, 'Knowing through making: the role of the artifact in practice-led research', *Knowledge, Technology & Policy*, vol. 20, pp. 157-163, viewed 17 April 2010, <<http://www.springerlink.com/content/y7076217346np872/>>.

Manovich, L 2001, *The language of new media*, The MIT Press, Cambridge, MA & London.

Margolin, U 2002, 'Naming and believing: practices of the proper name in narrative fiction' *Narrative*, vol. 10, no. 2, pp. 107-127.

Markwalter, B., 2015. Entertainment and immersive content: What's in store for your viewing pleasure. *IEEE Consumer Electronics Magazine*, 4(1), pp.83-86.

McFarlane, R 2006, 'Landscape in a new light', *The Sydney Morning Herald*, 15 July, p. 15.

McQuire, S 2007, 'Immersion, reflexivity and distraction: spatial strategies for digital cities', *Visual Communication 2007*, vol. 6, pp. 146-155, viewed 12 February 2012, <<http://vcj.sagepub.com/cgi/content/abstract/6/2/146>>.

Midgely, M 2004, *The myths we live by*, Routledge, New York.

Nimkulrat, N., 2007. The role of documentation in practice-led research. *Journal of Research Practice*, 3(1), p.6.

O'Neill S 2005, 'Presence, place and the virtual spectacle', *PsychNology Journal*, vol. 3, no. 1, pp. 149-161.

Oppermann, S 2010, 'The rhizomatic trajectory of ecocriticism', *Ecozon@2010*, vol 1. no. 1. pp. 17-21.

Orr, DW 2004, *Earth in mind: On education, environment, and the human prospect*, Island Press, Washington DC.

Osborne, P 2000, *Traveling light: photography, travel and visual culture*, Manchester University Press, Manchester, UK.

Palmer, J 2003, 'Research agenda for landscape perception', viewed 12 February 2012, <<http://kolleg.loel.hs-anhalt.de/studiengaenge/m>>.

Parkin, S 2013, 'Oculus Rift :Thirty years after virtual-reality goggles and immersive virtual worlds made their debut, the technology finally seems poised for widespread use', *MIT Technology Review*, viewed 15 October 2017 <<https://www.technologyreview.com/s/526531/oculus-rift/>>.

Pascoe, B 2014, *Dark Emu. Black Seeds: agriculture or accident?* Magabala Books Aboriginal Corporation, Broome, Western Australia.

Paul, C 2008, 'New media in the white cube and beyond: Curatorial models for digital art', *Leonardo Reviews Quarterly*, vol. 1,no. 1, p. 33.

Pettigrew, J, Callistemon, C, Weiler, A, Gorbushina, A, Krumbein, W, & Weiler, R 2010, 'Living pigments in Australian Bradshaw rock art', *Antiquity*, 326. Viewed 12 September 2017 <<https://www.antiquity.ac.uk/projgall/pettigrew326/>>

Pierce, J 2001, 'Australian new media: An active circuit', *Artlink*, vol. 21, no.3, p. 14.

Pierce, J 2007a, 'Screen deep [Editorial. The impact of screen based media in all its forms is having on Australian and international visual arts culture. Paper in: Screen Deep. Pierce, Julieanne (ed).]', *Artlink*, vol. 27, no. 3, p. 14.

Pierce, J 2007b, 'Phoenix Halle: model for a new media centre, *Artlink*, vol. 27, issue 3, p. 53.

Pocock, C 2005, 'Blue lagoons and coconut palms: the creation of a tropical idyll in Australia', *Australian Journal of Anthropology*, vol. 16, issue 3, pp. 335-349.

Ramsay, J 2008, 'Cultivating landscape spirits to create an identity', *16th ICOMOS General Assembly and International Symposium - 'Finding the spirit of place –between the tangible and the intangible'*, Quebec, viewed 10 February 2012, <<http://openarchive.icomos.org/126/>>.

Randolph, J 2009, 'A guide to writing the literature review', *Practical Assessment, Research and Evaluation*, vol. 14, no. 13, p. 2.

Reinhard, E 2002, 'Parameter estimation for photographic tone reproduction', *Journal of Graphics Tools*, vol. 7, no. 1, pp. 45-51.

Richards, C 2000, 'Hypermedia, internet communication, and the challenge of redefining literacy in the electronic age', *Language Learning and Technology*, vol. 4, no. 2, pp. 59-77.

Richards, R (ed.) 2007, *Everyday creativity and new views of human nature: psychological, social, and spiritual perspectives*, American Psychological Association, Washington DC, <<http://dx.doi.org/10.1037/11595-000>>

Riecke, B.E., Väljamäe, A. and Schulte-Pelkum, J., 2009. Moving sounds enhance the visually-induced self-motion illusion (circular vection) in virtual reality. *ACM Transactions on Applied Perception (TAP)*, 6(2), p.7.

Roberts, J 2010, 'Photography, landscape and the social production of space', *Philosophy of Photography*, vol. 1, no. 2, pp. 135-156.

Rose, L 2001, *The survival of images*, Wayne State University Press, Detroit.

Ryan, M 2003, 'On defining narrative media', *Image & Narrative Online Magazine of the Visual Narrative*, issue 6, pp. 1-7.

Sassoon, J 2004, 'The politics of pictures', *Australian Historical Studies*, vol. 35, issue 123, pp. 16-36.

