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The University of Sydney

A thesis submitted in fulfilment of the requirements for the degree of  
DOCTOR OF PHILOSOPHY  
2018  
THESIS

TRANSITIONS:  
Biophilia, Beauty, and Endangered Plants

by

Emma Robertson

January 2018

## Statement

This thesis is presented as a record of the work undertaken for the degree of Doctor of Philosophy at Sydney College of the Arts, The University of Sydney. This is to certify that to the best of my knowledge, the content of this thesis is my own work. This thesis has not been submitted for any degree or other purposes. I certify that the intellectual content of this thesis is the product of my own work and that all assistance received in preparing this thesis and sources have been acknowledged.

(Sarah Ailith) Emma Robertson

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## **Abstract**

While the science continues to underline the increasing risks posed by climate change, rallying the public to the cause has proved increasingly difficult. A major challenge is finding alternatives to the despair, hopelessness and consequent sense of disempowerment that confronting the realities of climate change can provoke. It is also the case that particular silent aspects of the impact of climate change – for example on the future viability of certain plant species – receive less public and political attention than others, such as catastrophic weather events. Artists have been active in exploring the impact of climate change through a variety of aesthetic strategies in attempts to address these challenges and mobilise complex understandings of the phenomenon. The response of this thesis is to focus on a specific issue and location – endangered Australian plants – and to experiment with a range of different artistic approaches, filtered through the lens of biophilia and beauty. The experimental artwork produced builds and demonstrates a bridge between botanical science, endangered plant species, and art, in relation to climate change.

The PhD research makes four substantial contributions. First, it presents a different perspective on the applied use of art as a mode of enquiry into climate change, through creative agency and advocacy on the focused theme of endangered Australian plants.

Second, the research explores and assesses alternative methods for making and reconceptualising static drawings into moving images, as a strategy to engage artistically and positively with the negative ecopsychology and ecoanxiety of climate change.

Third, newly initiated, collaborative projects with non-arts partners are deployed to enhance audience engagement through the application of drawings. In parallel to this, conventional international and national exhibitions, publications and workshops are also realised as additional contributions to knowledge within different communities.

Fourth, the research results in a document which explores a hopeful reconnection with nature through applying and embracing an aesthetic of beauty and meditative mindfulness. A Transmedia Art method is utilised to enhance broader community understanding of Eco Art, using a mindful, practice based research process. v

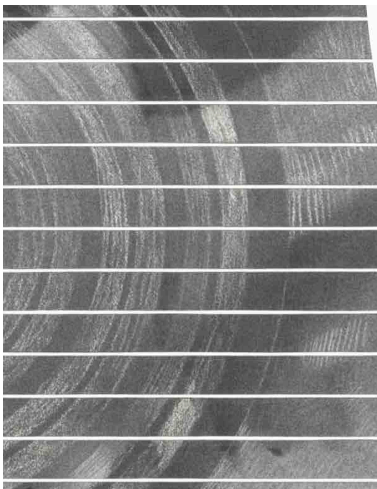
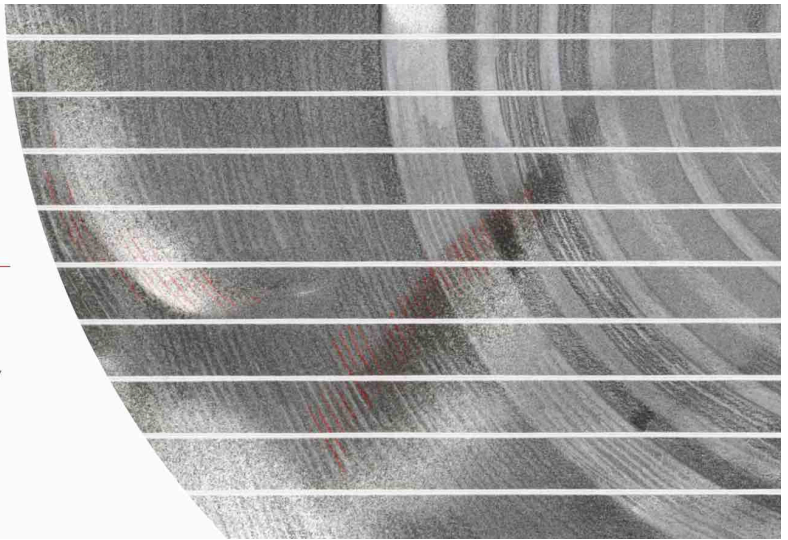
## **Preface**

On February 18, 2009, I made a speech at the opening of my solo exhibition, *Ascendant and Descendant*, describing the experience of being the 2008 Artist in Residence at the Sydney Royal Botanic Gardens as life changing. Working with the scientists, gardeners and guides taught me an enormous amount, and as I looked at the many framed drawings on the walls of the Red Box Gallery, I had the uncomfortable feeling that I was not at the end of an extraordinary experience, but at the beginning of another one. In the years since then, I have continued to research and draw critically endangered plants, and there are now even more at-risk species than before. Climate change has already negatively impacted rare and unique Australian flora, many of which grow on this continent and nowhere else on Earth. My feelings of discomfort at the exhibition opening were not just connected to my desire to learn more, and to draw more. I wanted and needed something else. Observing my framed mixed media drawings, I could see that I had achieved some, but not all that I had set out to do. With the benefit of hindsight, I now look back on the Artist in Residence year as a training ground and foundation for the challenge I have embraced throughout the three years of this PhD study. I wanted my work to change and grow in a different direction, and in a new way, to counteract the overwhelming negativity of climate change debates. Taking my artwork out of the frame, and then off the wall, into three dimensional installations, and ultimately short films and artist's books, allowed me to transition and actively explore more unique and original forms of artistic expression. My research ran in parallel to my artistic experiments, and I was able to integrate a lifelong passion for meditation and mindfulness into the works as they evolved. My PhD study allowed an opportunity to combine not just the earlier knowledge from the scientists at various international botanic gardens, but from recent studies in neuroscience and psychology about how the brain constructs emotional responses which flow through to the body. This thesis describes my journey, when the door of the Red Box Gallery finally closed behind me on the last day of the exhibition (Figure 1), and I had the strange feeling of a different window opening up in my mind. I wanted to express how nature and plants can help us to feel and reconnect, not just what they look like. My work seeks to bring that sensibility of silent sentience into public spaces in less conventional and new ways, to encourage and enhance our ability for a more considered reconnection with our own natures, and a reflection on potential loss, explored through the lens of biophilia and beauty. vi



# ASCENDANT AND DESCENDANT

Emma Robertson  
Artist in Residence 2008  
Royal Botanic Gardens, Sydney



The Botanic Gardens Trust presents selected works from the Artist in Residence Program — mixed media drawings by Emma Robertson of endangered plants, living fossils, and their seeds. Emma is a Sydney based artist, whose work is in six public collections in four countries, including the Hospital Trust for Scotland. Her work has recently been selected for the International Biennial of Drawing, the JADA, and the Adelaide Perry Prize for Drawing. Information on the Artist:

[www.cofa.unsw.edu.au/staff/profiles/emmarobertson/](http://www.cofa.unsw.edu.au/staff/profiles/emmarobertson/)

**Opening** Wednesday 18 February 6 pm – 8 pm

**Exhibition** Thursday 19 February to Friday 27 March  
Weekdays 10 am – 4 pm



Red Box Gallery, Royal Botanic Gardens,  
Mrs Macquaries Road, Sydney

The artist would like to acknowledge the Carlgal, traditional custodians of this land.

The artist would like to thank the following people, who provided valuable support and important input during the Residency:

Andrew Orme	Dr Vaughan Rees	Miguel Garcia	and the wonderful
Catherine Wardrop	Helen Stevenson	Professor Alan Millar	Relle Mott
Charles Santoso	Leahwyn Seed	Stephen Richardson	
Dowson Clapham	Louisa Murray	Raymond's Framing	
Deborah West	Lynne Cusack		

**Artist in Residence Program**  
The aim of the program is to offer artists the opportunity to work in the Royal Botanic Gardens. The program is offered each year, and culminates with an exhibition displaying the artist's output during the residency. Enquiries should be directed to Relle Mott on 9231 8111. Details of the program can be viewed at [www.rbgsyd.nsw.gov.au/artistinresidence](http://www.rbgsyd.nsw.gov.au/artistinresidence)

**Purchase and Collection of Artworks**  
Payment is by EFTPOS or credit card (no American Express or Diners). Works will be available for collection after the close of the exhibition on Monday 30 March 12 noon – 2 pm and Tuesday 31 March 10 am – 12 noon from the Red Box Gallery. A percentage of the proceeds from sales will be used to fund the Artist in Residence program and future exhibitions.

A full colour catalogue and a set of four cards are available from the Gardens Shop.

in time of daffodils (who know  
the goal of living is to grow)  
forgetting why, remember how

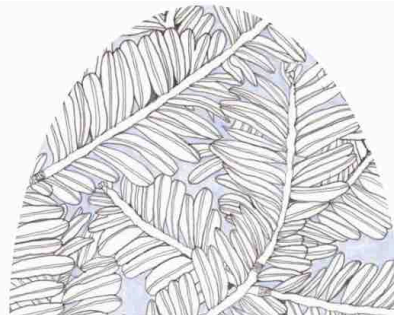
in time of lilacs who proclaim  
the aim of waking is to dream,  
remember so (forgetting seen)

in time of roses (who amaze  
our now and tane with paradise)  
forgetting it, remember yes

in time of all sweet things beyond  
whatever mind may comprehend,  
remember seek (forgetting find)

and in a mystery to be  
(when time from time shall set us free)  
forgetting me, remember me

e.e. cummings



Emma Robertson  
Artist in Residence 2008  
Royal Botanic Gardens, Sydney



ASCENDANT  
AND  
DESCENDANT



Figure 1. Emma Robertson, *Marketing materials*, 2009. Invitation and flyer, sizes variable. *Ascendant and Descendant* exhibition at the Royal Botanic Garden Sydney (RBGS).

## INTRODUCTION: Context

Throughout 2008 I worked with the Royal Botanic Garden Sydney's scientists, drew pressed specimens in the Herbarium, explored the Library, visited the Mount Annan Seedbank, and most of all, walked and talked in the gardens with the people who cared for and loved the plants. Everyone, it seemed, had a story to tell, and I quickly learned that a good shortcut was to simply ask what a person's favourite plant was, and why. Plants evoked many memories, and associations, and often passionate feelings of protection for their endangered, vulnerable status. The then Director of the Royal Botanic Garden Sydney, Professor Tim Entwisle, said in his speech to launch my residency year, that there is a parallel to be made between preserving art and plants:

Although we have had major extinction events in the past, the animals and plants we share the world with today are the ones we have evolved with and depend upon as humans. It is true that the earth and life are likely to survive if we lose half the world's species, but will we? By sending species extinct, we are whittling away further options for the future – what benefits are we forgoing if something goes extinct? We don't know. We already know the current world population can't survive on the resources on earth today. On 'our watch' we will be responsible for destroying the unique products of 3.8 billion years of evolution. Each one is as irreplaceable as the Mona Lisa, or the Buddhist rock carvings in Afghanistan in 2001. Species are irreplaceable 'works of art' in our human era.<sup>1</sup>

In hindsight, the scope of my original proposal to the Botanic Gardens Trust was ridiculously broad. I was going to research and produce a body of artwork relating to the world's critically endangered plants. By the end of the first month as Artist in Residence I had quickly narrowed my topic down to Australia's endangered plants. By the end of the second month I realised that this was still too big in scope, and so I decided to focus more specifically on the many endangered plants in New South Wales. Some days it was hard not to feel overwhelmed by the scale of the problem – if it was not human habitation, it was pollution, or introduced species, or the impact of climate change. In the last 200 or so years, humans have wrought a devastating impact on Australia's flora and fauna, as cited in this excerpt from my published catalogue:

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<sup>1</sup> Tim Entwisle, speech, cited in Emma Robertson, *Ascendant and Descendant*, curated by Emma Robertson (Sydney: Botanic Gardens Trust, 2009). Exhibition catalogue, 1.

Since Australia was colonised in 1788, some 125 plant and animal species or subspecies are known to have become extinct. More mammals have died out in Australia in the last 200 years than in any other continent. Today, more than 360 of our animal species, and around 1240 species of plants are considered threatened. In New South Wales, more than 950 native plants and animals are threatened. The challenge for the NSW community is to halt the decline of these species and assist in their recovery.<sup>2</sup>

Halfway through 2008, the Selection Panel for the Artist in Residence program came to visit me in my home studio. I had been working hard and had generated drawings and tests for five distinct themes, and hoped somehow that the panel members might respond to one more than another. I had concepts, and subthemes and sketchbooks in different sizes, each with options and versions and what-ifs. The panel said that they liked it all - and wished me well - and I was ultimately left to decide on the final exhibition content myself.

I frequently felt as though I was drowning in creative possibilities, and throughout that year of practice based art research I felt a strong obligation to make work that mattered, and which would convey a sense of what I felt about the status of many of the endangered species of flora I had studied and drawn. Plants are the passive and silent recipients of much abuse and misuse, and they do not have a face to engage our sympathy in the way an endangered animal species might. When a forest burns, we 'see and feel' the animals running from the flames, and somehow forget that copes of trees are families who communicate with one another, and who are being destroyed, too.<sup>3</sup>

My solo exhibition, *Ascendant and Descendant* tried to walk a fine line between pessimism and hope. For every precious and beautiful, but now extinct *Bennett's Seaweed*, (Figure 2) there were rediscovered joys, such as the *Living Fossils* series.<sup>4</sup>

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<sup>2</sup> Ibid., cited in the catalogue from the DECC NSW Threatened Species Website, 1.

<sup>3</sup> Author Peter Wohlleben encouraged readers to look and observe their local native forests, and he wrote that his book was "a lens to help you take a closer look at what you might have taken for granted. Slow down, breathe deep, and look around. What can you hear? What do you see? How do you feel?" Wohlleben eloquently described the special scent-language that trees use to communicate. He also remarkably documented his research regarding how trees defend, nurture, and socially support one another within a network and 'family.' *The Hidden Life of Trees: What They Feel, How They Communicate: Discoveries from a Secret World* (Vancouver: Greystone Books, 2016), XI.

<sup>4</sup> *Living Fossils*, as I was told on a 2008 tour by Lynne Cusack, an expert Guide at the Royal Botanic Garden Sydney, are species which exist in our time in the same or similar form as their earlier fossil record.

*Bennett's Seaweed* only grew on Earth in Sydney Harbour, and by the time this was realised it was too late. In creating the drawing in Figure 2, the ten precious specimens I studied looked very fragile in the Herbarium archives, and they were beautiful and still. It was hard to imagine them as they must have been, vibrant and alive, moving under the surface of the water, and flowing in rhythm with the waves.

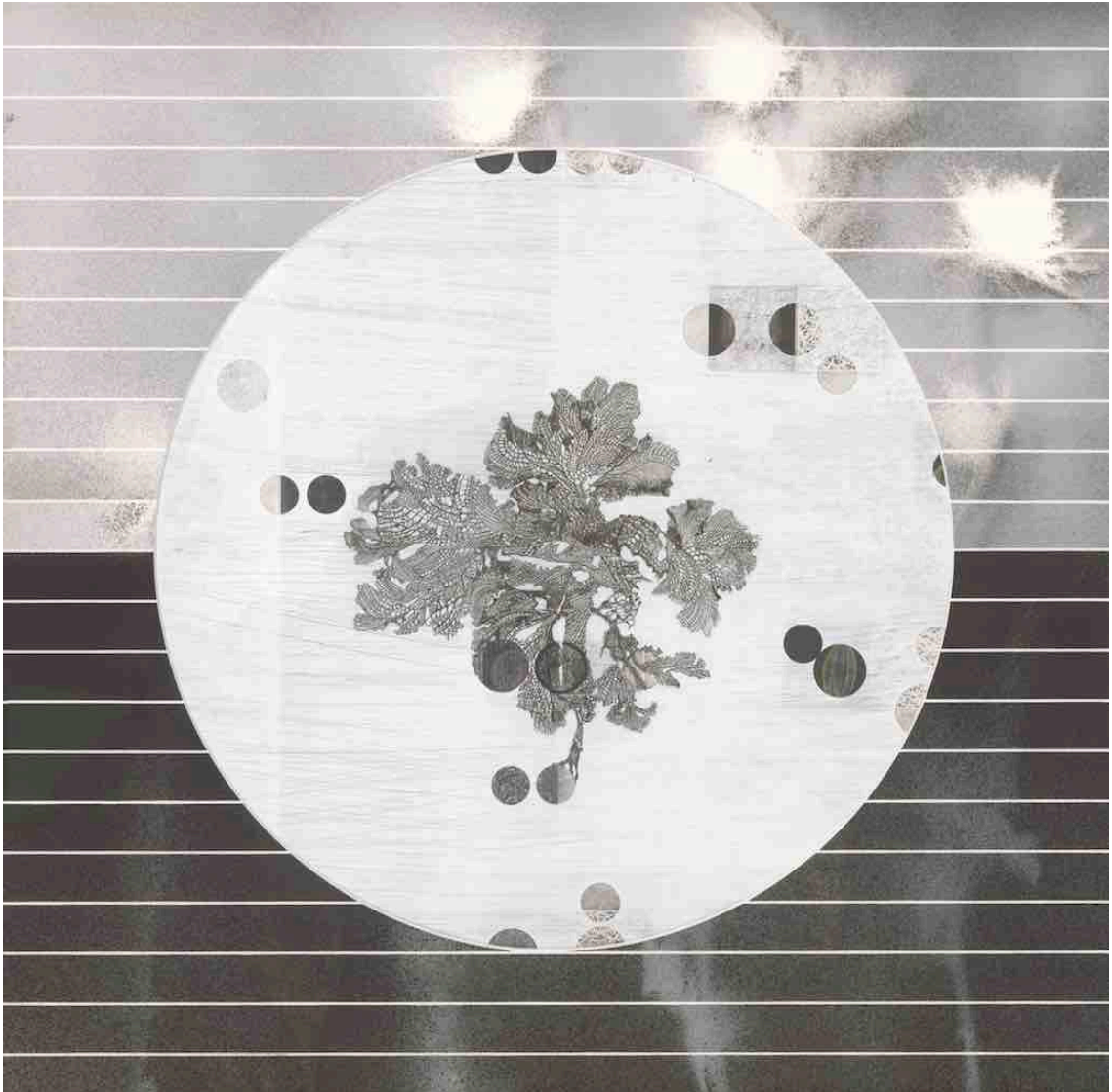


Figure 2. Emma Robertson, *The Shape of Loss*, 2009. Mixed media drawing, 42 x 42 cm. Private Collection. Drawn from a pressed Herbarium specimen in the Royal Botanic Garden Sydney, of the extinct *Bennett's Seaweed*, and also inspired by a quote from Colette: "It is the image in the mind that binds us to our lost treasures, but it is the loss that shapes the image." *Bennett's Seaweed* only grew in Sydney Harbour and nowhere else on Earth, and is thought to have become extinct in the late 1800s (last collected in 1886).

The *Wollemi Pine* (Figure 3), was one of several endangered *Living Fossils* that I drew in a series called *The Book of Hours*. The oval format employed in Figures 3, 4 and 5 evoked the earlier history of Victorian mourning frames, which were sometimes carved out of jet (a fossilised tree), and which often featured the symbolic use of flowers and plants.

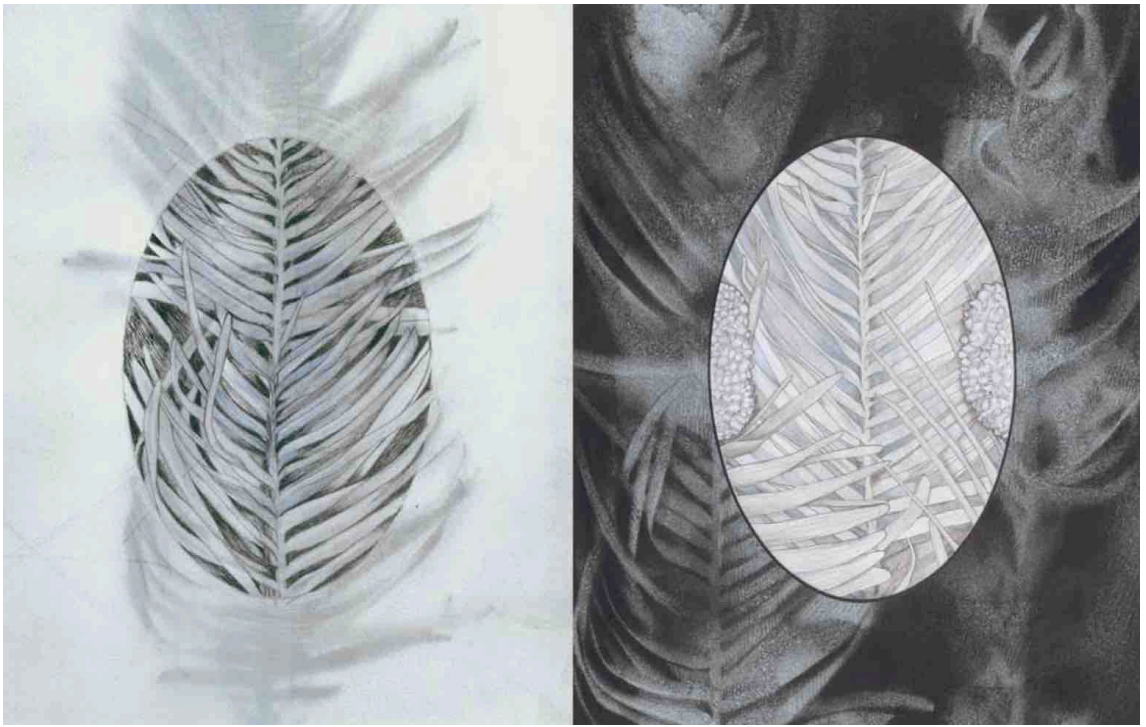


Figure 3. Emma Robertson, *Wollemi Pine*, 2009. Mixed media drawing, 44 x 28 cm. Private Collection. Once thought to be extinct, a drawing of the rediscovered *Wollemi Pine*, from studies of pressed specimens in the Royal Botanic Garden Sydney's Herbarium, and from frond samples in my studio.



Figure 4. Emma Robertson, *The Book of Hours Series*, 2009. Mixed media drawings, each 44 x 28 cm. Various Private Collections. Four of *The Book of Hours Series*, which featured twelve double images of endangered plants native to Australia, to represent the hours in a day, and the months in a year, in Victorian inspired oval shapes. Mourning frames, used for pictures during the Victorian era were sometimes carved from jet, a fossilised, blackened wood.

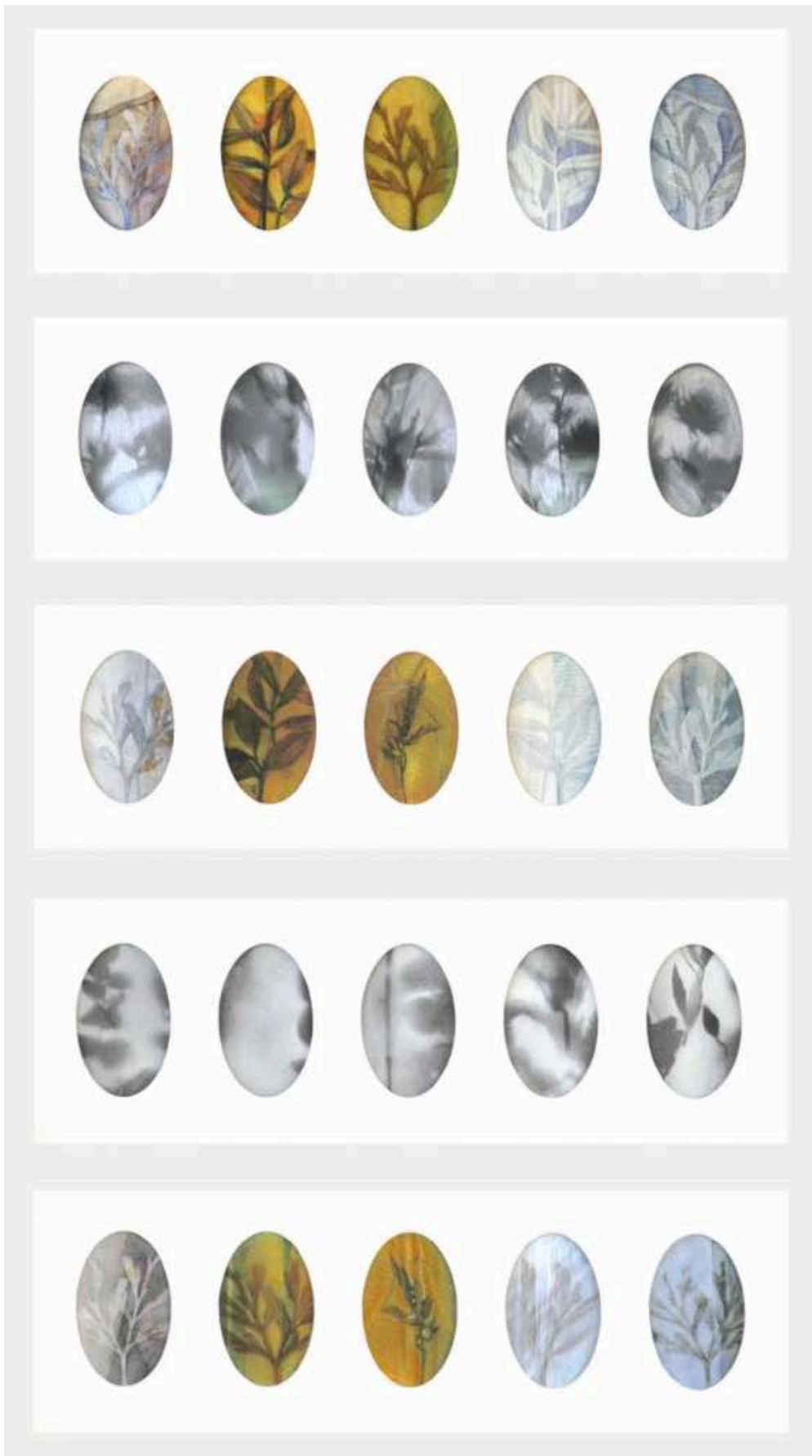


Figure 5. Emma Robertson, *Fossil, Amber, Ice*, 2009. Mixed media drawing, Private Collection. Five panels in a series, and each panel measured 24 x 67 cm.

*Fossil, Amber, Ice* (Figure 5) also used this compositional device, and additionally showed that herbariums don't just have pressed plants, but also cupboards full of fossils, and other fascinating treasures. The use of ice images in the artwork in Figure 5 honoured some of the remarkable seeds on Earth, which can survive frozen deep in the ground for tens of thousands of years, and yet still remain viable for future life.<sup>5</sup> The progression of partly melted ice in the right-hand panels is also representative of global warming. In the final exhibition, across twenty-seven mixed media drawings, I explored three main themes – Archaeologies; a modern-day Book of Hours; and Collectors. The work *The Archaeology of Now* (Figure 6) showed the cast shadow of the critically endangered *Eucalyptus Copulans*.

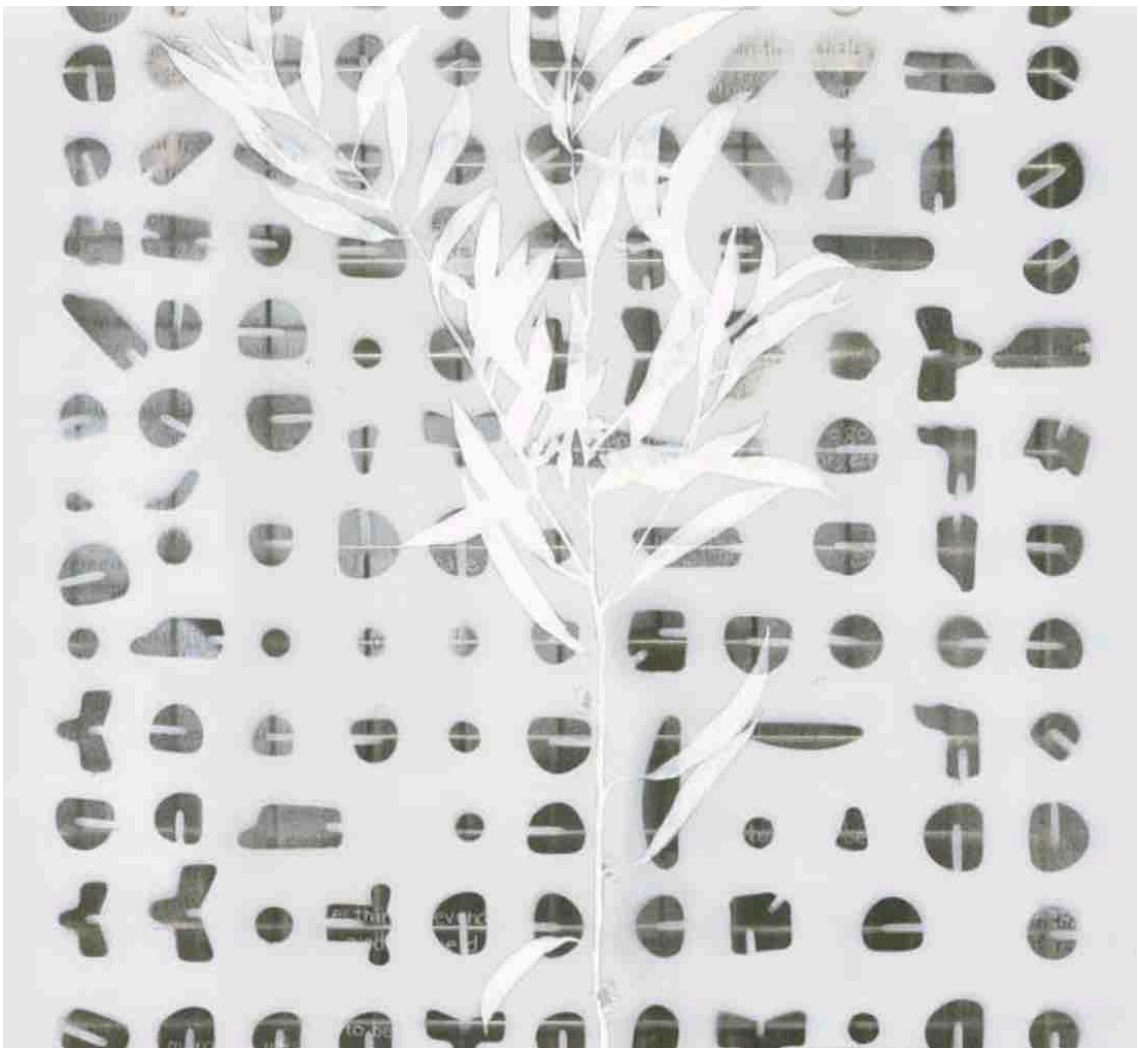


Figure 6. Emma Robertson, *The Archaeology of Now*, 2009. Mixed media drawing, 38 x 58 cm. Private Collection. Two details are shown here below the main image. Behind the tree branch, words from a poem by e.e. cummings appear in fragments, including the line “forgetting me, remember me.”

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<sup>5</sup> Rachel Kaufman, “32,000-Year-Old Plant Brought Back to Life – Oldest Yet,” *National Geographic*, last modified February 23, 2012, <http://news.nationalgeographic.com/news/2012/02/120221-oldest-seeds-regenerated-plants-science/>

The device of shadows and subtly rendered, partly erased marks suggested memories of things that had once been there, but which are now lost or forgotten. Selected examples from this exhibition formed the foundation for the start of the recent body of creative work explored in this thesis, which is critiqued in the context of Chapter Four. By the end of the year, the catalogue was published, the card set had been printed, and the exhibition was taking form<sup>6</sup>. As I stood at the opening in 2009, and observed people looking at the artwork, I had the restless feeling that there was something more that I needed to discover in the folders of stories I had documented, developed and drawn. On the opening night, I felt somehow dissatisfied with the images I had created.

One memory in particular has continued to come forward, over and over in my mind's eye in the years since then: a small unpublished sketchbook of exquisite watercolours of lichen by the scientific illustrator, Margaret Flockton (1861-1953). I had spent a long time looking at, and admiring these studies in the Royal Botanic Garden Library, and imagining Margaret's careful objective observation of the subtle variations in the lichens. It was not, however, the scientific intent behind the illustrations that absorbed me, but the way she had rendered them on each page, almost like floating, abstracted dreamscapes. Turning the pages of the small sketchbook in my hand left me feeling peaceful and calm. She observed a tiny, unseen world in microcosm, and her drawings and paintings have an innate, enduring, mindful stillness. I had previously seen many photographs of lichen, but it was viewing Margaret's beautiful studies that transformed how I felt about their fragility. On my next bushwalk I stopped to look at and admire the plants clinging to the rocks in a new, more meditative, considered and connected way. Margaret's studies, created with a different aim in mind, changed how I noticed and paid attention to the plants, and altered the way I felt about the lichen, as I carefully stepped over them.

I am fascinated by the impact that art can have in evoking emotions, and as a way of reconnecting people with our natural world, even in the midst of urban environments.

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<sup>6</sup> Considerable time was taken in writing the *Ascendant and Descendant* catalogue to produce a stand-alone document which could be used to further the aims of the exhibition after it closed. To this end images across twenty-four pages explored in greater detail the backstory of the plants. A set of four cards were also designed and sold in the Royal Botanic Garden Sydney shop, with annotations on the reverse including the plant's name, and endangered or extinct status.



An objective photographic study of lichen does not create the same intimate associations in my mind as the feeling I get when I look at – and hold – Margaret’s sketchbook of drawings (Figure 7).



Figure 7. Margaret Lilian Flockton, *Unpublished Sketchbook, Lichens Illustrated, Book I: Parmelias, stictacea, cladonias, etc* 1905-1906. Pages 8 (top) and 12 (bottom), images 22, 23, 24, 32 and 33. Daniel Solander Library, Royal Botanic Garden Sydney, New South Wales.

In introducing this thesis, this is the first point of difference between the framed works I previously created during my earlier 2008-2009 residency, and the recent unframed works described and discussed in Chapter Four. This opportunity to examine and explore the potential of my own artwork in an alternative way, was the starting point for my practice based research proposal four years ago.

Using a practice based methodology as the primary mode of enquiry allowed me to include the sometimes intimate and often personal aspects of artistic enquiry, including how artistic discoveries can emerge spontaneously, and sometimes in spite of our best laid plans. What we think we know, and what objective experience and subjective memories emerge during the artistic process of creation, can influence the communication of evidence and outcomes. The conscious interplay of the thinking mind and the observing mind as described in mindfulness practice, led me through a false start, to a deeper and more creatively engaged trial-and-error process than any I have experienced before, and this is detailed in Chapter Three.

One of the key objectives of this research is to explore different ways to use drawn images of endangered plants to enhance their ability to engage and connect with audiences. This thesis proposes, in part, that reconceptualising static drawings into alternative artistic forms, including whole-wall larger scale immersive installations, moving images, and artist's books, can potentially extend and deepen holistic emotive experiences for audiences, and can assuage feelings of anxiety in relation to climate change. These art forms can also be shared in non-traditional places and in other ways, which is another objective of this research.

Recent surveys and statistics suggest that an increasing number of people are disengaged in relation to global warming, and avoid focusing on or thinking about their personal response and attention to climate change.<sup>7</sup> Yet the human species needs to be integrated with nature more than ever before – ongoing and recent research into

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<sup>7</sup> Rachel McDonald, Hui Yi Chai & Ben Newell, "Personal experience and the 'psychological distance' of climate change: An integrative review," *Journal of Environmental Psychology*, 44 (2015): 109-118.

biophilia<sup>8</sup> and ecopsychology<sup>9</sup> continues to provide us with evidence of the positive impacts that being connected with nature – and seeing images of nature – can bring, to both our physical and mental health. Research has shown measurable proven benefits such as reduced blood pressure, increased immune responses, and lower depression and anxiety.<sup>10</sup> A 2015 study in the Netherlands, reported in the *International Journal of Environmental Research and Public Health*, found that simply looking at still images derived from nature for five minutes, lowered cortisol and stress levels when compared to a group viewing urban images.<sup>11</sup> We are not separate from nature – we are nature – and exploring botanic gardens, herbariums and nature based archives through interpretive artwork, and extending their reach, can potentially improve our health, and provide a way of creating emotional empathy, as a type of touchstone.

Mastery of a medium can sometimes get in the way of innovation and new knowledge. I love the process of drawing so much that it generates a sense of timeless flow for me, and getting out of my comfort zone and sacrificing the hard-won mastery I had built up over many years of successful artistic practice was initially challenging and difficult.<sup>12</sup> The original problem proposed in this study was how to communicate my ideas about endangered plants in artistic ways that had not become exhausted of their capacity to elicit strong responses from audiences. The escalating impact of climate change, and negative anthropogenic changes to environments, is an important and timely topic, and there is no shortage of materials and research references to explore, and this is demonstrated in the literature review and discussion in Chapter One.<sup>13</sup>

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<sup>8</sup> The affinity of human beings with the natural world, as defined and popularised in the book by Professor Edward O. Wilson, *Biophilia* (Cambridge Massachusetts: Harvard University Press, 1984).

<sup>9</sup> International Community for Ecopsychology, “About Ecopsychology,” I.C.E. <http://www.ecopsychology.org/about-ecopsychology/> last modified 2017, defines ecopsychology as the “synergistic relation between personal health and well-being and the health and well-being of our home, the Earth.”

<sup>10</sup> Alexandra Sifferlin, “The Healing Power of Nature,” *Time Magazine*, Issue July 25 (2016): 24-26.

<sup>11</sup> Principal Investigator and Lead Author, Magdalena van den Berg et al, “Autonomic Nervous System Responses to Viewing Green and Built Settings: Differentiating Between Sympathetic and Parasympathetic Activity,” *International Journal of Environmental Research and Public Health*, v.12, Dec 14 (2015): doi: <http://www.mdpi.com/1660-4601/12/12/15026> & <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4690962/>

<sup>12</sup> Early on in my PhD I presented at a Graduate Forum, and received good, constructively critical feedback from three of my fellow students, Dr Tracey Clement, Dr Kath Fries, and Mark Visione. Their honest comments, and their own insightful presentations, proved important to the evolution of my work.

<sup>13</sup> Anthropogenic: “of, relating to, or resulting from the influence of human beings on nature,” in the Merriam-Webster Dictionary, last modified 2017, <https://www.merriam-webster.com/dictionary/anthropogenic>

As with the previous Botanic Garden's residency work described in the Preface, too many options presented themselves at the start of this research, and it was through more rigorous questioning that I came to realise the ongoing importance of mindful meditation as a counterpoint to audiences' potential anxiety. A process of integrative thinking, which combined a reflective model of openness to fresh experiences, observation of my own processes, and objectivity in viewing the work of other climate change artists, all contributed to consolidating the structure and approach to researching and writing this thesis. (The applied use of openness, observation and objectivity as a research strategy are discussed in more detail in relation to the work of Dr Daniel Siegel in Chapter Three, and as demonstrated by the outcomes of my own artistic practice in Chapter Four).

## **Plants**

Without plants life on earth would not exist: they are a critical component of the planet's integrated and finely balanced ecosystem. While life on earth would continue to flourish without the human species, it is unimaginable without plants. Through millennia, the human species has used plants for food, fuel, medicine, and also for their symbolic and cultural value in mythology, religion, and literature. There is even an evolved *Language of Flowers*, which reached its heyday in the repressed Victorian Era, where bouquets could say what spoken words could not. Plants mark special commemorative days such as births, weddings, birthdays and funerals, and their diverse beauty and functional necessity have been celebrated and championed by many artists, in different times, ways, and places. Conversely, some artists have appropriated and used plants for their own purposes, sometimes without a full appreciation of what they can mean and convey, and this is analysed and described in Chapter Two as part of a discussion relating to selected overlaps between science and art in regards to natural history.

Although plants are diverse and widespread, they are increasingly at risk. In Australia, in the more than 200 years since European occupation, "more than 60 Australian plant species are now thought to be extinct, and over 1180 are threatened."<sup>14</sup> The Millennium Seed Bank Partnership has worked at Wakehurst in England since 2000, in a purpose built nuclear proofed building, to establish an international network of researchers across the

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<sup>14</sup> No author, "Fact Sheet: Threatened Australian Plants," in *Threatened Species and Communities Series*, (Natural Heritage Trust, Australian Government: Department of the Environment and Heritage, 2015): 1.

globe, who work to preserve the seeds of the world's most critically endangered plants. The scientists I met and talked with there have a clear perspective of not if, but when, extinction events will escalate, which is a challenging and confronting perspective. The year after my Artist in Residence experience I went to London and spent time researching at Kew Royal Botanic Garden, in their Herbarium, and also at the Millennium Seed Bank. I was very impressed by the scale of the largest plant conservation program in the world, and by the botanists and other scientists I met who work there. Both institutions prioritise their important work with artists – at Kew there is a purpose-built art gallery, and the Millennium Seed Bank at Wakehurst also provides seeds for artists to work with in the annual, national 'The Big Draw' event. The work of artists, some historical, some contemporary, and relating to seed stories, is on display at the Millennium Seed Bank gallery.<sup>15</sup>

Australia's plants are particularly significant to the Millennium Seed Bank, as the continent's flora makes up 15% of the world's total species, with 22% of those listed as under threat of extinction.<sup>16</sup> Many of Australia's plants are unique and only grow here, and nowhere else in the world. In amongst all the pessimism are three plants which have been rediscovered in Australia. Having been thought to have become extinct, they have survived in increasingly small and remote pockets of land, in places previously unsurveyed. These three rediscovered plants are, however, still listed as being extinct, since they are so rare and endangered that they were anecdotally described to me by a Royal Botanic Garden Sydney senior horticulturist as "The Living Dead."<sup>17</sup>

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<sup>15</sup> During my primary research visits to Wakehurst and Kew, I spent time with Dr Wolfgang Stuppy, the world's first seed morphologist, who has collaborated over several years with the artist Rob Kessler. The two books of interpretive art images they have co-published have encouraged new non-specialist audiences, and established a wider platform of understanding relating to seeds, fruits and plants in general. My own collaborations with botanists are an important factor in expanding my research.

<sup>16</sup> No author, "Fact Sheet: Threatened Australian Plants," in *Threatened Species and Communities Series*, (Natural Heritage Trust, Australian Government: Department of the Environment and Heritage, 2015): 1.

<sup>17</sup> During my time as Artist in Residence at RBGS, I was helped by several staff, one of whom, Dawson Ougham, a senior horticulturist, sourced endangered plant samples for me to draw from. I selected and collected these with his help, pressed them in my studio, and continue to use the specimens today. One of "The Living Dead" was *Eucalyptus Copulans*, which appears in Figure 6, *The Archaeology of Now*, 2009, and also later in its original form, in the three-dimensional Fisher Library installation works, recently completed in 2017, see Chapter Four.

## Research Methodology

As mentioned in the Preface, in 2009 I held a solo exhibition, called *Ascendant and Descendant* at the Royal Botanic Garden Sydney, in the Red Box Gallery beside the Herbarium. It showed the results of a year of research as the Artist in Residence, working with the scientists at the Garden on the pressing issue of the increasing impact of climate change, and its effect on endangered Australian plant flora. The exhibition was a success in a traditional sense, with positive reviews, works sold, and good attendance numbers, at both the exhibition and associated talks, tours and lectures, but when I left the Garden, I felt that much more needed to be done. The catalogue, carefully designed across three themes, was filed away in a drawer, and sometimes I would catch sight of it and wonder “*What else could - or might - that idea be?*” I wanted to find a way to return to, and further extend the research, in a more personally challenging and original way, and to integrate plants more deeply into the idea of a sustainable global ecology whose meaning “*must be expanded to include all parts of nature (and not just humanity) and allow all of nature to meet its own needs, now and in the future.*”<sup>18</sup>

Two years later, in 2011, a video interview I did with Iain McCaig, the artist and film designer, was listed on YouTube, and it was well received, with many encouraging comments, up-votes, and direct feedback about its immediate (and in some cases, ongoing and lasting) impact on those who watched it. To date the video has been viewed more than 83,000 times, and at the beginning of my research process I started to think about the potential of video to tell the stories of the plants I had researched, and whose images I had drawn. During my year at the Garden, I had progressively narrowed my focus, first from globally endangered plant species, then to Australian species, and finally just to those mainly in New South Wales. Even with this more narrowed focus, too many stories and ideas presented themselves, and I struggled to leave some behind. The images of many of the plants I researched and drew, in mixed media artworks, proved impossible to forget, and I wanted to find another way to do more to bring the science and statistics to life, in memorable and more action oriented ways, and so initially I proposed involving aspects of transmedia storytelling and video. Passionate as I am

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<sup>18</sup> Anne Chick and Paul Micklethwaite, *Design for Sustainable Change: How Design and Designers can Drive the Sustainability Agenda* (Switzerland: AVA Publishing, 2011), 79.

about art and its power to transform perception and how we feel, I felt that realistically my drawings, passively positioned on a wall, somehow at a removed distance under glass were no longer enough, when the stakes for the plants survival were increasingly high.