Schama, S 1996, *Landscape and memory*, Harper Collins. Great Britain.

Schroeder, R 1993, 'Virtual reality in the real world: History, applications and projections', *Futures*, vol. 25, issue 9, pp. 963-973.

Seddon, G 2005, *The old country: Australian landscapes, plants and people*, Cambridge University Press, Cambridge .

Serafin, G. and Serafin, S., 2004. Sound design to enhance presence in photorealistic virtual reality. Georgia Institute of Technology.

Shapley, G 2011, 'After the artefact: digital photography in our post media era', *Journal of Visual Arts Practice*, vol. 10, no. 1, pp. 5-20

Standish, J 2018, 'All on board for virtual reality', *Spectrum, Sydney Morning Herald*, January 6-7, pp. 8-9.

Steinbach, J 2011, '3D or not 3D? Is that the question?', *Focus On 3D/Digital*, vol. 54, no. 1, pp. 41-54.

Stewart, A 2004, *Art and democracy in environmental decision making*, Independent Study Project Collection, paper 516, viewed 19 February 2015, <http://digitalcollections.sit.edu/isp_collection/516>.

Stock, CF 2010, 'Aesthetic tensions: evaluating outcomes for practice-led research and industry', *TEXT Journal, Special Issue 8*.

Stone, R 2001, 'Haptic feedback: a brief history from telepresence to virtual reality', in S Brewster & R Murray-Smith (eds), *Haptic Human-Computer Interaction*, Springer Verlag, Berlin, pp.1-16.

Strain, E 2003, *Public places, private journeys. Ethnography, entertainment and the tourist gaze*, Rutgers University Press, New Brunswick, USA.

Sutton, P 2001, 'The politics of suffering: Indigenous policy in Australia since the 1970s', *Anthropological Forum. A Journal of Social Anthropology and Comparative Sociology*, vol. 11, no. 2, pp. 125-173.

Sutton, T 2005, 'Immersive contemplation in video art entertainment', *Contemporary Aesthetics*, viewed 12 December 2011, <<http://www.contempaesthetics.org/newvolume/pages/article.php?articleID=288>>.

Szarkowski, J 2007, *The photographer's eye*, The Museum of Modern Art, NY.

Szto, P, Furman, R & Langer, C 2005, 'Poetry and photography. an exploration into expressive/creative qualitative research', *Qualitative Social Work*, vol. 42, no. 2, pp. 136-156.

Thomas, S 2013, *Technobiophilia: nature and cyberspace*, Bloomsbury, London.

Tofts, D 1999, *Parallax*, OPA Interface Imprint, Sydney.

Tofts, D & Gye, L 2007, *Illogic of sense: the Gregory L. Ulmer remix*, Alt-X Press.

Trembath, RF 2008, *Backpacker travellers in South Australia: a study of itinerary planning*, Sustainable Tourism CRC.

Ulmer, G 1994, *Heuretics: the logic of invention*, The Johns Hopkins University Press, Baltimore.

Ulmer, G 2003, 'After method: the remake (an introduction to Ackeracy in reporting)', *Culture Machine*, vol. 5, viewed 20 February 2015, <culturemachine.tees.ac.uk/frm_fl.htm>.

Viola B 1982, 'Will there be condominiums in data space?', *Video/The New Media Reader*, vol. 80, no. 5, pp. 36-41.

Viola, B 1995, 'Will there be condominiums in data space?', in R Violette (ed.), *Knocking at an empty house*, The MIT Press, Cambridge USA, pp. 121-135.

Violette, B (ed) 1995, 'Reasons for knocking at an empty house', in in R Violette (ed.), *Knocking at an empty house*, The MIT Press, Cambridge USA Vital, A 2008, 'Toward an African ecocriticism: Postcolonialism, ecology and "Life & Times of Michael K"', *Research in African Literatures*, vol. 39, no.1, pp. 87-106.

Wall, S 2006, 'An autoethnography on learning about ethnography', *International Journal of Qualitative Methods*, vol. 5, no. 2, pp. 146-160.

Wallis, J 2004, 'Garden without a destiny: Untangling landscape narratives at the National museum of Australia', *Journal of Australian Studies*, vol. 28, issue 83, pp. 105-116.

Walsh, P 2007, 'Rise and fall of the post-photographic museum: technology and transformation of art', in F Cameron & S Kenderdine (eds), *Theorizing digital cultural heritage: a critical discourse*, The MIT Press, Cambridge, Massachusetts, pp. 19-34.

Webb, J 2012, 'The logic of practice? Art, the academy, and fish out of water', *Text – Special Issue: Beyond Practice-Led Research*, no. 14, viewed 27 August 2013, <<http://www.textjournal.com.au/speciss/issue14/Webb.pdf>>.

Wight, P 2001, 'Ecotourists: not a homogeneous market segment', in D Weaver (ed.), *The encyclopedia of ecotourism*, CABI Publishing, Wallingford.

Willis, A 1988, *Picturing Australia: a history of photography*, Angus & Robinson, Sydney.

Wilson, EO 1984, *Biophilia*, Harvard University Press, Cambridge, MA.

Wu, W & Zhang, C 2014, 'Immersive 3D communication', in *Proceedings of the 22nd ACM international conference on Multimedia*, ACM, pp. 1229-1230.