Early on in my research and reading I needed, however, to challenge and explore my initial assumption that storytelling across multiple platforms was the right approach, particularly in regards to transmedia. I recognised that I had a predisposition from many years of academic teaching to want to make things clear, and I ran the risk of a didactic and potentially prescriptive, obvious creative outcome. During the first year of my PhD I concurrently worked with a small team of colleagues at UNSW to create a MOOC titled *Transmedia Storytelling*, and the influence of my academic work on this coloured the approach I was taking in the first stages of my research in an overly dominant way. We collaboratively wrote our own scripts, filmed videos, and created interviews with many well-known film industry professionals, and by 2017 the course had articulated an interesting definition, and attracted more than 11,100 international enrolments.<sup>19</sup> Similarly, my ongoing academic work in the Master of Design degree at UNSW included developing and teaching original models of thinking, and I tried (and ultimately failed) to find a way of integrating the various models I had created in parallel work, back into my PhD research. I had to learn to let go of other things which interested me, including my design oriented perspectives and training, in order to bring a genuinely intuitive, authentic and appropriately reinvigorated focus to my personal artwork practice. This was initially difficult.

It ultimately felt as though I had stepped outside of my own processes and observed the way I thought and worked, in order to bring other ways of orientating and creating alternative images. So, instead of a focused pre-set designed “model” of thinking, I used a diffused art practice based “mode” of thinking. The way I approached my research at the beginning showed my tendency to think based on how I taught, caught up in my own beliefs, experience, rationale and predisposed ways of learning, with the restrictions and

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<sup>19</sup> As we collectively defined it, “Transmedia Storytelling: Narrative Worlds, Emerging Technologies, and Global Audiences” is “the practice of designing, sharing, and participating in a cohesive story experience across multiple traditional and digital delivery platforms – for entertainment, advertising and marketing, or for social change,” last modified 2017, <https://www.artdesign.unsw.edu.au/whats-on/news/transmedia-storytelling-narrative-worlds-emerging-technologies-and-global-audiences>

inhibiting assumptions associated with this. It took some time over the first year of intensive study and reading, to shed the skin I was in, and to embrace a less certain, more openly creative, research process.

As I started to come to grips with this process, I looked back through and comprehensively reviewed my many sketchbooks created over several decades, (shown in Figure 8), and I objectively observed that my best ideas seemed to come from a mindful and meditative complete immersion in a theme, and not from applying a model of thinking I had designed for a different purpose and publication, elsewhere.



Figure 8. Emma Robertson, progressive documentation and research in working drawings are an integral part of my creative process, and this is discussed in more detail in Chapter Four. *Sketchbooks 2014-2017*, sizes various.

I already had a deep knowledge of the discipline of drawing, and I wanted to more actively develop the material form of my own practice in quite different ways by being critically reflective, and reviewing my sketchbooks helped with this process. Making with meaning transformed and transitioned my knowledge and understanding, and facilitated an unpredictable, personal self-awareness in the middle, second year of my research. I learned more about biophilia, ecopsychology, mindsight and how emotional responses



are triggered in the brain, and I developed insights which allowed me to develop ways of bringing my deeper understanding directly into my artwork.<sup>20</sup>

In the final third year of my research I recognised that while Transmedia Storytelling was too prescriptive as a structure, the term Transmedia Art was more relevant, and, in combination with a broader understanding of Eco Art, the application of this knowledge allowed for a diversification of my drawings with newly integrated media, and into alternative exhibition spaces and platforms, some of them online. This transition allowed my work to move into other areas, using a practice based research method.<sup>21</sup> As part of that methodology I also initially incorporated a reflective practice approach, where I generated insights into my own creative processes in order to change my practice from something which had become predictable, to something which enabled me to question my own assumptions much more directly and critically. Reflective practice has a subtle difference to practice based research, and a definition is provided here.<sup>22</sup> The overarching practice based research process I used, which flowed from my earlier reflective practice, is described in more detail in Chapter Four.

### **Overview of Chapters**

The Preface and Introduction set out the context and background to this research, and described the impetus and rationale behind the creative work, and its selected methodology. This included an overview of plants, and statistics on their endangered and at risk status, related to the research themes.

Chapter One offers a further context for my research by analysing selected aspects of climate change and exploring its relationship with endangered plants and art, and this is

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<sup>20</sup> Biophilia and ecopsychology are previously defined. Mindsight is a term used by Dr Daniel Siegel to describe the overarching interrelationship and integration of human perception in relation to the self and others, and this is discussed in this thesis in more detail in Chapter Three. Daniel Siegel, "About Mindsight, An Introduction to Mindsight," last modified 2010, <http://www.drdansiegel.com/about/mindsight/>

<sup>21</sup> A useful and clear practice based research definition can be found at Creativity and Cognition Studios, "Practice-Related Research," UTS, last modified date unrecorded, accessed October 22, 2016 <https://www.creativityandcognition.com/research/practice-based-research/practice-related-research/>

<sup>22</sup> Having read a number of definitions, the one most applicable to my PhD research is from the Institute of Development Studies. They also describe reflective practice as including a participatory method of generating new ideas and action for social change, and they define Reflective Practice Journals, which applies to my sketchbook processes. Participation Research Cluster, "Reflective Practice," Institute of Development Studies, last modified date unrecorded, accessed October 22, 2016 <http://www.participatorymethods.org/method/reflective-practice>

integrated within an initial Literature Review. This encompasses four key books from the past and present, followed by a discussion of several exhibitions which include substantive aspects of climate change, plants and transmedia art. This establishes the relevant themes and identifies some aspects of interdisciplinary research in this thesis.

Chapter One initially discusses four books by advocates for environmental action and change, followed by a critical analysis of some recent exhibitions, and an overview of some other methods of visual communication, including films. This approximately reflects the process I followed, as there was an intensive period of reading and research at the start which helped to clarify what I did – and did not – need to do. Halfway through the PhD study I subsequently read two books relating to emotions, the brain, and mindfulness which are discussed later in the thesis in Chapter Three, and this allows the narrative structure of the thesis to appropriately and more clearly unfold. Where relevant, I indicate the direct impact of some of the literature on my art practice and creative research.

Chapter Two explores and assesses the work of selected climate change and other artists, with a specific focus on plants, drawings, and some hand drawn moving images. This critically discusses some of the concepts being explored by other artists, including the use of scientific diagrams and statistics on global warming, and the appropriation of scientific illustrations of plants. My rationale for choosing these artists was to explore and examine contemporary drawing works through the lens of Eco Art, and consider the different ways their ideas are conveyed. This discussion starts with two, now well-known early environmental works, by Peter Dombrovskis, and Christo. Although neither of the works are drawings, both could be considered early examples of Transmedia Art, since the images were broadly disseminated across multiple platforms, including popular media, at the time of their creation. The further consideration of the potential overlaps between Eco Art and Transmedia Art have helped the development of my creative practice in this research.

Chapter Two then continues with a discussion of two Australian artists, John Wolseley and Judy Watson, who both use drawings as a primary technique in their artistic practice, and who work with plants, and themes of endangered species and nature. This is

followed by a discussion of the environmentally driven artwork of Cornelia Hesse-Honegger, who is a scientist by training. Her observational and interpretative artwork shows drawings of insects and plants affected by nuclear reactor leaks, and the outcomes were lauded by artistic communities, but criticised by some scientists. Both Hesse-Honegger and the artist Michael Landy actively use scientific illustration and botanical methods in their artwork, and a series of drawings by Landy are then discussed in this context.

Landy's series is similar in scale and pencil technique to the drawings of Manabu Ikeda, whose work was exhibited and featured in both the *Artists + Climate = Change* exhibition in 2015, and the book of the same name in 2016. David Buckland has worked in many countries and with several artists to collaboratively increase understanding of environmental issues, and one of his works, *Shard*, is included in this Chapter, along with Debbie Symons' work *Amazonia*, and a critical reflection on the collaborative drawing work *Moon* by Olafur Eliasson, and Ai Weiwei.

Chapter Three discusses relevant recent research into mindsight, mindfulness and emotional resonance, and explores the relationship of beauty in enhancing these meditative types of mindsets. It considers alternative modes (not models) of thinking to the processes I had used prior to the PhD research, and investigates theories from other disciplines which I found applicable to integrate into my research framework. This Chapter includes reference to the drawings and paintings of Agnes Martin. Her use of symmetry, simplicity, muted colour palettes, repetition, harmony and simple geometry was originally inspired by her thoughts about trees, and her mindful approach creates an important connection into my own work in the following Chapter.

Chapter Four describes and critically analyses my work's various stages of development, and visually demonstrates the importance of beauty and natural forms in achieving a sense of mindful meditation in the final outcomes. It outlines the evolution of my recent series of works, and includes a summary of a recent primary research visit to the Royal Botanic Garden Edinburgh, Scotland in July 2017. In 2015, the first year of my research, *Mapping the Memory of the World* was selected for exhibition at the *International Biennial of Drawing*, and featured in the book, *A Different Perspective: Artwork by the*

*Laureates of the Biennial of Drawing Pilsen*, published later that year. This drawing was the first of a series featuring a new laser cut paper technique, and while I was pleased with the exhibition outcome, and subsequent selection for publication, in retrospect I came to see the work as reverting to my own comfortable conventions, particularly in regards to format and scale. The following year, 2016 a subsequent drawing, *The Archaeology of Absence* was selected for the *Future Stratigraphy* group exhibition. The scale, format, technique and presentation of this much larger three metre square drawing progressed my work further down an alternative pathway, and it provided me with a mechanism to test out other creative ideas which flowed from the reading I had undertaken, as discussed in Chapter One.

In 2017, the third and final year of my research proved the most experimental, and I was given an amazing opportunity to publicly and iteratively play with imagery as it evolved, through several sequentially developed three dimensional installations, which included drawings, at the Fisher Library, Sydney University. The first of these large-scale works was *Requiem (Red)*, and this was presented across three floors of the library in glass fronted vitrines. This was followed by the solo exhibition and series of works *Art and Nature: Antidotes to Anxiety* later in 2017, which was displayed in five large cases, as a selected part of *The Big Anxiety Festival*. A series of short films I developed which used my drawings (2016-2017) was selected to be shown in Canberra at the *Drawn Threads* group exhibition at the Australian National University. The films were accompanied by a circular two metre diameter installation drawing, using further developments of the laser cut paper technique, and it featured twenty-four panels floating out from the wall surface. The concept and execution for this work came directly from my analysis and discussion of the appropriation of scientific illustrations of plants in Chapter Two, and it explores endangered plant imagery.

Chapter Four also describes the development of my writing, which commenced with the publication of a book chapter at the end of 2015, that helped me to identify the increasing overlaps between some forms of visual communication and fine art, and the relationship of this to the compositional development of my own artwork. In particular, I researched conceptual schemas and metaphoric and conceptual diagrams, producing two summary templates which influenced the approach I was taking to my own

artwork.<sup>23</sup> My writing culminated in 2017 with a journal article *Transitions: Biophilia, Beauty and Herbariums* for the publication *Unlikely*, within a special issue on *Art and Herbariums*, and also an article *Biophilia and Beauty* published online in the international website *Artists and Climate Change*. This article was subsequently picked up and republished by the website of the US based *The Center for Sustainable Practice in the Arts* (this organisation is subtitled *A Think Tank for Sustainability in the Arts and Culture*). The UK based *Art.Earth.Org*, part of the *RANE* network (*Research in Art, Nature and Environment*) also linked to the article, and it was included within a description of the *Art and Nature: Antidotes to Anxiety* exhibition at Sydney University. As a result of this extensive cross-promotion, Theatre Director Leyla Modirzadeh at San Jose City College, USA screened and used both my films in the *Climate Change Theatre Action* in late 2017. Other outcomes included Professor Amanda Barnier, co-editor, who selected and used the 2016 drawing *The Archaeology of Absence* on the cover of the book *Collaborative Remembering* (Oxford University Press, 2017). She subsequently extended an invitation to me, to illustrate the forthcoming *Memory in the Head and in the Wild: Interdisciplinarity in Memory Studies*. The co-authors of this book, Professor Amanda Barnier and Professor Andrew Hoskins have additionally suggested that my recent drawings be included on the website supporting the book, which adds an extended Transmedia Art component to my series. Memory – what we remember, and why – combined with climate change, presents further future possibilities for my research.

Chapter Four visually documents various iterative creative outcomes throughout the three years of study, and relates the challenges I found in changing my own subconscious predisposition to work in familiar and comfortable ways, and how I ultimately overcame this. Chapter Four concludes with a description of two community based workshops I taught as part of *The Big Anxiety Festival* at the Royal Botanic Garden Sydney: *Drawing for the Mind*, and *Making with Mindfulness*. These workshops took place at the same time as the solo exhibition and series of works, *Art and Nature: Antidotes to Anxiety* in the Fisher Library. The Conclusion follows Chapter Four, and after the Bibliography a Catalogue of Works presented for exhibition is included in Appendix A.

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<sup>23</sup> Emma Robertson, "Models of Creative Thinking and Problem Solving: Design Development, Application and Use," in *Moving from Novice to Expert on the Road to Expertise: Developing Expertise in the Visual Domain*, ed. Arianne Rourke and Vaughan Rees, (Illinois: Common Ground Publishing LLC, 2015), 147-169.

## CHAPTER ONE: Literature Review

Chapter One contextualises my research by analysing selected aspects of climate change, and exploring its relationship with endangered plants and art. I first focus on four key books from the past and present by advocates for environmental action and change. I then discuss other publications, and follow this with an overview of several recent exhibitions that include substantive aspects of climate change, plants and transmedia art, before concluding with a brief discussion of some other methods of visual communication, including films.

### Four Key Books

The overarching context of this research relates to ecology and art, and in terms of literature in these complex and broad fields one book in particular, *Silent Spring*, 1962 by Rachel Carson has stood the test of time. This pioneering publication is still frequently cited by artists and others as a direct and enduring influence on their work. In a 2012 *Virtual Exhibition*, in the Environment and Society portal, author and Professor of Environmental History, Mark Stoll summarised the broader legacy of Carson's book in regards to its impact, not only on the environment, but on popular culture, music, literature and the arts.<sup>24</sup> In another section titled Legacy, Stoll wrote that "Every one of the toxic chemicals named in the book was either banned or severely restricted in the United States by 1975."<sup>25</sup>

Remarkably, Carson's book has remained in print over the last fifty-five years, and the prominent environmentalist Al Gore (former Vice President of the United States and Nobel Peace Prize winner) wrote a new introduction to the 1994 edition of *Silent Spring*, where he commented that, "*Silent Spring* had a profound impact...Rachel Carson was one of the reasons that I became so conscious of the environment and so involved with environmental issues. Her example inspired me to write *Earth in the Balance*."<sup>26</sup>

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<sup>24</sup> Mark Stoll, "Rachel Carson's *Silent Spring*, A Book That Changed the World," Environment & Society Portal, last modified 2012, ISSN2198-7696, <http://www.environmentandsociety.org/exhibitions/silent-spring/about-exhibition>

<sup>25</sup> Mark Stoll, "Legacy of Rachel Carson's *Silent Spring*," Environment & Society Portal, last modified 2012, ISSN2198-7696, <http://www.environmentandsociety.org/exhibitions/silent-spring/legacy-rachel-carsons-silent-spring>

<sup>26</sup> Vice President Al Gore, quote from the Introduction to *Silent Spring* 1994 edition, xiii, as cited by Mark Stoll, "Legacy of Rachel Carson's *Silent Spring*," Environment & Society Portal, last modified 2012,

Carson remarked on the importance of our ecological role, writing that “The balance of nature is not a status quo; it is fluid, ever shifting in a constant state of adjustment. Man, too, is part of this balance.”<sup>27</sup>

She reflected in much of her writing, and across several publications, on the aesthetic importance of beauty in nature, and its relationship to engaging our sense of wonder for the world, which she felt was important in facilitating a resonant human connection with our environment. As she described it, “Once the emotions have been aroused – a sense of the beautiful, the excitement of the new and unknown, a feeling of sympathy, pity, admiration or love – then we wish for knowledge about the object of our emotional response.”<sup>28</sup> (Chapter Three of this thesis discusses and extends this point relating to beauty, our connection with nature, and our emotional responses.) Making and exhibiting artwork relating to environmental issues, has the potential to arouse the desire for more knowledge and sympathetic understanding, or it can conversely (often unwittingly) serve to dissuade us from further engagement.

Carson’s writing was both poetic and popular: its accessibility is surely a factor in the enduring popularity and widely embraced understanding of her ground-breaking research. She could have written a very different book, and the fact that she did not get lost in the science, or mired in the details of statistics, means that many people, myself included, were able to readily understand, and more fully appreciate the importance of the information and substantive arguments she described. She has a “one of us” sensibility, and her rigorous research, arguments and writing are framed in such a way that we feel somehow obligated to care, and to do something about our concerns, as she did.

Before the book itself was published, it was serialised in three sections in *The New Yorker*, and Carson’s (at that time unusual) use of the popular press as a form of cross-promotion seems to be a factor which also enhanced its widespread acceptance. Over

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ISSN2198-7696, <http://www.environmentandsociety.org/exhibitions/silent-spring/legacy-rachel-carsons-silent-spring>

<sup>27</sup> Rachel Carson, *Silent Spring*, Fortieth Anniversary Edition (Boston & NY: Mariner Book & Houghton Mifflin Company, 2002), 218.

<sup>28</sup> Rachel Carson, *The Sense of Wonder* (NY: Harper Collins 1998), 56. (Originally published posthumously in a First Edition in 1965).

several years of research, I read many books on the themes explored early on by Carson, and the density of language and complexity in some acted as a barrier to my understanding and engagement. I wondered if her more conversational style, almost as though the author was speaking to the reader personally and directly, affected the longevity and very real, measurable impact of the research and work. It fascinates me that we rate impact in part through statistics of citations in academia, and yet the true impact of Carson's simpler, direct communication had an active and global reach and influence on people from many walks of life, which endures, decades on, to this day.

In addition to an emotional and passionate advocacy for nature, several cultural and literary references throughout Carson's book also help to make critical points and interconnections clear. In Chapter 6, *Earth's Green Mantle*, she describes the short-sighted impact of spraying to kill natural sage and replace it with planted grasslands, which had the double effect of poisoning the animals who fed on sage, thereby changing the ecosystem and finely balanced relationships between endemic native plants, insects and animals. For example, the evergreen sage provided winter grazing for deer, where the seasonal grass that had been planted as a substitute in its place did not.

Also in Chapter 6, Carson noted that one species does not exist in isolation, and that "The Earth's vegetation is part of a web of life."<sup>29</sup> Carson's descriptions frequently brought images and ideas into my mind, and I tested adding transparent drawings one on top of the other to create a web structure, and to form an interplay between marks from urban environments, juxtaposed with the shapes of natural vegetation. One of these initial test drawings from 2015 can be seen in Figure 9, and this drawing was scanned and integrated into the first of two films in the final year of my studies in 2017. Carson's writing adeptly merges a lyrical sensibility with an exact and journalistic sense of reporting, and so I sought to bring that combination and integrate a stronger duality into my drawings in some other visual ways.

The *Test Drawing* in Figure 9 was the first drawing where I also experimented with perforating the paper, by running a sewing machine needle over the surface without any

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<sup>29</sup> Rachel Carson, *Silent Spring*, Fortieth Anniversary Edition (Boston & NY: Mariner Book & Houghton Mifflin Company, 2002), 64.



thread, and this textured effect in the centre of the drawing reminded me of Carson's descriptions of chemical sprays, invisible but deadly in the air. The marks could also suggest carbon dioxide in the atmosphere, and this creative duality of past and present toxins worked effectively in the layered drawing construction, and so I extended it into a large-scale installation drawing for a group exhibition (discussed in Chapter Four). The shapes of the plants in Figure 9 are studies of endangered Australian seaweeds.

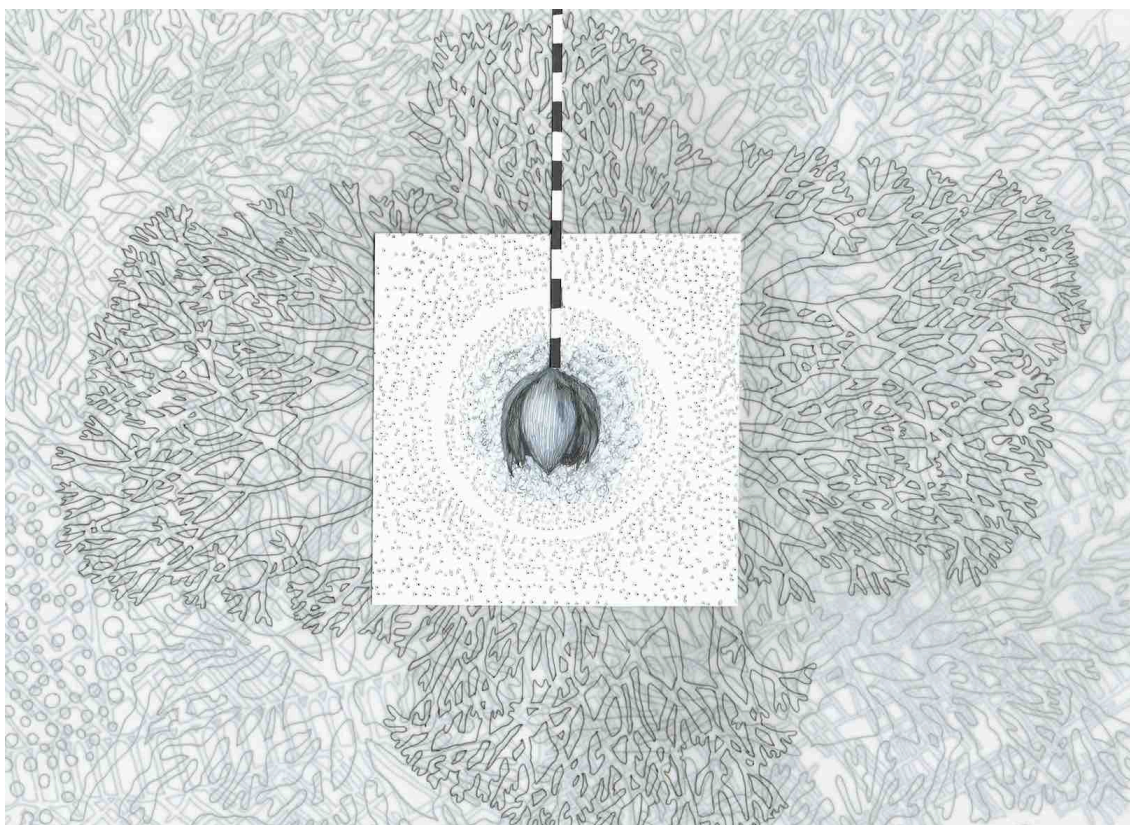


Figure 9. Emma Robertson, *Test Drawing* exploring layers, webs, and an interplay between urban environments and natural vegetation, 2015, mixed media, 30 x 42 cm.

Prior to the research in this thesis, I would have described my approach to creating artwork as predominantly visual. For many years, I had, however, integrated the words of poets into my drawings, and I frequently titled completed works with combinations of words from key poems which I often revisited. The work of Elizabeth Barrett Browning and e.e. cummings proved particularly inspirational, when I completed a series based on objects, relationships, memory and loss over a period of several years. During the research for this thesis my approach evolved and changed significantly, and I found myself considering more inherently structural devices such as layering, as a way to communicate metaphoric ideas, and this can also be seen in Figure 9.

In Chapter 11, *Beyond the Dream of the Borgias*, Carson described an analogy of the 1960s as being like the Renaissance era of the Borgia families who poisoned one another to assertively resolve their disputes. Her narrative and description of “the age of poisons” directly inspired the installation artwork by Mark Dion, *The Museum of Poison*, in 2000, showing the enduring influence of Carson’s book, thirty-eight years after its original publication.<sup>30</sup> In Chapter 17, titled *The Other Road*, Carson created a vivid visual picture in her description “We stand now where two roads diverge. But unlike the roads in Robert Frost’s familiar poem they are not equally fair.” She then extends the metaphor, “The road we have long been travelling is deceptively easy, a smooth superhighway on which we progress with great speed, but at its end lies disaster. The other fork of the road – the one less travelled by – offers our last, our only chance to reach a destination that assures the preservation of the earth.”<sup>31</sup>

The choice of which direction we consciously choose to take is emphasised throughout the book, and Carson carefully and systematically articulated the short sighted and irresponsible abuse of the environment that the widespread use of chemicals in the 1960s created. In finding and advocating for alternatives to their prolific and widespread use, Carson was ultimately successful in her “journey,” although she tragically died of cancer before she knew that the destination at the end of the “less travelled by” road had been reached.

Carson’s research not only directly influenced my artwork, but also the way I approached writing, and how I framed my research.<sup>32</sup> Carson’s eloquent and powerfully persuasive writing, in *Silent Spring* and other publications, gave me a hopeful sense that emphasising beauty and our own need to integrate ourselves with nature were valid perspectives. As can be seen by the positive and proactive outcomes which flowed from *Silent Spring*, including new laws and regulations, when people are persuaded that personal action and advocacy is necessary, change can happen.

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<sup>30</sup> Ibid., 173-184.

<sup>31</sup> Ibid., 277.

<sup>32</sup> In addition to her influence on my own artwork, and on Mark Dion in *The Museum of Poison*, the ongoing effects of Carson’s book were felt by several other artists including Alexis Rockman, who have acknowledged her direct impact on their artwork. Mark Stoll, “Silent Spring in Literature and the Arts,” Environment & Society Portal, last modified 2012, ISSN 2198-7696, <http://www.environmentandsociety.org/exhibitions/silent-spring/silent-spring-literature-and-arts>

*The Limits to Growth* by Donella Meadows, published in 1972, ten years after *Silent Spring*, had a similarly widespread influence. Meadows worked on sustainability issues throughout her life, from the book, to founding the first international ‘network of networks’ to address problems and challenges she and her co-researchers identified, which included environmental conservation and activism. Meadows published a weekly column ‘The Global Citizen’ up until her premature death in 2001. In her writings, she walked a careful line between challenging people to think and do more, and to not give up hope. Meadows reminded us that “A sustainable society...could be a world that has the time, the resources and the will to correct its mistakes, to innovate, to preserve the fertility of its planetary ecosystems. It could focus on mindfully increasing quality of life rather than on mindlessly expanding material consumption...”<sup>33</sup> As described by Meadows, the distinction of a *mindful* approach to increasing the quality of life of our planetary ecosystems, is pertinent and relevant to the interconnected themes of this thesis. The overarching question, “*What can I do, now?*” was implied not just by Meadows, and Carson before her, but by other authors described in this Chapter and thesis.

Climate change is a huge topic, and the scale of the challenge being faced by humankind as it struggles to comprehend and address global warming is enormous. It can be easy to feel fatigued by steadily worsening reports and predictions, but feeling helpless won’t solve or change anything, a proactive mindset communicated by many authors and artists who research in this rapidly evolving field. Going through negative emotions and anxious feelings myself in the initial research stages, I came to the view that I did not want my work to contribute to a potential disengagement in those I was seeking to touch. In 2001, in a posthumously published online essay written by Donella Meadows, she argued that “There is too much bad news to justify complacency. There is too much good news to justify despair.”<sup>34</sup>

In 1995, in her weekly newsletter Meadows proposed a definition of sustainability which is pertinent to the aims of this thesis: “I call the transformed world toward which we can

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<sup>33</sup> Donella Meadows, Jorgen Randers & Dennis Meadows, *Limits to Growth: The 30-Year Update* (Vermont US: Chelsea Green Publishing, 2004), 12.

<sup>34</sup> Donella Meadows, “The State of the Planet is Grim. Should We Give Up Hope?” *Grist Magazine, Inc.*, last modified April 20, 2001, <http://grist.org/article/out2/>

move “sustainable,” by which I mean a great deal more than a world that merely sustains itself unchanged.” She then added, “I mean a world that evolves, as life on earth has evolved for three billion years, towards ever greater diversity, elegance, beauty, self-awareness, interrelationship, and spiritual realization.”<sup>35</sup> This quote includes a number of themes in my research, and it is particularly interesting to see Meadows reference an evolution towards greater self-awareness, and mindfulness. Like Carson before her, Meadows further frames this in regards to beauty and interrelationships, and these also apply to several key discussions in this thesis, as set out in Chapter Three.

In the face of the complexity of climate change issues, the same implied “*What can I do, now?*” question has provoked my research, made me ask different questions, and required me to once again narrow my focus, but this time to fill various gaps and to strengthen some weak connections that I perceive exist in current art based research. One gap is my observation that there is a prevalent and increasing predisposition for a number of artists to produce work which risks alienating and dissuading their audience through the provocative use of disturbing and distressing images. Another gap is my observation that some artists use scientific statistics and natural history images in appropriations which can disregard their original context, thereby weakening and diminishing the importance of their integrity, source and content. Not just the plants, but also earlier artists who have studied plants deserve our respect and consideration. Both these gaps are critically discussed in Chapter Two.

In 2014 as I prepared my PhD proposal, it seemed as though everywhere I looked, new books were being published and new films were being produced on the topics of global warming and climate change. By 2016, the best-selling book in the Environmental Science category on the website Amazon was *The Sixth Extinction: An Unnatural History* by the journalist Elizabeth Kolbert, published in 2014. It won the 2015 Pulitzer Prize for General Non-Fiction writing. Kolbert presented compelling evidence from peer-reviewed science publications, which estimated flora and fauna loss by the end of this century to be between 20% to 50% of all living species on earth.

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<sup>35</sup> Donella Meadows, “Definition of Sustainability,” *Sustainability Leaders Network*, last modified 1995, <http://www.sustainabilityleadersnetwork.org/definition-of-sustainability/>

Kolbert described the evolution and interdisciplinary adoption of the Anthropocene, our epoch, where human activities have had a significant global impact on Earth's ecosystems, many of them irreversible and leading to species extinction. Our negative changes to our own environment, as she pointed out, will be read as a marker in the layers of geological time in the future. Kolbert's descriptions of observing layers of rocks marking previous periods of extinction, directly influenced several drawings I was working on, and one test piece, shown in Figure 10, has five "extinction" lines as strata underneath a repeated image of an endangered Australian seaweed.



Figure 10. Emma Robertson, *Test Drawing*, showing five strata layers in rock in the background, with an image of an endangered Australian seaweed in the foreground to represent the sixth layer, 2015, mixed media, 45 x 60 cm.

The sixth, final layer of geology in the drawing, is a plant at risk of extinction from our own time and epoch. Kolbert described using her finger to hook into and loosen a piece

of rock from a distinct layer of geological strata, and I visualised a timeline and sequence, where humankind becomes just a small line in the much bigger history of earth time. The book *The Sixth Extinction* also led me to research fossil plant images more closely, building on work started previously. Kolbert often conveyed a journalistic sense of a deeper context and story, and as I read her book I reconsidered what fossil fuels actually are – compressed trees, changed by time. Looking at pieces of coal, the branches and lines of the plants are often still visible, and they have an inert sense of being held by time in an altered state, and this idea inspired me.

Kolbert's style of writing was scientific and statistically grounded in fact, yet it was the intimacy of the stories she told which proved most memorable for me, such as the things she found happening, and observed changing, in her own backyard. Reading about Kolbert's dismay and increasing concern was a moving and motivating experience. Her mindful and deeply personal book changed my perspective, and led me to consider the more deliberate integration and inclusion of other aspects of my own life, such as mindfulness and meditation, which I had previously felt were unrelated to my research. Kolbert showed me that you can valorise personal experience while still retaining an objectivity, and that combination had a similar impact to the poetic style I admired in Carson's earlier writing.

Kolbert described throughout her book, how the boundaries of her own knowledge and understanding evolved and shifted as her research deepened, and I became interested in the idea of a more interdisciplinary approach, integrating science information and statistics, as a result. Kolbert explored in Chapter 8, *The Forest and the Trees*, how difficult it is for plants to adapt to climate change, due to their fixed mobility and inability to relocate to new areas in short, or even long time frames. This is predicted to be an ongoing issue in future species extinction. She described the complexities of ecological communities of species, and their nuanced interrelationships, where a disruptive change to an ecosystem has a waterfall or domino effect, with the extinction of one species impacting on another. I was particularly interested in Kolbert's overview of the use of species-area modelling to scientifically map relationships, and this had a direct influence on my artwork. The compositional arrangement of *The Archaeology of Absence*, exhibited in 2016, and *Living Fossils*, exhibited in 2017, both showed different aspects

of science based species-area modelling. These are illustrated and discussed in Chapter Four.

Kolbert extended this discussion further in Chapter 9, *Islands on Dry Land*, where she described the fragmentation of species which occurs when pockets of ecosystems are isolated from one another. More than 30 years ago in 1979, an experiment was established by Thomas Lovejoy, where pockets of land isolated by human clearing practices were studied, and the ecological changes progressively documented. According to Kolbert, “these days every wild place has, to one degree or another, been cut into and cut off. And this is what makes Lovejoy’s forest fragment experiment so important. With its square, completely unnatural outline, Reserve 1202 represents, increasingly, the shape of the world.”<sup>36</sup> Reading about the concept of fragmentation for the first time in Kolbert’s book, also influenced the compositions of several new pieces of work, in connection with the species-area modelling ideas, and this is discussed further in this thesis in Chapter Four. I had already moved away from the square and rectangular frames which were prevalent in my 2009 *Ascendant and Descendant* solo exhibition, and Kolbert’s descriptions of square, cut off, forest fragments motivated me to consider and explore natural systems and forms more deliberately and consciously.

In Chapter 10 of *The Sixth Extinction*, Kolbert describes The New Pangaea, and tells the story of a fungus, unintentionally introduced by humans on imported Japanese trees to North America in the early 1900s, which had a devastating impact on native American chestnut trees. By the 1940s in excess of 4 billion chestnut trees had died across that continent, with the fungus also subsequently spreading to Italy. Kolbert discusses the negative impact that travel and increased global trade are having on species that are being geographically redistributed, sometimes with devastating consequences for native species. Chapter 10 extends Kolbert’s idea, introduced in her book in Chapter 1, that invasive species, including weeds, are a mechanism of extinction unintentionally promoted by humans as natural barriers (such as vast oceans between continents and mountain ranges) are breached, and as their climates change.

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<sup>36</sup> Elizabeth Kolbert, *The Sixth Extinction* (New York: Picador, 2014), 175.

Pangaea was the massive continent that broke apart to form the continents we know today; in Kolbert's analysis, the new Pangaea is a world without natural impediment, whose climate is rapidly changing, and which sees invasive species, viruses and pathogens attack flora and fauna (including humans) alike. Following the devastation of American chestnut trees, in more recent times other plants such as ash, hemlock, elm and walnut have been similarly and negatively impacted in other countries. As Kolbert comments, "...we are, in effect, reassembling the world into one enormous supercontinent – what biologists sometimes refer to as the New Pangaea."<sup>37</sup> I found Kolbert's writing frequently suggested visual imagery, and inspired alternative compositional ideas, particularly regarding the wall installations I completed for the glass vitrines in the Fisher Library in 2017, and this is detailed in Chapter Four.

Kolbert's interpersonal communication style and call for action was used in a different way in another book published by Naomi Klein in the same year, 2014, *This Changes Everything: Capitalism vs The Climate*. At the same time as discussing many aspects of climate change, Klein also described the parallel and personal story of her attempts to have a child, and how she felt that the stress of her life, and living in polluted urban environments inhibited her fertility. In some ways, this was a small side story to her main discussion on the negative influence of capitalism on the environment, but the personal anguish she described resonated with me, and I found the book had a greater and more memorable influence on my work as a result. I felt at several stages over the last few years that learning more about climate change was too much for me, and I ultimately concluded that if Naomi Klein could continue to stand and be counted while juggling her own work-life balance, then so could I.

This book has won several awards and accolades, and has been well regarded in reviews, with the New York Times Book Review of Klein's publication also referring to Rachel Carson's writing, and describing *This Changes Everything* as "...the most momentous environmental book since '*Silent Spring*.'"<sup>38</sup> I found it rigorously researched and well written, if a little overwhelming and sometimes fragmented in its scope. The website

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<sup>37</sup> Ibid., 208.

<sup>38</sup> As quoted in the website, source cited as *New York Times Book Review*, Naomi Klein, "This Changes Everything," last modified 2017, <https://thischangeseverything.org/book/>



that supports the book came afterwards, and it is also a well-designed resource. Subsequent to this, the documentary that flowed from the book and website was released in 2015. The film and the website for *This Changes Everything* do something that the book does not, which is to focus on the many positive initiatives taking place in communities around the world, and these include some art-based practices. For this reason, the website was more visually engaging and contextually useful to this research in its initial stages, than the book itself. The website and film left me feeling more optimistic, overall.

According to its publicity, “Unlike many works about the climate crisis, this is not a film that tries to scare the audience into action: it aims to empower.”<sup>39</sup> It went on to comment that the film was “accessible to even the most climate-fatigued viewers” and as a result of interacting with Klein’s work across multiple platforms, I started to reconsider my own responses, specifically at the end of the first year of my research when I had started to feel a sense of oppression and hopelessness.<sup>40</sup> At one point at the end of that first year, I deliberately stopped reading for a month, and went back into the studio, to try to relieve the sense of depression I felt after surveying a considerable number of books and articles on the negative impacts of climate change and global warming. My need to retreat from the overwhelming doomsday statistics is not an unusual response; Klein analyses and describes her own experience in a particularly interesting section of the book.

Klein assertively sets out several common human responses to climate change: we look away and avoid thinking about it because it makes us uncomfortable; we psychologically and selectively deny its impact; and we choose to: “Remember and then forget again. Climate change is like that,” Klein writes, “it’s hard to keep it in your head for very long. We engage in this odd form of on-again-off-again ecological amnesia for perfectly rational reasons. We deny because we fear that letting in the full reality of this crisis will change everything. And we are right.”<sup>41</sup>

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<sup>39</sup> Naomi Klein, “This Changes Everything – The Film - About,” last modified 2017, <https://thefilm.thischangeeverything.org/about/>

<sup>40</sup> Ibid.

<sup>41</sup> Naomi Klein, *This Changes Everything: Capitalism vs. The Climate* (New York: Simon & Schuster, 2014), 4.

In her own footnotes to this section Klein added further information to extend her discussion of why some people seem to side step and avoid thinking about climate change, and she suggested further readings in three additional publications connected to denial, and related to relevant sociological and psychological perspectives. This provoked both my own curiosity and also influenced my personal choices and actions. For more than two years after reading Klein's book and website, in parallel to my artistic process I challenged myself to change what I personally could control. I reduced my wardrobe by more than half by donating to charity; I recycled, reused and repurposed many personal items; I bought nothing new, and I carried my recycled water bottle wherever I went. I have never owned a mobile phone, firewalling my own emotional responses and predisposition to anguish and anxiety in response to 24-hour-news-feeds, and some superficial social media. As a result of deeper reading, and Klein's book in particular, I started to more carefully and closely consider what we culturally pay attention to – and why.<sup>42</sup>

Psychologist and Professor, Daniel Gilbert from Harvard University, earlier argued that climate change is not perceived as a real human threat, because it is not “intentional, immoral, imminent and instantaneous.”<sup>43</sup> This is mirrored in Klein's later writing and research - since climate change does not threaten our immediate well-being, we allow ourselves to avoid thinking about it, deny its impact, and conveniently forget our own responsibilities. I could see that climate change was an unfortunate by-product of human influence, and not a deliberate, immoral affront, but the research of Gilbert, Klein and others suggests that this knowledge inhibits, and does not enhance our ability to act and make positive protests. While I realised in reading Klein's book that I did not want to focus on capitalism and its impact on global warming, conversely I recognised

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<sup>42</sup> This is echoed in another publication, as Professor of Cultural Theory, Malcom Miles went through a similar process of personal reduction, and wrote about the simplification of his life and global footprint in his 2014 book *Eco-Aesthetics: Art, Literature and Architecture in a Period of Climate Change*. He quotes sociologist John Holloway, who wrote, “...there is no pre-existing capitalism, there is only the capitalism that we make today, or do not make. And we choose not to make it. Our struggle is to open every moment and fill it with an activity that does not contribute to the reproduction of capital. Stop making capitalism and do something else, something sensible, something beautiful and enjoyable. Stop creating the system that is destroying us. We live only once; why use our time to destroy our own existence? Surely we can do something better with our lives.” Malcolm Miles, *Art, Literature and Architecture in a Period of Climate Change* (London & New York: Bloomsbury Academic, 2014), 7.

<sup>43</sup> Daniel Gilbert, “It's the End of the World as We Know It, and I Feel Fine,” *Harvard Thinks Big*, last modified, March 1, 2011, <https://news.harvard.edu/gazette/story/2011/03/harvard-thinks-big-its-the-end-of-the-world-as-we-know-it-and-i-feel-fine-daniel-gilbert/>

that the depression I felt when I finished her book needed some sort of antidote and deeper personal engagement from me, and this insight proved very useful to the direction my research then took, and this is expanded in Chapters Three and Four.

Later in *This Changes Everything*, Klein comments that climate change is not just an “issue” that we should worry about. “It is a civilizational wake-up call. A powerful message – spoken in the language of fires, floods, droughts, and extinctions – telling us that we need an entirely new economic model and a new way of sharing this planet. Telling us that we need to evolve.”<sup>44</sup> I assert that the needed evolution could partly come from a more mindful reconnection with nature, and that art that explores the language of beauty, together with the language of plants, may help us to perhaps reconsider some of our intentions and review our perspectives, and this is discussed further in Chapters Two and Three.

### **Other Publications**

The writing of Carson, Meadows, Kolbert and Klein promoted a solo narrative, and clearly individual perspectives, and all four authors brought aspects of investigative journalism to their books and articles. Some other publications which focus on ecology and the environment from an artistic perspective have taken a more collective and collaborative approach. In 1992 the book *Art for Survival* highlighted the work of global artists who were involved in issues of sustainability.<sup>45</sup> It was one of several such initiatives, which represented a collective change to the approach taken by artists and designers, when engaging with issues such as the impact of climate change. The publication coincided with the first Earth Summit, and was accompanied by an exhibition sponsored by the United Nations Environmental Protection Program, which focused specifically on environmental themes. As such, it was one of the first of what became known as ‘ecobooks’. It left a strong impression on me at the time, as I had started to question my own purpose and career as an artist and designer. This indirectly led to a much more active involvement in the theme of sustainability in my ongoing art practice, and a renewed focus on endangered plant species. When I revisited the book itself,

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<sup>44</sup> Naomi Klein, *This Changes Everything: Capitalism vs. The Climate* (New York: Simon & Schuster, 2014), 25.

<sup>45</sup> Martin Pederson, *Art for Survival* (USA: UNEP Agency, Graphis Inc., 1992).

however, I realised that it is very visually based, and does not critique or contextualise the use of the images it includes, although they are organised across general sub themes which helps clarify the content, overall. In most cases the images included in books show the artwork at a much smaller than life size scale, so it seems important to actively consider ways that the text can enhance the narrative, since the work itself is visually diminished.

It is somewhat surprising that twenty years later this more generalist approach continues to inform some more recent publications, such as *To Life! Eco Art in Pursuit of a Sustainable Planet*, (2012) by Linda Weintraub, where the format is black and white with no colour. This book features the work of 47 artists, categorised into the 20<sup>th</sup> and 21<sup>st</sup> centuries.<sup>46</sup> Of these, 4 are listed as being partnerships or collaborations, and each artist gets approximately five pages allocated to discussions of their work. The book may have benefitted from some attempts to cross-compare or critically discuss and recontextualise the many different approaches. As eleven quite different art mediums are included, the result is a sometimes confusing series of unrelated artistic expressions, not only on climate change responses, but also relating to the even wider 'eco-art' theme. As with some of Klein's book, the scope is overwhelming, and rather than inspiring a feeling of wanting to do something, for me at least, it achieved the opposite, and I was left with the impression of a confused and curiously unemotional visual communication in the *To Life!* book as a whole.

The Natural World Museum published a book in 2007, *Art in Action: Nature, Creativity and Our Collective Future*, including the work of 79 artists across five sub categories, Celebrate, Reflect, Interact, Protect and Act. Of those 79 artists, just 7 listed are partnerships or collaborations, which, together with *To Life!* suggests that many artists tend to see their practice as a solo endeavour. Like *To Life!*, the scope of the book is wide ranging, and it seems more reminiscent of a website where many artists are listed as sources, rather than within a critically discussed overview. In her Afterword essay, Mia Hanak, Founding Executive Director of the Natural World Museum, observes that these

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<sup>46</sup> Linda Weintraub, *To Life: Eco Art in Pursuit of a Sustainable Planet* (Berkeley, CA: University of California Press, 2012).

works “...range from glorifications of nature to political critiques to explorations of contemporary issues such as pollution, endangered species, global warming or sustainable energy.”<sup>47</sup> This book was useful in that it suggested contacts and avenues for further research, but the brevity of the discussion of each artist and their work precluded any sense of the critical dialogue that the book claimed to be initiating. There seems to be an odd divide between books that are predominantly visual, like *To Life!*, and *Art in Action*, and those like Carson, Meadows, Kolbert and Klein’s narratives, which have few images at all. In some ways this puzzles me, since Klein’s main method of promoting her book is through a highly visual and interactive website, that includes video illustrations of what she verbally describes in her book.

Both Kolbert and Klein’s writing was clear and informative, while their integration of personal experience and stories enhanced their arguments with honesty and insight. By contrast, I personally found the writings of new materialism exponent Timothy Morton, touted as a major voice in issues of the Anthropocene, less illuminating. I was bemused by some of the polarised opinions generated by his books, such as *Ecology Without Nature* (2007), *The Ecological Thought* (2010), *Hyperobjects* (2013) and *Dark Ecology* (2016). Where both Kolbert and Klein’s writing was inclusive in its use of language, I found aspects of Morton’s writing hard to grasp and difficult to understand. Reading well-structured thoughts on important issues can lead individuals to actions which can change situations, something I have personally experienced as a result of my immersion in climate change writing and research. To begin with, Morton’s language and style position his writing as apparently intended for a more limited, academic readership rather than for a broader public; he does not appear interested in the lucid and motivational rhetoric that has assured the longevity and impact of *Silent Spring*.

Second, Morton’s claims of original and new perspectives sounded oddly familiar, such as the idea that we should not consider ourselves apart or separate from nature. The Deep Ecology philosophy (as described in Rachel Carson’s 1962 book *Silent Spring*) which promotes the idea of the inherent worth of living things irrespective of their use to humans, and Biophilia, the importance of nature to the health of human beings (which

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<sup>47</sup> Mia Hanak, “Act: Afterword,” *Art in Action: Nature, Creativity and Our Collective Future*, by the editors of Natural World Museum (San Rafael: Earth Aware Editions, 2007), 171.

was promoted by Edward Wilson in a book of the same name in 1984), both predate by decades, Morton's self-professed new ideas and philosophical writings. Scottish based artist Andy Goldsworthy put the ideas inherent in the theories of both Deep Ecology and Biophilia more elegantly than Morton's recent writing, when Goldsworthy said that "We often forget that we are nature. Nature is not something separate from us. So when we say that we have lost our connection with nature, we've lost our connection to ourselves."<sup>48</sup> As theories, Deep Ecology and Biophilia are both well described and clearly articulated in most of the literature surveyed. *To Life!* and *Art in Action* both have value as reference sources, and clearly communicate the diversity of work artists in many countries are investigating in both these fields. Carson, Meadows, Kolbert, and Klein all articulate readily understood and important perspectives on ecology. Morton appears to claim originality in conceptually describing all living things as being part of a mesh, yet how is that distinct from Carson's web of life? The experience of trying to understand what it was about Morton's writing that has attracted a large global audience, brought me to read the critical analysis of Elizabeth Boulton, who wrote that Morton's book "...*Hyperobjects* portrays mostly nature's ugly aspects – environmental degradation and global warming – and the equally valid truth of nature's beauty is denied."<sup>49</sup> Reading Boulton's constructive and clear critique of Morton, reinforced something that I had observed emerging in my own research outcomes, the need for a respite from confronting and 'ugly aspects' which left me feeling desolate and hopeless. Boulton, from my perspective, described an important point when she wrote that nature's beauty is equally valid. A further positive aspect of exploring Morton's various writing was that I became clearer about what I did not want my work to become, and in this sense, like my earlier reaction to Klein's book, this knowledge ultimately proved useful in a way that I could directly apply into my art practice, and this is discussed further in Chapter Four.<sup>50</sup>

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<sup>48</sup> Andy Goldsworthy, "Sacred Ecology," last modified 2017, <http://sacredecology.com/andygoldsworthy/>

<sup>49</sup> Elizabeth Boulton, "Climate change as a 'hyperobject': a critical review of Timothy Morton's reframing narrative," *Wiley Online Library*, last modified June 3, 2016, *WIREs Climate Change*, 7: 772–785, doi:10.1002/wcc.410, <http://onlinelibrary.wiley.com/doi/10.1002/wcc.410/abstract>

<sup>50</sup> As part of my survey of Morton's work, I comprehensively explored both his writing and his video recorded lectures. Additionally, I assessed the Dark Ecology (2014-2016) website, a record of a three-year long project by artists exploring aspects of Morton's writing, and observed that it had a different focus and artistic outcomes to the research undertaken in this thesis. As a result, the discussion of Morton's work has been restricted to ensure the narrative is kept clear and sequential.

## Exhibitions and Films

In recent years, many artists have worked individually and collaboratively on climate change and sustainability issues. My research outcomes use both individual and collaborative approaches, and the creative component sits between several fields of endeavour – site specific larger scale three dimensional installations, drawings, artist's books, and film. This research seeks to create a meaningful bridge between artistic practice and mindfulness. It also seeks to co-create responses using scientific research, including natural history. This combination of science and art has recently led to an integration of current climate change models and recent environmental statistics by some artists directly into their work. This will be critically analysed and discussed further in Chapter Two.

What then is the context and theory that this research positions itself in, in respect to art exhibitions which use transmedia approaches, and other tools as part of their communication?<sup>51</sup> What has been successful, what has not, and how will my research fill defined gaps with knowledge that can potentially influence a wider and more positively framed, less daunting and depressing discussion? Researcher and artist Dr Lisa Roberts comments about the importance of the collaborative practices described in initiatives deployed on the *Living Data* website, saying "This practice exemplifies the shift towards collective knowledge production that is essential to advance understanding of climate change."<sup>52</sup> *Living Data* shows that interesting themes using data can be usefully generated and specifically applied to promote knowledge of global warming. Several of the recent international art exhibitions on climate change themes have taken a collective view, rather than being specific to a deeper understanding of particular issues, such as, for example, endangered plant species. This has been commented on by critics like Ken Johnson who wrote about the 2013 *Dark Optimism*, MoMA, (as part of *Expo 1: New York*), and John McDonald who critically reviewed the 2010 *In the Balance: Art for a Changing World*, MCA, Sydney exhibition.<sup>53</sup> Both critics suggested that there were significant challenges in creating art that can move people

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<sup>51</sup> Transmedia Art is defined and discussed in Chapter Two.

<sup>52</sup> Lisa Roberts, "Living data: how art helps us all understand climate change," last modified February 5, 2015, <https://theconversation.com/living-data-how-art-helps-us-all-understand-climate-change-36890>

<sup>53</sup> MOMA New York, "Expo 1: New York," last modified 2013, <http://www.momaps1.org/expo1/module/dark-optimism/>

with its message, if the messages are too generic, and if groups of individual artists are arbitrarily grouped together. Added to this, Johnson bluntly questioned the carbon footprint created by the installation of some works, and he expressed his concern that “the exhibition casts too wide a net and offers too many different and contradictory perspectives for anyone to find in it support for any single earth-saving program.”<sup>54</sup> Johnson was particularly dismissive of one installation work, *Rain Room*, by Random International (2012), observing that visitors waiting in line to experience it “may wonder what it contributes to deep thinking about ecological issues,” adding that it “for all its entertaining ingenuity, seems little more than a gimmicky diversion.”<sup>55</sup> These comments express an interesting perspective on the importance of the artist’s honest reflection and review of completed works, and their way of being reframed by different situations.

McDonald’s 2010 review of the MCA exhibition *In the Balance: Art for a Changing World* also criticised the fragmented and broad range of issues explored in the exhibition, as well as the ability of many of the images to provoke a response when he viewed them. He said that he did not argue with “protecting the forests, saving the Murray, ending drift net fishing, making corporate criminals accountable for their actions, preserving indigenous lands or heritage, or encouraging better practices for waste management and recycling.”<sup>56</sup> He asserted that many of the works were more from the “realm of ideology, not art,” and that some works were not, (in his opinion) successful on their own, and without the added benefit of the explanatory texts the MCA had provided beside the works. I found this comment thought provoking, and I was reminded of it when a fellow student and I discussed whether a short film I had made should include a title, or stand alone as an image in the same way a static drawing would. There is a convention for titles being used in a more overt way on artists’ films, and I had to assess whether this detracted from, or added to, the presentation of my work. McDonald might be disappointed to see that I ultimately included a title, and simple context, for both my films in their Vimeo listings online, although I avoided a further statement and summary, which I deemed didactic and unnecessary.

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<sup>54</sup> Ken Johnson, “The Natural World: Here, It’s Had Work,” *The New York Times*, last modified May 30, 2013, <http://www.nytimes.com/2013/05/31/arts/design/expo-1-new-york-at-moma-ps1-and-other-sites.html>

<sup>55</sup> Ibid.

<sup>56</sup> John McDonald, “In the Balance,” *The Sydney Morning Herald*, last modified October 2, 2010, <http://johnmcdonald.net.au/2010/in-the-balance/>



A third, later exhibition *Artists 4 Paris 2015* seemed to follow the pattern of multiple and diverse artworks, with selected artists represented from around the globe, all with different stories and messages, in different media and forms. An additional positive aspect of the *Artists 4 Paris 2015* exhibition was that the money from the artworks sold was used to action sustainable initiatives in countries around the world.

It shares its scope with the *Art + Climate = Change 2015*; a collaboration in Melbourne, hosted by CLIMARTE in May 2015, and again two years later in April/May with *Art + Climate = Change 2017*.<sup>57</sup> Described as being a Festival, it had a multifaceted program of exhibitions, presentations, lectures, public debates, mainstream press and website articles. In the first year of my research I read the descriptions and reviews of a considerable number of exhibitions, and I started to feel jaded and cynical about some of the claims and generalisations I read and observed, with some implying that they could achieve behavioural change in audiences. CLIMARTE was distinct from some of these, and I felt that their simpler and concise statement of aims was both realistic and achievable. In the *Art + Climate – Change 2017* website they described in summary that: “Art can show us where we have been, where we are now, and where we might go. Art can be a call to action. Art can be a catalyst for change.”<sup>58</sup> I am cautious about being overly critical about the collective corralling of artists in groups to respond to the climate change agenda, and I feel it is important for artists to be able to identify which aspect of the large and overwhelmingly complex issue of global warming their art addresses and explores. Overall, it could be argued that it is more important to do something rather than sit back and do nothing, and collective exhibitions and festivals of art do generally seem to get good press coverage and good levels of public engagement. They are, however, sometimes fixed in a moment of time, and have variable rates of longevity and lasting impact, and this is something I would like to address in the future execution of my research, and in my ongoing documentation and dissemination of it when the PhD study is concluded.

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<sup>57</sup> The artwork of David Buckland and Manabu Ikeda was exhibited in *Artists + Climate = Change 2015* and their outcomes are discussed in the context of Chapter Two. The more recent *Artists + Climate = Change 2017* attracted an audience of more than 180,000 who collectively visited 30 exhibitions and 40 public programs in Victoria. The work of 255 artists was included in the festival. These figures come from an email summary received from CLIMARTE on September 6, 2017.

<sup>58</sup> CLIMARTE, “Art + Climate = Change 2017,” *Home Page*, last modified 2017, <https://www.artclimatechange.org>

One specific example of the sometimes confusing and arbitrary inclusion of artwork is in the *Rethink* group exhibition in 2009, where a piece of sculpture by Cornelia Parker was repurposed and placed instead into a climate change context. Her artwork *Heart of Darkness* was, she admitted, actually about something else entirely, and the journalist Madeleine Bunting featured this as a key point in her constructively critical review, *The Rise of Climate-Change Art*, published in *The Guardian* newspaper. Bunting also posed two direct questions in her subtitle, “Artists are waking up to climate change. But what good can they do – and how green is their work?”<sup>59</sup>

In the research I have undertaken and conducted to date, most recent art exhibitions with climate change issues as their theme seem to have grouped together quite disparate artists and their work in an eclectic and sometimes confusing, almost arbitrary way. An alternative approach might be thematic groupings where specific issues are explored in greater depth, such as a series of exhibitions at international botanic gardens around the world, in a particular month, where the escalating issue of endangered plant species is focussed on and explored. This concept might provide a more holistic and better, perhaps deeper platform for discussion and understanding of the issues and global scale of the problem of at risk species. Too much breadth under the Eco Art banner can potentially dilute the impact, particularly if work is conveniently included which is misrepresented, as in the case of Parker.

Another aspect of some of these exhibitions is that they can generate a sense of fear and disengagement, and potentially leave audiences feeling discouraged and disheartened. The *Cape Farewell* project described the 2009-2010 exhibition *Earth: Art of a Changing World* at The Royal Academy of Arts in London as exploring a multiplicity of perspectives, and stated that, “Other works confronted the viewer with the consequences of human behaviour through natural disasters and physical collapse, counterpoising the beauty of the planet with the damage that is being inflicted on it.”<sup>60</sup>

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<sup>59</sup> Madeleine Bunting, “The Rise of Climate Change Art,” *The Guardian*, last modified December 3, 2009, <https://www.theguardian.com/artanddesign/2009/dec/02/climate-change-art-earth-rethink>

<sup>60</sup> Author unknown, “Earth: Art of a Changing World,” *Cape Farewell*, last modified date unrecorded, date of access August 30, 2017, <http://www.capefarewell.com/art/past-projects/earth-art-of-a-changing-world.html>

This same exhibition was evaluated in another article, which commented on the broad diversity of artworks, saying that “No doubt such a range is to be expected, indeed to be desired, but in looking at these climate related artworks, what becomes clear is that much of it is somewhat detached from the rather more pertinent, local and immediate concerns. This can have the unfortunate consequence of locating climate change, in the public’s mind, in a remote, timeless and distant environment, resulting in a lack of personal responsibility.”<sup>61</sup>

Overcoming lethargy and the capacity of the individual to realise the impact of their actions is a key concern, as are the specific public responses to particular types of representation. The results of the research suggest there needs to be a balance struck in communicating scientific knowledge, while avoiding sensationalism and a simplification of the science. It is possible that fine art may sit uncomfortably, perhaps necessarily so, within the nexus of these demands and may therefore provide an alternative, critical, and creative stimulus towards communication and attitudinal change. Interactions between the arts and sciences have the potential to produce entirely new forms of visual imagery and understanding that may help us make headway through the uncertainties of climate change.

During the three years of this PhD study, I continued to teach and develop a large Master of Design course called Entrepreneurship, Innovation and Creativity at UNSW. Some of the readings I set for that course are also relevant to this research, and author and ideas researcher Steven Johnson said in his 2010 book that, “The adjacent possible is a kind of shadow future, hovering on the edges of the present state of things, a map of all the ways in which the present can reinvent itself.”<sup>62</sup> This in part describes how I feel about the issue of endangered plants and climate change, as I have explored the “adjacent” possibilities and alternative ideas that have gradually emerged in my work. Johnson’s quote also relates to our ability to explore alternative ways of using art to communicate in perhaps more systematic and deliberately pre-planned ways. Working not just with

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<sup>61</sup> Julian Ruddock, “SciArt, The confluence of art and science in conveying the uncertainties of climate change,” *Art Science Climate Change*, last modified December 4, 2012, <http://cargocollective.com/artscienceclimatechange/SciArt-The-confluence-of-art-and-science-in-conveying-the-uncertainty>

<sup>62</sup> Steven Johnson, *Where Good Ideas Come From: The Seven Patterns of Innovation* (London: Penguin, 2010), 31.

curators and other artists, but also with journalists, scientists and others might provoke more positive actions and responses, and this point is reiterated and demonstrated with specific examples in Chapter Two.

This chapter has described the work of four environmental writers, followed by an overview of some other recent publications which explore Eco Art. It then discussed some different exhibitions related to climate change issues, and relevant to this are a number of films which have transitioned some artistic approaches in transmedia ways. The *Cape Farewell* project was initiated by an artist, David Buckland in 2001, to promote discussion and action on the impacts of climate change by exploring cultural responses. Like the later 2006 film *An Inconvenient Truth*, it also took a transmedia approach, with expeditions to the Arctic (pairing artists with scientists), exhibitions, a book titled *Burning Ice*, a UN award winning website, a film, an events program and so on. Selected content from *Cape Farewell* is now being formally used in high school curriculum subjects in geography and science in the UK. It achieved real and lasting change, which can be evaluated and measured.

This multidimensional approach was also used in the 2006 documentary *An Inconvenient Truth*, where former US Vice President Al Gore was persuaded to tell the story of his “travelling slideshow,” but on a much bigger scale. The documentary and subsequent book and training programs did what his solo slideshow could not – promote active global change and enhance further education. This ultimately led to *The Climate Reality Project*, a multifaceted transmedia approach, which includes the work of people in the arts, to bring about real and lasting change. An example of the public impact the original documentary film had around the world was detailed in a 47 country Internet survey conducted by Oxford University and The Nielsen Company. The survey polled 26,486 people, and the report said, in part that, “66% of those respondents who said they had seen *An Inconvenient Truth* stated that it had “changed their mind” about global warming and 89% said it had made them more aware of the problem. Three out of four (74%) said they had changed some of their habits because of seeing the film.”<sup>63</sup> This

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<sup>63</sup> I read and noted the original report that this quote comes from in the first year of my research in 2015, through a now inactive link, so this is not included in the Bibliography:  
[http://nz.nielsen.com/news/GlobalWarming\\_Jul07.shtml](http://nz.nielsen.com/news/GlobalWarming_Jul07.shtml)

significant statistic seems to suggest that people actively engaged with the content of the documentary, and Max Boykoff, James Martin Fellow at the University of Oxford commented further on the survey report when he said “*An Inconvenient Truth* has pushed Al Gore and the message of concern for climate change up the public agenda. This has been combined with UN scientific reports and the Stern Review as well as increased media coverage over the last months to shift the focus for many people from whether there is a problem to what to do about it.”<sup>64</sup> More personally, it was after seeing *An Inconvenient Truth* in 2006 that I became determined to work more directly with endangered plants, and the influence of the film subsequently led to my Artist in Residence application to the Royal Botanic Gardens.

Not all films take the documentary approach seen in *An Inconvenient Truth*. The 2009 film *Age of Stupid* was a drama-documentary-animation hybrid which showed a man living alone in the devastated world of 2055, watching archival footage from the mid-to-late 2000s and asking “Why didn't we stop climate change when we had the chance?” The makers of *The Age of Stupid* were among the first to use the [crowdfunding](#) model and pioneered a new distribution system, called Indie Screenings, which allowed people to hold a screening of the film and keep the profits for themselves. One of the most interesting aspects of this film from my perspective is the constructive criticism it generated, including comments about the systemic nature of the problem of global warming, in Steven G. Brant’s piece for *The Huffington Post*.

While acknowledging that the filmmakers’ intentions were good, Brant asserted that he did not believe climate change was going to be stopped by “brow beating the other side into seeing things their way.” He added, “Global warming is going to be ended by something that’s never been part of the mainstream stop global warming movement’s strategy for change. It’s going to be ended when the focus becomes not *What do we want to stop?* But *What do we want to start?* instead. And what do we want to start? A

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<sup>64</sup> A further summary on the now inactive 2015 report link mentioned in footnote 59 can be found at, Environmental Change Institute, University of Oxford, “News Release,” last modified July 2, 2015, [http://www.nielsen.com/content/dam/nielsen/en\\_us/documents/pdf/Press%20Releases/2007/July/Global%20Consumers%20Vote%20Al%20Gore,%20Oprah%20Winfrey%20and%20Kofi%20Annan%20Most%20Influential%20to%20Champion%20Global%20Warming%20Cause%20Nielsen%20Survey.pdf](http://www.nielsen.com/content/dam/nielsen/en_us/documents/pdf/Press%20Releases/2007/July/Global%20Consumers%20Vote%20Al%20Gore,%20Oprah%20Winfrey%20and%20Kofi%20Annan%20Most%20Influential%20to%20Champion%20Global%20Warming%20Cause%20Nielsen%20Survey.pdf)

*Cultural Transformation.*<sup>65</sup> Although the film itself has a negative “end of the world” theme, the *10:10 It’s Happening* website that the film creators retrospectively developed, is a good example of more positive stories of change, and in that way, it can be compared to Klein’s more recent 2014 *This Changes Everything* book, website and subsequent documentary film.

One of the things that interests me about both *An Inconvenient Truth* and the *Cape Farewell* project is that neither of them were deliberately designed as transmedia projects in their initial concept – they evolved iteratively into that communication style. Over the last year there has been increasing discussion about how Transmedia Storytelling can be actively designed into projects at their inception to enhance their success in an already information rich, sometimes screen-blinded world, and my academic research into this featured in a module in an international, free course. As previously mentioned, Klein’s book *This Changes Everything* is positioned alongside a very well designed and interactive website, and it used the website as a tool to gather information and stories for the documentary. In this way, the book is the starting point of a journey, and it is used as an initial mechanism to progress further change in a more active way, and as part of a bigger movement. The influence of this analysis is that I became clearer about my own desire to have divergent and multiple outcomes, in different and sometimes non-traditional transmedia settings, using my artwork.

In constructing Chapter One I often thought of the ‘tip of the iceberg’ analogy. The reviews I have selected and included here represent a small proportion of a more diverse field of literature, and at times I felt overwhelmed by the large and increasing numbers of pertinent publications that relate in one way or another to art and climate change. I retained those readings that impacted on the actual making of my art work, and this is explored further in Chapter Four. Later in this thesis, Chapter Three discusses relevant recent research into mindsight, mindfulness and emotional resonance through beauty in greater depth, and two books which proved important in the final year of my practice-based research are discussed within that context.

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<sup>65</sup> Italics are Brant’s emphasis – he is a self-described social system scientist. Steven G. Brant “The Brilliance (and Stupidity) of The Age of Stupid,” *Huffington Post*, last modified May 25, 2011, [http://www.huffingtonpost.com/steven-g-brant/the-brilliance-and-stupid\\_b\\_295518.html](http://www.huffingtonpost.com/steven-g-brant/the-brilliance-and-stupid_b_295518.html)

## CHAPTER TWO: Other Artists

One of the reasons why we got The Arts for The Earth going was specifically to try and communicate not just the awful despair about collapsing ecosystems but also to remind people of the power of that joyful relationship which is such an important part...it isn't by forcing things onto people, it is by this lateral approach, very often evocative rather than didactic, that you can make such powerful messages available to people.<sup>66</sup>

Chapter Two begins by defining Eco Art and Transmedia Art, and clarifying the differences between Land Art, Earthworks, Environmental Art, and SciArt. It then explores and critically assesses the work of selected artists who investigate themes relating to climate change, with a specific focus on plants, drawings and hand drawn moving images. Some of the current concepts being explored by such artists are outlined, including the use of scientific statistics and diagrams relating to global warming, which can provoke responses in regards to nature and endangered environments. The chapter also critically appraises the (sometimes confusing) appropriations of scientific illustrations and drawings of plants by certain contemporary artists.

In relation to Jonathon Porritt's comments in the quote above, the selection of artwork for discussion in this chapter was guided more by its inherent power to persuade, inspire, and influence, rather than its capacity to forcefully lecture and communicate "awful despair." The rationale for selecting these works is further described in Chapters Three and Four, which also consider the perceived need for an antidote to anxiety, and artistic explorations of the visual aesthetics of beauty. Through the application of more inherently mindful perspectives that enhance biophilia, and the conscious creation of artworks which potentially generate a more positive response to aspects of ecopsychology, artists can offer alternatives to assuage further ecoanxiety.<sup>67</sup>

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<sup>66</sup> Jonathon Porritt, Founder & Director of Forum for the Future and Past Director, Friends of the Earth, in *Mapping the Terrain of Contemporary Eco Art Practice and Collaboration, Art in Ecology – A Think Tank on Arts and Sustainability, A Research Report* by Beth Carruthers for the Canadian Commission for UNESCO, Vancouver, British Columbia, last modified April 27, 2006,

<http://unesco.ca/~media/pdf/unesco/bethcarruthersartinecologyresearchreportenglish.pdf>

<sup>67</sup> Ecopsychology and ecoanxiety are variously spelt with and without a hyphen. For the purposes of this thesis, the versions without hyphens are consistently used. Since 2005 the term solastalgia also appears in some literature, but as ecoanxiety is the more broadly understood term, for clarity ecoanxiety has been selected and applied throughout the thesis.

My rationale for choosing these artists was to explore and examine contemporary drawing works through the lens of ecology, and to also consider and assess the different ways they conveyed ideas, including through transmedia techniques and practices. This discussion starts with two, now well-known early environmental Eco Art works by Peter Dombrovskis, and Christo. Although neither of the works are drawings, both could be considered early examples of Transmedia Art, since the images were broadly disseminated across multiple platforms, including popular media, at the time of their creation. For this reason, they are included, and their widespread impact is described.<sup>68</sup>

This chapter then considers different drawing approaches to the impact of environmental degradation on plants. It describes a series of contemporary drawings created in the 1980s by Gunter Brus and Arnulf Rainer, which appropriated multiple 19<sup>th</sup> century science based botanical nature prints in an oddly disrespectful way. Those two artists drew over the top of the original images of the plants without appropriate regard to the work of the original artists or the flora, and thereby diminished the inherent beauty and value of the plant images. The Chapter then continues with a discussion of two contemporary Australian artists, John Wolseley and Judy Watson, both of whom use drawings as a primary technique in their artistic practice, and who have worked with plants, and themes of endangered species and nature. This is followed by a discussion of the environmentally driven artwork of Cornelia Hesse-Honegger, who is a scientist by training. Her observational and interpretative artwork shows drawings of insects and plants affected by nuclear reactor leaks, and these outcomes were lauded by artistic communities, but surprisingly criticised by some scientists. Both Hesse-Honegger and the artist Michael Landy actively use scientific illustration and botanical methods in their artwork, and a series of drawings by Landy are then discussed in this context.

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<sup>68</sup> It is worth noting that in the initial stages of research a considerable number of artists who work with imagery relating to climate change were considered for inclusion. Some of these, such as Janet Laurence, work with plants and Eco Art, but not with drawing as their primary focus. As such, in the final stages of the research the thesis content was refined and reassessed for clarity, and to align more clearly with the influences on the outcomes of the practice based component as described and detailed in Chapters Three and Four. Related to this reasoning, artists such as Fiona Hall, Anselm Kiefer, Jim Hodges, and William Kentridge who have produced artwork which does integrate aspects of drawing, beauty and plants were ultimately excluded, because their work did not sit as clearly within an Eco Art perspective and frame relative to climate change and plant species. Joseph Beuys' wonderful *7000 Oaks* project in 1982 combined beauty, plants and Eco Art, but it was not included as it was sculptural, and did not use drawings. For this reason, apart from a brief mention in Chapter Four, the work of Andy Goldsworthy was also not included in the final thesis, in spite of the fact that both Beuys and Goldsworthy's artwork clearly enhances biophilia and a positive regard for nature, and in particular exalts the beauty of plants.



Landy's series is similar in scale and pencil technique to the drawings of Manabu Ikeda, whose work was exhibited and featured in both the *Artists + Climate = Change* exhibition in 2015, and the book of the same name in 2016. David Buckland's work was also exhibited in this group, and he has worked in many countries and with several other artists, to collaboratively increase understanding of environmental issues through the *Cape Farewell* project. One of his works, *Shard*, is included, along with briefer discussions of the Transmedia Art work of Debbie Symons, Olafur Eliasson, and Ai Weiwei.<sup>69</sup>

### **Eco Art and Transmedia Art**

Chapter One discussed two highly influential, early environmental books: Rachel Carson's *Silent Spring* (1962), and *The Limits to Growth* (1972) by Donella Meadows. The widespread positive response to, and global reach of both these books reflected the increasing concerns of people in the 1960s and 1970s to issues relating to the negative impact of humans on their ecological environments. This was similarly reflected in parallel movements and diverse developments in the art world at that time, and it is useful to clarify and define these further.

This research, in part, explores some of the theory and overlaps between a conceptual integration of Eco Art and Transmedia Art. The definition which most clearly relates to the scope of this thesis is Eco Art, a term which emerged in the 1960s to describe artists whose work was strongly influenced by their concern for what was happening to the natural environment as a result of pollution, urban growth, and, (as so adeptly described by Carson in *Silent Spring*), the widespread and ill-considered use of toxic chemicals. Eco Art is generally understood to combine aspects of ecology and art; it is distinct from Land Art, or Earthworks, which also date from the 1960s, but which specifically used the landscape as their medium, and which ironically in their earlier evolution often had a detrimental effect on local ecologies. As Elena Martinique commented, "While *Spiral Jetty* from 1969 created by Robert Smithson is considered his seminal work, the piece created a permanent damage upon the landscape he worked with. When the European duo Christo and Jean-Claude temporarily wrapped the coastline at Little Bay, south of

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<sup>69</sup> The approach to drawing inspired by the movement of the natural environment, and the layered work and short film *Flux* by the Australian artist Ana Pollak, influenced my two experimental short films, and their selected soundscapes, and her work is therefore described more appropriately within the context of Chapter Four.

Sydney, the piece attracted a lot of negative criticism in environmental circles.”<sup>70</sup> Both these earlier Land Art works were completed in 1969, almost fifty years ago, and Martinique observed that, “The negative criticism these and similar pieces garnered, led land artists to rethink the consequences of their practice and create art that is more sustainable.”<sup>71</sup>

Eco Art is also different to Environmental Art, another term which dates from the 1960s, which is used more generally to describe work in the environment, that often uses natural materials, or is about a specific environment, and which is not always related to concerns about issues which impact negatively on the natural world. The more recent term SciArt is often used to describe science and art collaborations, but these may – or may not – have an ecological basis. For example, a number of recent SciArt projects have explored new technologies, such as medical scanners and robots. The selected term applied in this thesis, Eco Art, can still have a strong scientific basis, and be cross-disciplinary, particularly in regards to science, but its core definition is in the overlap between ecology and art practices. This thesis proposes that Eco Art, when combined with Transmedia Art, presents some interesting new possibilities to further the cause of generating deeper understandings of the impact of climate change on endangered plants, by using beauty as a way of enhancing biophilia, and reducing ecoanxiety.

Having briefly defined these terms, it is of course possible to find artworks which explore the often blurred and unclear boundaries between the various movements and definitions as they have evolved across decades, and as issues such as the ozone layer and CFC pollution declined, to be replaced by the escalating issues of global warming and climate change. As discussed in this chapter, sometimes artworks are recontextualised and used in ways that then also reframe or redefine them, which the artist did not have in mind when an artwork was originally created. Also relevant to this is to consider the term Transmedia Art, where artists choose to reinterpret and reframe their own work in deliberate ways which consciously explore more than one medium. That is, artwork can be used across more than one media either by accident or by design.

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<sup>70</sup> Elena Martinique, “The Era of Environmental Art,” *Widewalls*, last modified 2017, <http://www.widewalls.ch/environmental-art/>

<sup>71</sup> *Ibid.*

(This is different to Transmedia Storytelling which is frequently used in advertising and studio generated movies, where multiple platforms are consciously pre-designed and leveraged to enhance marketing and audience engagement in the story. See the previous definition in the Introduction to this thesis.)

Transmedia Art has used “artistic concepts and projects based on space and time,”<sup>72</sup> with an experimental and open approach to moving artwork from one media into another, and this particularly interests me. For example, I might make a single drawing on paper, which is then printed into a repeating series on metal sheets, and those amended images could be scanned and made into a short film which is used to further a related cause in a community campaign. That short film could be shown on a large screen in a gallery, or uploaded online to be viewed on a hand-held device, or smaller screen. The film could be projected outside onto a building, where external light and colour also add to its reinterpretation, and where the audience are encouraged to actively participate. That projected image could then be photographed, and the photograph edited to further recontextualise the work, across another media and format – such as a poster being used as part of a political rally. I could write a creative piece about the image, published online, and I might ask a scientist to take my image and amend, alter, or appropriate it as a collaboration to promote a deeper or broader understanding of climate change – or vice versa.

Transmedia Art is not just the same piece of work used across multiple media platforms however. It is “concerned with transdisciplinary initiatives in the conceptualisation and implementation of art.”<sup>73</sup> It “also studies social applications, socio-political and cultural subjects, and interventions and interactions.”<sup>74</sup> It could be argued that this definition increasingly applies to most current forms of art practice, in an era where blogs, websites, social media and the repurposing of images for online news are increasingly the norm rather than the exception. Transmedia Art “involves a critical study of theoretical and practical methods and also investigates the communicative,

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<sup>72</sup> Author Unknown, “Transmedia Art,” University of Applied Arts, Vienna, last modified 2017, [http://www.dieangewandte.at/en/institutes/fine\\_arts\\_and\\_media\\_art/transmedia\\_art](http://www.dieangewandte.at/en/institutes/fine_arts_and_media_art/transmedia_art)

<sup>73</sup> Ibid.

<sup>74</sup> Ibid.

performative and processual aspects of art.”<sup>75</sup> It moves beyond a passive reiteration or reproduction of an artwork into a broader reinvention, redefinition and extension.

I first became interested in the idea of Transmedia Art when I was asked by a colleague in psychology at UNSW to help design the catalogue cover and branding for the International Conference on Memory 4, held in 2006. In my collaboration, and with the support of Professor Amanda Barnier, I was ultimately awarded a Vice Chancellor’s Special Project Grant to curate an exhibition of the work of artists who explored memory and loss, titled *The Artistic Construction of Memory*. As a practicing designer as well as an artist, in curating the exhibition I wanted to challenge the conventions of displaying the artwork, and so I used and repurposed the format and presentation style of scientific conference posters. I selected nine international artists, and designed and digitally printed large scale posters integrating their work, which also incorporated the writings of poets and authors who creatively explored memory. With more than 600 psychology delegates from more than 40 countries attending the conference, a CD was also produced summarising the project as a ‘take home.’

I realised, thinking about it several years later, that my drawings (which had been included in the exhibition) had become transmedia rather than just transdisciplinary (although I also consciously sought to create a specific disciplinary bridge of understanding between the psychologists at the conference, and the participating artists). The original drawings themselves did not appear, and reproductions of them were recombined with scientific formats and forms of communication, and other arts, to create a new conceptualisation for a different audience across more than one platform, as an interaction. The knowledge and understanding of its transmedia transition came much later, however, long after the exhibition was over, and this is an important point. We need to take care when assigning theoretical frameworks to practical artworks to ensure that a truthful narrative of how the work actually evolved is documented. This is something I have explored in the context of the discussion in Chapter Four, as the overlaps between accident and deliberate design have generated more authentic alternatives, and a significant transition in the evolution of my artwork.

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<sup>75</sup> Ibid.

In Chapter One the point was made that the film *An Inconvenient Truth* and the *Cape Farewell* project both iteratively developed into entities that could be retrospectively assessed as being transmedia. From my perspective, in part, their initial popularity generated further momentum which seems to have allowed both projects to then be reframed, reinterpreted and further extended. It would be disingenuous to suggest that many creative ventures start out with a clear plan in place to leverage the potential of transmedia as a device to enhance the social application of the content.

Each method of communication has its own conventions and constraints in regards to an individual's experience as an audience – so a book, website, film, exhibition, journal, blog, and so on – can do some things, but not others. There is a temptation to categorise and summarise some aspects of our culture in neat and tidy ways under a theory, heading or banner, but (as I have found in researching this thesis) the actual creative process used is often a curious combination of some planning, some knowledge, and some structure, mixed together intuitively in a personal (and sometimes subjective) way.<sup>76</sup>

There is also a subtle line of difference between Transmedia Art and the previously defined Transmedia Storytelling. The author and researcher Professor Henry Jenkins, in his 2006 *Convergence Culture: Where Old and New Media Collide* book, redefines what Transmedia Storytelling is - and isn't - from his perspective.<sup>77</sup> Relevant to this thesis, he argues against transmedia being just a form of branding, and instead he focuses on “emergent forms of storytelling, which tap into the flow of content across media.”<sup>78</sup>

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<sup>76</sup> In the early stages of my research I read twelve other PhD theses in order to understand different ways of approaching and expressing practice based research outcomes relating to plants. One thesis by Rachel Tarn Pedder-Smith (2011) from the Royal College of Art in London explored material culture theory, and it included interviews with ten other artists who work with plants, herbariums and museum collections. I was particularly interested in the honest summary of the author when she commented on page 158 that, “In conclusion none of the artists specifically mentioned material culture theory, however unknowingly they are all using and developing concepts concerned with object and / or human relationships to produce narrative based artwork.” Transmedia Art could be similarly summarised – some artists employ various transmedia techniques in their work without knowledge of the theories underpinning it. In this sense, they are perhaps more influenced by a surrounding culture of change, and the work of other artists, rather than their conscious and deliberate application of a theory.

<sup>77</sup> Henry Jenkins, *Convergence Culture: Where Old and New Media Collide* (New York: New York University Press, 2006), 2. In his Introduction Jenkins describes the book “...as being about the relationship between three concepts – media convergence, participatory culture, and collective intelligence.”

<sup>78</sup> Henry Jenkins, “Transmedia 202: Further Reflections,” *Confessions of an Aca-Fan*, last modified July 31, 2011, [http://henryjenkins.org/blog/2011/08/defining\\_transmedia\\_further\\_re.html](http://henryjenkins.org/blog/2011/08/defining_transmedia_further_re.html)

He further proposes that we may wish to consider different aspects of Transmedia Storytelling such as transmedia activism and transmedia ritual; and the potential use of both of those provides interesting alternative ways of reframing contemporary art.<sup>79</sup> So for example, the work of Naomi Klein, discussed in Chapter One, could perhaps be described as transmedia activism, in the way she leverages the media potential and differences between the three communication forms of her book, interactive website, and subsequent documentary film. Further, the work of several of the artists discussed in this chapter integrate not just Transmedia Art, but also aspects of activism and rituals in broader transmedia ways, as well as some Eco Art perspectives, as we shall see.

Jenkins also distinguishes between adaptation and extension as being important in understanding the relationship of co-creation and collaboration in transmedia, as opposed to a multimodal reiteration of the same idea or concept. He writes: “Basically, an adaptation takes the same story from one medium and retells it in another. An extension seeks to add something to the existing story as it moves from one medium to another.”<sup>80</sup> So Klein’s multi-platform use of different media was a further transmedia extension of the story in her book, not just an adaptation of its content. Each iteration of *This Changes Everything* formed a different expansion.

There is a further way that Jenkin’s transmedia definitions and perspectives can be applied in my own research, and it relates to the overlaps I have experienced in writing this thesis, at the same time as developing and exhibiting my artwork. Over several decades I have often used poetry and written texts as the starting points for my creative ideas. Over the last three years of this research, this has developed and deepened, and I have found that publishing my written reflections on my practice, in book chapters, journals and in collaborative websites has extended the stories I wish to communicate. There is a cyclical process at play, where writing about my artwork gives me more ideas for artwork; and adapting my artwork and reframing it in an overall narrative (such as in a recent journal article) where the images are seen sequentially as a whole body of work, also transitions the idea, as a collective whole. This was highlighted in the responses I received through social media, to a solo exhibition, discussed further in Chapter Four.

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<sup>79</sup> Ibid.

<sup>80</sup> Ibid.

## Earlier Eco Artists

Chapter One contextualised my research by reference to some of the collective and more general Eco Art approaches in publications, and exhibitions, noting that there can be some confusion caused by at times arbitrary groupings of disparate artists around environmental themes. Some generic statements about the many and varied aspects of climate change can lack influence, and so Chapter Two selects some key examples of visual artworks, which have also had some sort of critically assessed, documented impact.

Examining the history of individual images that have previously influenced social change relating to ecology and the environment, can help to establish a context for current research. Relevant to this theme is the iconic photograph *Morning Mist, Rock Island Bend* by the Australian Peter Dombrovskis of the Franklin River, as shown used in a poster design in Figure 11.

Taken in 1982, it was used in a campaign that same year, to stop the proposed dam construction on the Franklin River in Tasmania, and the photograph and its impact was ultimately a key factor in the Australian High Court's decision not to dam the river.<sup>81</sup> Peter Dombrovskis' photo also generated an international response, and in recognition of his work he was the first Australian photographer to be inducted into and included in the International Photography Hall of Fame.<sup>82</sup>

The photo was used by the campaign in full colour, and in large full page formats in Australian regional and national newspapers, which was unusual for the time.<sup>83</sup> The now well-known and widely recognised photograph "inspires the viewer with a sense of wonder and awe and [this] is one of the reasons it played such a powerful role in preserving the Franklin River."<sup>84</sup>

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<sup>81</sup>Liz Dombrovskis "Peter Dombrovskis," *The Companion Guide to Tasmanian History*, last modified 2006, [http://www.utas.edu.au/library/companion\\_to\\_tasmanian\\_history/D/Dombrovskis.htm](http://www.utas.edu.au/library/companion_to_tasmanian_history/D/Dombrovskis.htm)

<sup>82</sup> Ibid.

<sup>83</sup> The Wilderness Society, "Pivotal Wilderness Society campaigner Karen Alexander has been awarded an Order of Australia Medal," *The Wilderness Society*, last modified July 6, 2015, <https://www.wilderness.org.au/articles/pivotal-wilderness-society-campaigner-karen-alexander-has-been-awarded-order-australia>

<sup>84</sup> Monash Gallery of Art, "Peter Dombrovskis," *Monash Gallery of Art*, last modified 2016, <https://www.mga.org.au/index.php/collection/explore/index/image/450>

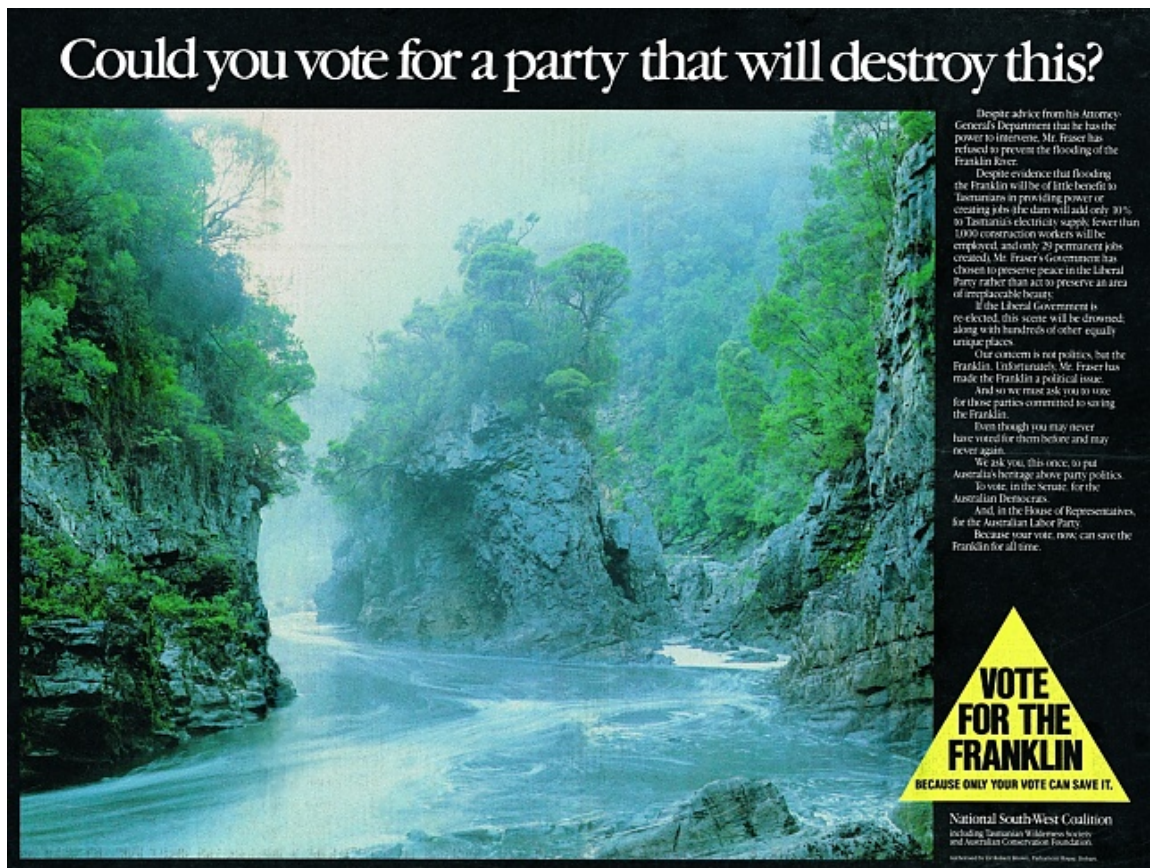


Figure 11. Advertisement placed by the National South-West Coalition, showing the use of the 1982 photograph *Morning Mist, Rock Island Bend* by Peter Dombrovskis. Size of advertisement unrecorded.

The political use of this photographic image to support a particular environmental issue and campaign relating to a specific place, is different to the approach taken by Christo Vladimirov Javacheff, known as Christo. Seven years after Dombrovskis' image of natural beauty and potential loss of the Franklin River was used so effectively in Australia, Christo was commissioned in advance by *Time Magazine* to create an artwork which was used for a 1989 cover image to symbolise "earth's vulnerability to man's reckless ways," as described by the Publisher and President Robert L. Miller.<sup>85</sup> The *Time Magazine* cover is shown in Figure 12. Christo's work was called *Wrapped Globe*, and the installation related to popular photographic images of that time which showed the earth as an idealistic, clean whole, viewed from space. In Christo's reinterpretation, instead of a unique, large scale view of the planet, the earth is shown in a diminished form, wrapped in muddied rope and plastic, as though it is a mass produced, disposable item, left discarded on a beach.

<sup>85</sup> Robert L. Miller "From the Publisher," *Time Magazine*, January 2, 1989, 3.



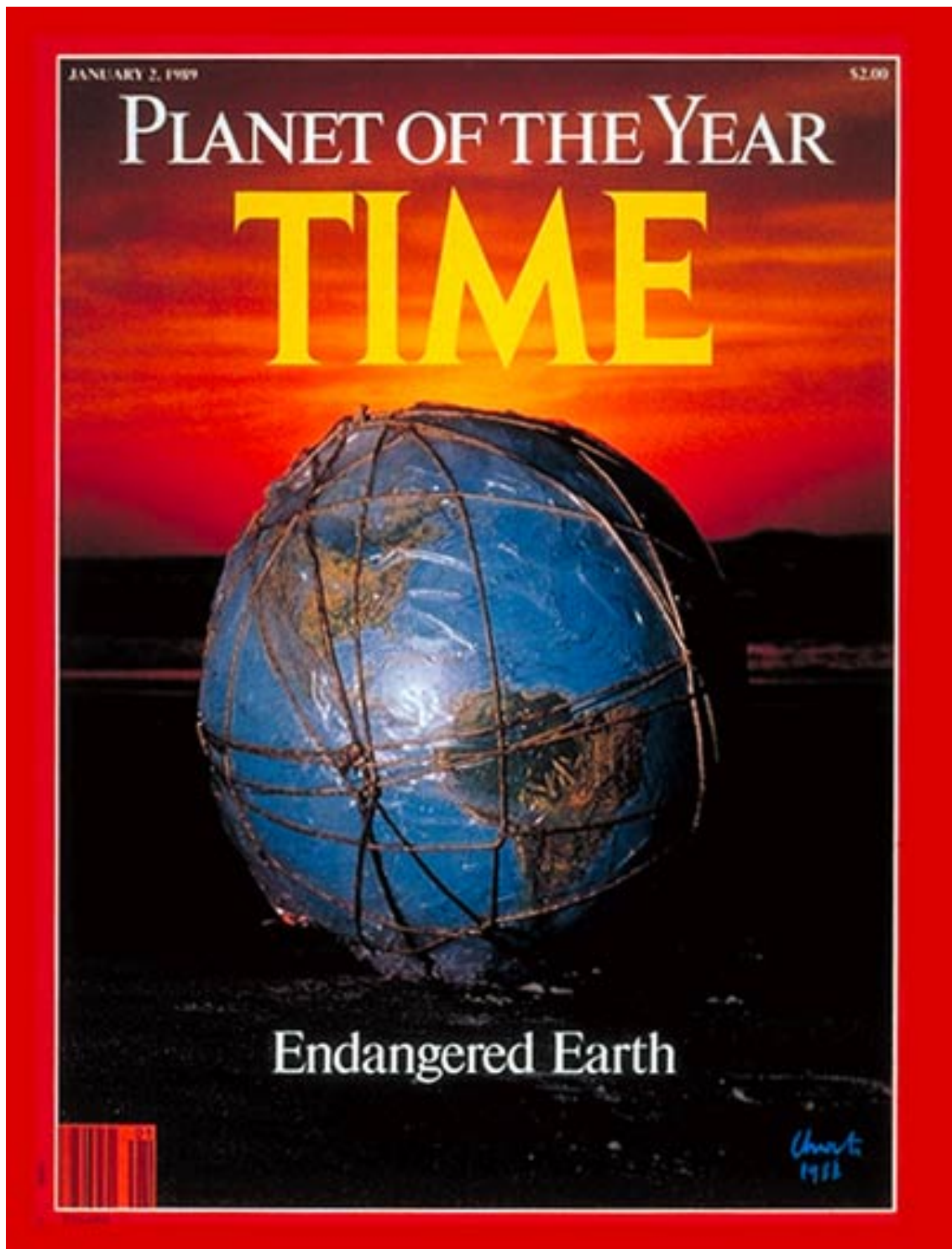


Figure 12. Christo, *Wrapped Globe*, 1989, in *Time Magazine*, cover page.

This image was critically evaluated by Finis Dunaway in his 2015 book *Seeing Green: The Use and Abuse of American Environmental Images*. Dunaway compared Christo's earth with the popular *Earthrise* photographs taken by astronauts from space twenty-one years earlier in 1968, when he said: "Rather than a shining blue ball that inspires awe in spectators, the plastic-wrapped, bundled-up globe appears as a synthetically produced

item confined by society.”<sup>86</sup> Although it is reproduced in Dunaway’s book in black and white, the actual cover featured a blood red sky, enhanced by a red border, as though the earth’s distant horizon was on fire. A foreboding sense of heaviness hangs in the air, and it is not clear if it is oil the earth is sitting on at the base of the image, although an association can be inferred from our familiarity with images of oil spills washed up on beaches. As Don H. Krug commented in an earlier evaluation of the image, Christo’s artwork “vividly warns us that the earth is not a package that can be exchanged for a new globe at a local outlet store.”<sup>87</sup>

Christo’s signature is shown in the bottom right, so the classic convention of the artist’s imprimatur is used, and in this example, the image of the earth is reframed to enhance an environmental message within a news publication. In Christo’s case, the prominent and pertinent, specifically commissioned photograph of an installation artwork is shown centre stage in a globally promoted context. The use of artistically based images such as these, which can enhance and progress understanding and action on climate change, show a range of approaches and applications, with the potential for more consciously planned and overtly designed, better used outcomes in the future. As scientists and artists collaborate and work more actively together on climate change communication, so too could journalists and artists, politicians and artists, and others, in further collaborations in concerned communities. There is a growing recognition among a range of experts concerned with the impact of climate change, about the potential and power of contemporary art to contribute to changing perceptions and behaviour. For example, in a recent 2015 article in *The Conversation*, titled *Climate Science is Looking to Art to Create Change*, co-authors Professor David Karoly and Guy Abrahams wrote that, “Contemporary art, with its intimate connection to the time in which it arises, has the intellectual and creative capacity to be a powerful trans-disciplinary change agent, bringing together otherwise disparate fields of science, policy and politics.”<sup>88</sup>

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<sup>86</sup> Finis Dunaway, *Seeing Green: The Use and Abuse of American Environmental Images* (Chicago: The University of Chicago Press, 2015), 201.

<sup>87</sup> Don H. Krug, “Teaching Art in the Contexts of Everyday Life,” in *Contemporary Issues in Art Education*, ed. Yvonne Gaudelius and Peg Speirs (Upper Saddle River NJ: Prentice Hall, 2002), 180.

<sup>88</sup> Guy Abrahams and David Karoly, “Climate science is looking to art to create change,” *The Conversation*, last modified May 7, 2015,, <https://theconversation.com/climate-science-is-looking-to-art-to-create-change-41185>

## Science and Drawing

The idea of combining scientific data and modelling in a visual way to tell a more powerful and accurate story, using drawings, holds a lot of interest for me. It is a way of adding another tool to a toolbox, and it provides a sometimes concise and succinct way to communicate different rationales, and to embed alternative ways of viewing the artwork, sometimes in connection with statistics and measurement. Related to this is the overlap between scientific illustration and contemporary art. In my previous 2009 solo exhibition, I was influenced by the way that herbarium samples were displayed, and this has continued to alter how I approach my current research, which has extended into investigations at Kew Garden, the Millennium Seed Bank at Wakehurst, and most recently at the Royal Botanic Garden Edinburgh. In doing this, I have felt that it was important to respect the work of the scientific illustrators whose work preceded my own, and who, in the past, often worked anonymously, in the employ of botanists and collectors.

Scientific illustrations of plants have a long history and follow established conventions in their formats and visual compositions. They frequently demonstrate an applied aesthetic of beauty in their execution. These have been appropriated by a number of contemporary artists, and collaborations of artists. In the 1970s, the American artist Cy Twombly produced a series of drawing works, *Natural History I* and *Natural History II*, which successfully reinvigorated and integrated scientific illustrations of plant images, creating a visual reinterpretation and bridge between science and art in a subtle, considered and nuanced way. The collaged drawings integrated images from an unacknowledged botanical illustration book, and included blank labels and graph paper in some of the series, in an apparent reference to the scientific methods of categorisation, presentation and notation. *Natural History I* and *Natural History II* were reproduced as a series of prints, and I particularly liked the interplay between Twombly's rougher expressive marks as he 'redrew' a plant near the more restrained static botanical illustration which had inspired him. The combination of a science perspective and the artist's reinterpretation merged in the composition, with one complementing and allowing us to reconsider and 'look again' at the other. The duality of the images in each drawing, and across the series as a whole seemed to respect the integrity of both points of view.

In the 1980s a series of seventy-four contemporary drawings was created by two Austrian artists, Gunter Brus and Arnulf Rainer, which appropriated multiple 19<sup>th</sup> Century science-based botanical nature prints in an oddly disrespectful way. Some of their drawings, like those of Twombly, were reproduced in a series of prints. The appropriated original images were used as a backdrop, and the plants' connection to the newly applied, somewhat convoluted contemporary art context is not clear, with skulls, body parts, psychosexual imagery, insects, arrows, words and expressive lines almost obliterating the background images.<sup>89</sup> Those two artists drew over the top of the beautiful original images of the plants without any apparent regard to the original flora. One of the most surprising aspects for me, was in reading the Tate Gallery's description of the series which stated that "...on 29 September 1989, Brus recalled that the idea to make a series of etchings based on botanical images came from the publishers Sabine Knust and Heike Curtze."<sup>90</sup> The idea to draw on top of the plant images did not come from the artists themselves, and they pursued an extensive series of works without due regard to the meaning and compositions of the images they were defacing.

Perhaps care should be taken, and ethical and moral considerations could be considered, when removing something from one context into another and repurposing it in a way that the original illustrator or image maker may not be supportive of. As previously discussed, in the past some Land Artists worked in ways that were actively detrimental to the environments they used for their creative practice, and in the present time it seems unlikely that they would get permission to make some of those works. Damaging a natural environment and damaging someone else's image perhaps both indicate a lack of insight and forethought.<sup>91</sup>

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<sup>89</sup> As further context, Brus and Rainer moved from Surrealism to Viennese Actionism and Expressionism, and their works also included contentious animal sacrifices in ritual performance. A deeper analysis and critique of their work is beyond the scope and remit of this thesis. Contextual information sourced from Deborah Wye and Wendy Weitman, *Eye on Europe: Prints, Books and Multiples, 1960 to Now* (New York: MOMA, 2006), 152-153.

<sup>90</sup> Tate Gallery, "Gunter Brus, Arnulf Rainer," *Tate Gallery: Illustrated Catalogue of Acquisitions 1986-88*, last modified date unrecorded, accessed July 20, 2017, <http://www.tate.org.uk/art/artworks/brus-rainer-no-title-p77236>

<sup>91</sup> Many years ago, I sold a piece of work from an exhibition, and several years later I was invited to dinner at the home of the couple who had bought the work. To my dismay, the woman had opened the back of the frame, removed the work and repainted white areas red, to match her newly refurbished dining room. This thoughtless act left me speechless, and from that point on I started to more deeply question my own appropriation of other images, and to more carefully consider the ethics of using the work of others without due care and full acknowledgement.

Much has improved over time. I have looked at many books of early botanical illustrations in several Herbarium Libraries around the world, and have often wondered who the unknown artists and unacknowledged illustrators were who created the beautiful studies. Often the plant collector's name is noted and recorded for posterity, but not the artist or scientific illustrator, and yet it is the drawing or image, just as much as the botanical notes, which communicate knowledge and which engage our attention with their beauty. Those times are happily in the past, and we must now ensure that we appropriately acknowledge image sources and copyright. A similar expectation could perhaps be placed on contemporary artists, who use and reinterpret images and scientific statistics relating to climate change, and who repurpose them for their own use. In the present time, Australian artists such as John Wolseley and Judy Watson have produced images that create a specific bridge between plants and environmental change, and both artists have periodically used scientific diagrams, charts and maps in the backgrounds to their drawings, something that I have also explored in my earlier works. John Wolseley's *Desert Ventifacts and the Keeling Curve*, (2010), consists of a progressive installation drawing of what he descriptively calls "paper ventifacts."<sup>92</sup> The pieces of paper are marked with dirt from the earth and folded into dimensional relief forms, appearing to float above and below the implied graph line, reminiscent of pieces of rubbish being carried by a warm wind, or paper aeroplanes being pulled along in a current of air. As Wolseley comments, "Here, stolen from science, is a wonderful image of a breathing world...[but] We are reaching a point of no return."<sup>93</sup>

Wolseley goes on to describe himself as a "...hybrid mix of artist and scientist" and his body of work appears predominantly framed by, and as fitting the definitions of, Eco Art rather than SciArt, particularly in his own descriptions of it.<sup>94</sup> This work demonstrates his hybrid approach, with science and ecological imagery being blended together, and with the resulting ecologically inspired images displayed on an open website.

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<sup>92</sup> A ventifact is a stone shaped by the erosive action of wind-blown sand, and within this context, as described by John Wolseley, he leaves his papers outside to be similarly marked and eroded by the environment and weather. John Wolseley, "Carboniferous," roslynxley9 gallery, last modified September 9, 2010, <http://www.roslynxley9.com.au/news/releases/2010/09/09/189/>

<sup>93</sup> Ibid.

<sup>94</sup> John Wolseley, "Home page," *John Wolseley Website*, last modified 2017, <http://johnwolseley.net>



Figure 13. John Wolseley, *Desert Ventifacts and the Keeling Curve*, 2010, mixed media, size unrecorded. Shown at the *Carboniferous* exhibition at roslynxley9 gallery, September 2010.

The marks made on the paper ventifacts act as memories and impressions of nature, and he notes that, “Having been made soft from dews and showers, and dried and tossed by the wind, they had become fixed in a variety of sculptural forms. Through this flight of paper ventifacts I have drawn an enlarged version of one of the most significant scientific diagrams of our time. The Keeling Curve, made at the Mauna Loa observatory in Hawaii, plots the rise in CO<sub>2</sub> in the atmosphere from 1958 to the present – a sharply rising line which I have juxtaposed on the gallery wall with the rise and fall of my wandering ventifacts.”<sup>95</sup>

Relevant to the discussion in Chapter Three, the drawings created by Wolseley attract us through an eloquent use of beauty, and also educate us about the status of the natural environment. The artist acknowledges this intent, saying, “I like to think that the large works on paper on which I assemble these different drawing methods represent a kind of inventory or document about the state of the earth. I want to reveal both the energy and beauty of it, as well as show its condition of critical or even terminal change.”<sup>96</sup>

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<sup>95</sup> John Wolseley, “Carboniferous,” roslynxley9 gallery, last modified September 9, 2010, <http://www.roslynxley9.com.au/news/releases/2010/09/09/189/>

<sup>96</sup> Ibid.

The redeployment of diagrams that have been designed for a specific scientific purpose into artworks, can forge new connections and inspire new creative forms. Wolseley states that, “I see myself as...one who tries to relate the minutiae of the natural world – leaf, feather, and beetle wing – to the abstract dimensions of the earth’s dynamic systems.”<sup>97</sup> He frequently combines measurements, marks made by found objects, and maps into this mix.

This combination of micro and macro worldviews also comes through strongly in many of his mixed media drawings. In Figure 14, *History of the Whipstick Forest with ephemeral swamps and gold bearing reefs* (2011) Wolseley anchors the layered images on top of a diagram of an early map, describing the work as bringing together the “histories of three kinds of time: the ‘deep time’ of geology, ‘shallow time’ since European arrival, and ‘now time’...”<sup>98</sup> This brings to mind the descriptions of Elizabeth Kolbert in *The Sixth Extinction*, where she looked at layers of rocks and saw the bigger picture of the passage of earth’s long history, and the insignificant small moment that represents human time in the geological record.

Wolseley’s observation that much of this landscape has endured extensive human change across time, is adeptly rendered in the drawing, which in itself seems to echo the artist’s description as being “battered, torn up and churned over” and yet still reinventing itself with remarkable resilience. Into this subtle and beautiful drawing Wolseley integrates the writings of earlier explorers, and he also includes the “folding and unfolding of strata,” alongside the evidence of human settlement.<sup>99</sup>

Plants feature strongly in Wolseley’s drawings, and he is deeply concerned about their survival. His 2001 catalogue for the exhibition *Tracing the Wallace Line* is like an artist’s book, and he integrates his own written observations alongside his drawings. One entry reads, “Spent the last few days drawing plant specimens in the Herbarium.”<sup>100</sup> The Herbarium Curator looked at a seed Wolseley was drawing and told him he should take

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<sup>97</sup> Ibid.

<sup>98</sup> John Wolseley, “Heartland and Headwaters,” *John Wolseley Website*, last modified 2017, <http://johnwolseley.net/exhibitions/john-wolseley-heartlands-and-headwaters>

<sup>99</sup> Ibid.

<sup>100</sup> John Wolseley, *Tracing the Wallace Line*, (Bendigo: Bendigo Art Gallery, 2001). Exhibition catalogue. n.p.

care, as the seed was “the last known specimen from a tree which is probably extinct.” Wolseley poetically goes on to say that “The delicately faded fruit with its long slender wings then became in my hands an object of such poignancy.” This describes exactly my own feelings when I drew the Herbarium samples of the now extinct *Bennett’s Seaweed*, in the work *The Shape of Loss*, which was discussed in the Introduction to this thesis.

Sasha Grishin, in his 2006 monograph *John Wolseley Landmarks II*, writes that the artist “...seeks not only to empirically observe and record the landscape, he desires to interact with it and to celebrate the wilderness which lies both in the human soul and in nature.”<sup>101</sup> Wolseley approaches his research and artwork with a mindful perspective, and his mixed media drawings communicate a palpable sense of energy, often paired with areas of stillness, mediation and calm within the same composition.

The duality of the human connection to nature is explored further, when Grishin states that “A holistic outlook, where humankind is part of nature, is fundamental to Wolseley’s artistic practice, where the wilderness is not the external ‘other’ with which the sentimental urban dweller engages in moments of existential despair, but is part of the intrinsic internal ‘self’ of each person.”<sup>102</sup> Wolseley’s drawings subtly persuade us, and communicate a deep and abiding passion for nature, and for plants in particular. As Wolseley himself said, “I paint what I care about, what I love and feel is in danger.”<sup>103</sup>

John Wolseley and Judy Watson similarly use diagrams of scientific measurements of change as backgrounds to their drawings, and they are both contemporary Australian artists who share a love for, and concern relating to, ecology and natural environments. Like the work of Wolseley, Watson’s images feature subtly layered diagrams, scientific charts, and related geometric marks.

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<sup>101</sup> Sasha Grishin, *John Wolseley Landmarks II* (Melbourne: Craftsman House / Thames & Hudson, 2006), 23.

<sup>102</sup> *Ibid.*, 115-116.

<sup>103</sup> *Ibid.*, 166.





Figure 14. John Wolsley, *History of the Whipstick Forest with ephemeral swamps and gold bearing reefs*, 2011, watercolour, charcoal and pencil on two sheets, 234 x 287 cm.

Watson's residency on Heron Island in the Great Barrier Reef saw her appropriately acknowledge and respect the scientific authorship of the charts she featured in her print series, unlike Twombly, Brus and Rainer in the previously discussed works from the 1970s and 1980s. While Watson does credit the sources of the diagrams, the relationship between the plant images and the charts in her work is not always clear, and they are sometimes used with confusing associations.

In a work titled #19 for example, two land leaf forms float over several charts relating to the graphs and measurement of sea related coral, turtles and feeding frequency, and the leaves are left untitled. We might hope that scientists and journalists would respect and use the work and contributions of artists, and conversely that artists would also ensure that scientific forms and statistics are also appropriately used and applied, rather than perhaps including them for their decorative value.

A more considered integration between ecological concerns being expressed and approached in Transmedia Art ways might assist the public in a fuller appreciation of the resulting artwork. *Keeling Curve* by Wolseley can be compared with Watson's earlier 2009 drawing of a plant, *Pisonia With Acidification Graph*, which was used, six years after its creation, to illustrate a climate change article in *The Guardian* newspaper on March 10, 2015, shown in Figure 15.

I particularly like this vivid and arresting drawing, and can readily understand the relationship between acidification graphs, which show an increase in the line at the base of the image, and the impact of this negative change on the future health of the *Pisonia* plant. The asymmetric plant is centrally placed and removed from its natural environment, and this dislocation seems to suggest that it is alone, vulnerable and somehow at risk.



Figure 15. Judy Watson, *Pisonia with Acidification Graph*, 2009. Acrylic and chinagraph pencil on canvas, 214.5 x 191.5 cm. (In Bill McKibben, "Climate Fight Won't Wait for Paris: vive la resistance," *The Guardian*, March 10, 2015.)

Three other works by Watson were included in McKibben's article, but none were directly referred to, and when the article is printed out only the cover image of *Pisonia* is retained – the other three images do not appear in the printed version, which also speaks to their primarily decorative, not useful or integrated application.<sup>104</sup> Watson has made further works in this series, which show the effects of floods and other natural disasters on the landscape, including algae bloom, and some of these images also use specific scientific maps appropriately as context in their backgrounds. The artworks were exhibited in 2009 following a period as Artist in Residence on Heron Island, where Watson worked with the scientists who were measuring the increasingly negative changes to plants and animals on, and in, the waters around the island in the Great Barrier Reef National Park.<sup>105</sup>

The work of both Wolseley and Watson integrates scientific diagrams into the compositional arrangement, and the main environmental communication about endangered plants is that imbued and individually interpreted by the person viewing the final artwork. Although Watson's 2009 work *Pisonia With Acidification Graph* was repurposed for *The Guardian* article in 2015, the drawing was unfortunately not directly used or described in the writing, so it did not serve an active additional illustrative purpose, or directly contribute to the environmental message being described in the text, which is different to the earlier, more deliberate and consciously designed transmedia approach taken by Christo and the commissioning editors at *Time Magazine*.

The more recent use of scientific facts and diagrams being integrated as part of the contextual bridge in the creation of new forms of artworks has a longer history. While on the one hand Wolseley and Watson have both received positive recognition, the work of an earlier Swiss artist, Cornelia Hesse-Honegger, was more contentious. Originally trained in scientific illustration, Hesse-Honegger became interested in the impact of nuclear reactor leaks on the surrounding natural environment, and in the 1980s and 1990s created a series of studies of insects and plants, showing the deformation of their

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<sup>104</sup> Bill McKibben, "Climate Fight Won't Wait for Paris: vive la resistance," *The Guardian*, last modified March 10, 2015, <https://www.theguardian.com/environment/2015/mar/09/climate-fight-wont-wait-for-paris-vive-la-resistance>

<sup>105</sup> The University of Queensland, "Judy Watson's Heron Island Artworks Alert Danger in Paradise," last modified October 5, 2009, <https://www.uq.edu.au/news/article/2009/10/judy-watson-s-heron-island-artworks-alert-danger-paradise>

forms. While admired and lauded by the artistic community, she was surprisingly criticised by the scientific community for exhibiting her drawings in art galleries and writing about the research, without the use of control groups, as might be expected in a purely scientific paper.<sup>106</sup> Yet her beautiful drawings and paintings have a powerful agency.

Hesse-Honegger's work has had a significant impact on me in the twenty years since I first encountered it, in a similar way to holding the small book of lichen studies by Margaret Flockton. After I saw Hesse-Honegger's delicately rendered images of deformed and mutated insects and plants, if I saw a leaf curled in on itself, or torn or damaged, I would think of the responses her work provoked. In one case, after Hesse-Honegger had exhibited her drawings of damaged leaves, she returned to the same place, and found the trees had been cut down and the 'evidence' removed at the site of the nuclear leak. Her artwork bears witness to the impact of the Chernobyl disaster, and then later of other nuclear reactors on the natural environment, and her frequent use of graph paper suggests a sense of scientific measurement and negative decline, in a similar way to Wolseley's use of measurement *Keeling Curve*, and in Watson's background use of acidification graphs and lines. Hesse-Honegger achieves an interesting duality in her drawings, as we are absorbed by their beauty before we register the subtle variations and deformations she observes on leaves and insects. She does not draw the subject in a context, but rather maps them out in sequences and patterns, and this enhances their meditative appeal.

The contemporary British artist Michael Landy has also worked with plants and environmental degradation. *Nourishment*, completed in 2002, features a series of twelve drawings of marginalised weeds which he found growing around him in London. He transplanted and personally cared for some of these plants, and the studies he made were collected in a final portfolio of limited edition etchings. Unlike the work of Brus and

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<sup>106</sup> The press release from her website says, in part, that "Her publications created considerable controversy in the media. Scientists reacted with scepticism if not outright hostility towards her findings. In the following years, popular interest in the 'nuclear threat' diminished but she continued with her research, making 'manmade destruction in nature' visible by painting disturbed leaf bugs, and making protocols, maps and books." Cornelia Hesse-Honegger, "Field Study in the Environs of Swiss Nuclear Power Plants in Entlebuch Canton, Lucerne, Switzerland," *Current Projects*, last modified 2008, <http://www.wissenskunst.ch/uk/current-projects/1/>

Rainer, here we see a contemporary artist whose work uses the conventions of scientific illustration in a way which seems to connect to the stated intent, and which, related to the aims of this thesis, renders a drawing of a plant in an environmentally meaningful and visually memorable way. In spite of their underclass status as lesser plants and pests, Landy's carefully considered studies of weeds suggests the historical traditions of scientific illustration normally reserved by botanists for more notable species. I like this contradiction and dichotomy in Landy's approach, and the overarching simplicity of his drawn images. As in much of Hesse-Honegger's work, the isolated relationship of figure to ground seems to make the plants themselves appear a little lost and vulnerable, and the lightness of the marks, particularly in some of the smaller drawings, makes them look as though they might fade away into the expanse of white paper. *Creeping Buttercup*, shown in Figure 16, has an evocative three-dimensional quality, and fragile and lonely as the plant appears, the roots conversely look tenacious and strong, as though ready to be replanted and revived.

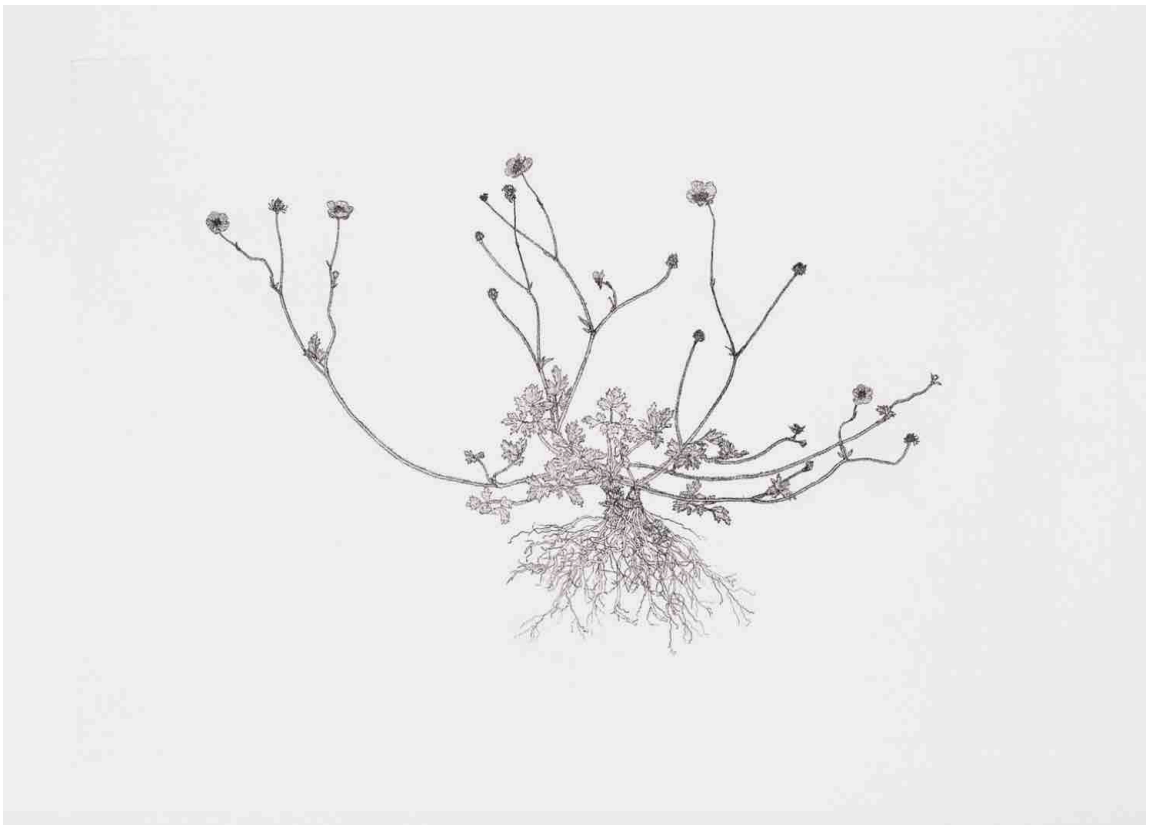


Figure 16. Michael Landy, *Creeping Buttercup*, from the series *Nourishment*, 2002. Pencil on paper, 39 x 55 cm.

This presents a point of difference to Watson's *Pisonia*, where the branch of the plant appears broken off, and rootless. Rachel Taylor, writing about *Creeping Buttercup*, commented that the artist calls the weeds "street flowers," and she adds, "Landy collected a number of these plants and took them back to his studio where he potted and tended them, making studies of their structures including detailed renderings of roots, leaves and flowers."<sup>107</sup>

Other artists whose work focuses on environmental concerns were included in the *Art + Climate = Change* publication, which came as a result of twenty-five exhibitions and forty-five public programs hosted in Melbourne in 2015, and then again in a similarly ambitious and diverse program in 2017. The book which flowed from the first 2015 event was published retrospectively in 2016. It included the work of many of the artists who exhibited during the event period, and some of the essays provide additional insights into the different approaches taken.

One work in particular resonated with me, the small-scale *Untitled* pencil drawing by Manabu Ikeda, which measured just 46 x 61 cm, shown in Figure 17. This Japanese artist is well known for his meticulous and highly imaginative dreamscape drawings, and they are usually rendered in pen and ink. Most of his previous works have taken between two and three years to complete, and their dense and complex imagery is on a much larger, full wall scale that incorporates colour as a key feature. This more recent monochrome pencil drawing, is however, fundamentally different. I responded to its quiet stillness and subtle combination of a nuclear cooling tower overgrown by an encroaching, regenerated forest. It seems to suggest a future time, after some event where humans are no longer present or impacting on nature's ecology. The background mist softens the form of the trees, and a holistic sense of calm seems to pervade the simple, yet compelling symmetry of the composition.

Several of the works described in Chapter Two demonstrate the utilisation of drawing techniques which enhance an aesthetic of beauty, and these devices include the use of symmetry, balance, reductive selection of colour, and simplicity, amongst others.

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<sup>107</sup> Rachel Taylor, "Michael Landy, *Creeping Buttercup* 2002, Summary," *Tate Gallery*, last modified December 2003, <http://www.tate.org.uk/art/artworks/landy-creeping-buttercup-p78730>



Figure 17. Manabu Ikeda, *Untitled*, date unrecorded. Pencil on paper, mounted on board, 46 x 61 cm. Photo by Miyajima Kei. Mizuma Art Gallery, Tokyo.

A significant number of artists in the *Art + Climate = Change* collective demonstrate the diverse and often visually direct ways that they view climatic and environmental issues. Some are didactic and convey a clearly communicated, somewhat blunt warning, but others like Manabu Ikeda remind us instead of the fragile beauty of the natural world. These glimpses of something calmer, can subtly engage our emotional responses, and remind us of our psychological need to also see and be drawn in by beauty. Ikeda's drawing is profound and yet so simple – its pared back image takes our minds into that forest, where we sense that the air is fresher than it used to be, and the birdsong now more prevalent, perhaps. The machinery powering the cooling tower has fallen silent, and now we may hear and see other things from our natural world in their place. As we observe the overgrown, wild vegetation, slowly we see some tiny markers and indications of previous human habitation in the foreground – a broken line of street lamps, and a small dwelling which appears uninhabited.

Further research has indicated that Ikeda has produced three other small scale monochrome pencil drawings of trees, which also appear to explore aspects of the

coexistence and contradictions of nature with the human species. Increasingly his other larger scale colourful pen and ink drawings have explored the aftermath of various disasters such as nuclear reactor leaks, earthquakes and their resulting tsunamis. Ikeda's bigger works have an overwhelming 'end-of-the-world' sensibility, and the stillness of the *Untitled* drawing discussed in this thesis, instead evokes biophilia, and stands apart from his larger scale epic, and frenetic drawings.

Most of the artists whose work is featured in the *Art + Climate = Change* 2016 publication use photographic processes. This is another reason why Ikeda's work resonated with me, as the human quality of marks he made on the surface of the paper seemed to provoke, not limit my imagination and emotional connection to the drawing, in a way similar to the previously discussed works by Margaret Flockton, John Wolseley and Cornelia Hesse-Honegger. I found it harder to feel engaged by several of the photographs by other artists in the same publication, which sometimes seemed to have a stronger sense of environmental reporting than an Eco Art aesthetic which involved the viewer in a deeper way. We have perhaps become used to seeing such photographs in our newspapers of birds on beaches choked by pollution, of oil spills devastating natural environments, of people wearing gas masks, and of toxic waste in rubbish dumps. The term 'news-feed' seems to aptly summarise the seemingly constant stream of ever changing photos on online news pages. From my observations, the journalism of the photographic essay has now evolved to include interactive maps and multiple side pages which are just one click away – more, more, more, information which seems predominantly about the pessimistic state of our world. Statistics on anxiety and depression show a steadily worsening picture, and ecoanxiety has been recognised as a defined subset, linked to feelings of helplessness and resignation.<sup>108</sup>

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<sup>108</sup> "To compound the issue, the psychological responses to climate change, such as conflict avoidance, fatalism, fear, helplessness, and resignation are growing. These responses are keeping us, and our nation, from properly addressing the core causes of and solutions for our changing climate, and from building and supporting psychological resiliency...People's willingness to support and engage in climate solutions is likely to increase if they can relate them to local experiences or if they see the relevance to their own health and well-being." This echoes the points about climate change avoidance made by Naomi Klein. Susan Clayton Whitmore-Williams, Christie Manning, Kirra Krygsman, Meighen Speiser, "Mental Health and Our Changing Climate: Impacts, Implications, and Guidance," (Washington, D.C.: APA & ecoAmerica, 2017).



In spite of my reservations about some of the photographs in the *Art + Climate = Change* exhibitions, I had a positive and emotional response to one particular photographic work in the publication, because of the way in which the photograph was unusually developed and printed onto a natural, found object. David Buckland's series *Shards*, 2012, shown in Figure 18, are photographs of abstracted organic cell-like structures exposed onto fragile chalk pieces. They collectively create a sense of a fossil relic from the future, and the viewer can make associations between the natural forms and the hands of the foetus shown still within the womb – innocent, not yet real, and still somehow impactful. These hand-sized shards allow a physical closeness to the images in a more direct and tangible way. This work influenced my thinking about how to use the Fisher Library glass vitrine cases when the opportunity was offered to me at the end of 2015. Like Buckland's *Shards*, the Fisher cases have a black background, and compartments separated by smaller subsets and partitions. I was able to experiment and explore with more three dimensional forms; this is described in Chapter Four.

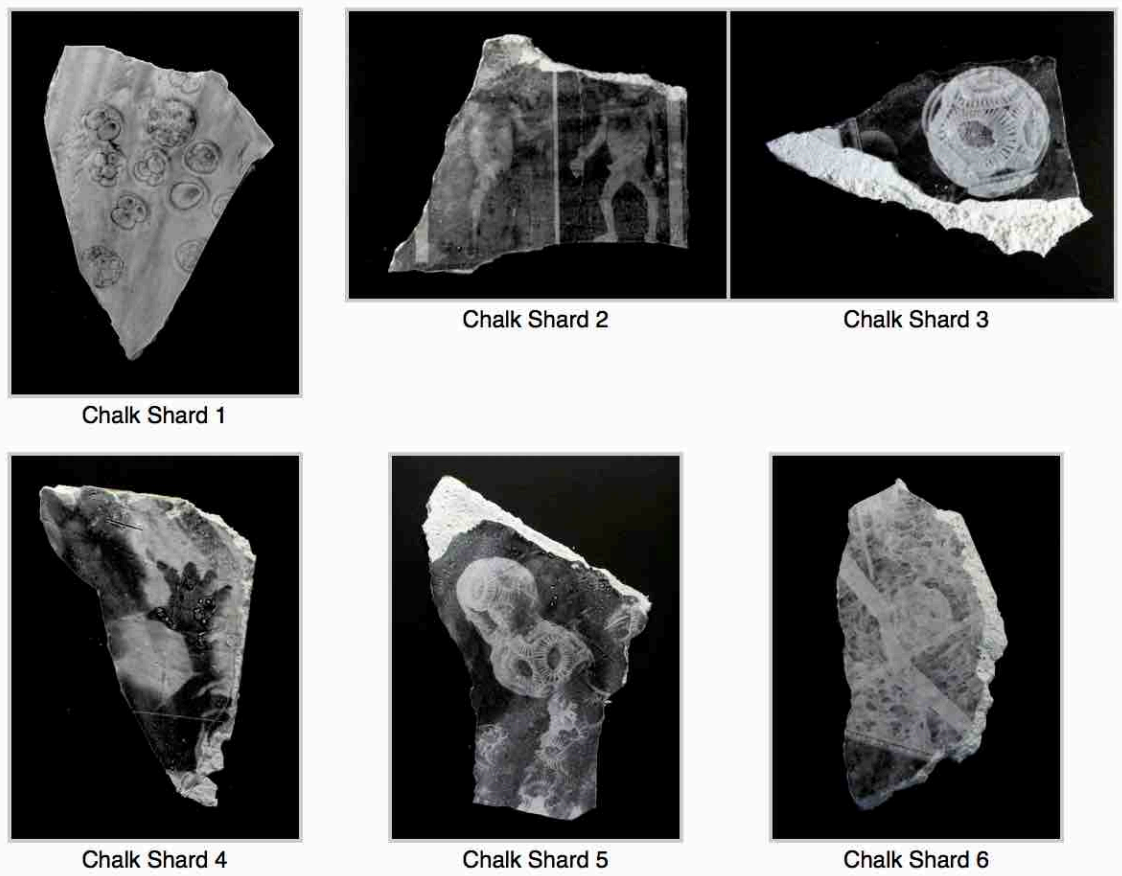


Figure 18. David Buckland, *Chalk Shards 1-6*, 2012. Photo engraved chalk, sizes various.

As previously discussed, there are a number of ways that scientific diagrams can be conceptually blended into the creation of new works. In addition to diagrams being used as the background and overarching context to a composition, as explored by Wolseley and Watson, artists can also consider other methods scientists use to communicate climate change information in visual ways. One method is the comparison of two images showing change, often in a timeline of before-and-after. In many cases this has demonstrated an erosion of some sort, such as the diminishing size of the Amazon rainforest, global glaciers, and melting polar ice caps. Comparative diagrams produced by scientists, botanists and geographers can also conversely show growth, such as in the enlarging of city boundaries, and the resulting loss of natural habitats, or increases in introduced species at the expense of the surrounding natural ecosystems.

The work of the Australian artist Debbie Symons is positioned in the connection between the measurement of science and the artistic interpretation of data. Her short film *Amazonia* (2015) explored this. The film integrated statistics not just on the diminishing size of the rainforest, but also conversely in increases in commercial capitalism and trade. The timeline tracks the reduction of one juxtaposed with the increase of the other. In several of the recent exhibitions focusing on climate change, some sort of collaboration between artists is demonstrated, and Symons' work was also shown in the 2015 *Art + Climate = Change* exhibitions. Although her film includes statistical references and subtitles in the same way as visual communication might do, Symons' image was exhibited in an art gallery, and installed with thematically linked sculptures in a show which interconnected her work with others.<sup>109</sup>

This film creates a bridge between static drawings, and drawings which are moved into combined, transmedia contexts, and frequently into new sites beyond traditional art galleries. Transmedia Art frequently uses an interdisciplinary approach to investigate the communicative potential of art. Recent installations like Symons', incorporate film and other media which show evidence of the impact of climate change, such as statistics. Merging and integrating different forms of communication is typical of Transmedia Art. The science of climate change and the ways aspects of this science are being directly

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<sup>109</sup> Debbie Symons, "Amazonia, 2015," last modified 2015, <http://debbiesymons.com.au/amazonia/>

used by artists, can influence and frame where the artwork is situated in what is a relatively new field of research. Transmedia Art works across and within different systems, often blurring the boundaries between artistic techniques. My thesis also explores how drawing may be extended further into other media and new locations in alternative ways, and this is discussed further in an analysis of my own artwork and outcomes in Chapter Four.

It could be argued that the previously discussed *Wrapped Globe* by Christo is an early example of something we might call a transmedia piece of art, as it was deliberately and consciously created with that aim in mind, to move people to action through viewing it on the cover of a high circulation magazine, and not in an art gallery or within a natural landscape. It also needed to work visually on a much smaller than life size scale, and in conjunction with text and titles. Transmedia Art narratives such as *Wrapped Globe* build on the technique of telling a story or embedding an image across multiple platforms, and artworks such as these have influenced the interconnection of art with other media. The intention of such works seems to be not only to reach and impact on a larger and wider audience, but also to explore the story in a more expanded, memorable and potentially integrated way. Christo often filmed and photographed his drawings, work process and the ritual of wrapping objects and places, and his other artworks have also sometimes been further extended and used in a transmedia way to promote activism on environmental issues, as evidenced by *Wrapped Globe*.

Viewing and reframing Christo's work through the lens of Jenkins' transmedia definitions, we may say that *Wrapped Globe* is adapted by *Time Magazine*, which tells the same story within its pages. It also, however, extends the story of Christo's artwork by adding additional content and other interrelated images within the pages of the magazine itself. Jenkins intends the adaptation and extension distinction to enhance our understanding of additive comprehension, a term used by game designer Neil Young to explain how each new format contributes towards our comprehension and interpretation of the overarching story.<sup>110</sup> Since one of the intents of Transmedia Storytelling is to deepen audience engagement, it also seems to have some relevance

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<sup>110</sup> Henry Jenkins, "Defining Transmedia Further," last modified July 31, 2011, [http://henryjenkins.org/blog/2011/08/defining\\_transmedia\\_further\\_re.html](http://henryjenkins.org/blog/2011/08/defining_transmedia_further_re.html)

and the potential for a more conscious, yet different application in the creation of artwork imbued with environmental messages. The transmedia approach is frequently predesigned and consciously intended, versus a multimodal approach which sometimes uses different modes in an unsequenced arrangement. Conversely, Watson's *Pisonia* in *The Guardian* article is not Transmedia Art since it was reproduced in the newspaper article, but not adapted or extended in any way – by not using or referring to it, the journalist diminished its potential transmedia use, and also its additive comprehension value.

There is another aspect of the transmedia perspective which is relevant to the overarching theme of this thesis, and that is in its method of modelling serialised structures, which unfold a story progressively over a period of time. Serialised structures frequently use dispersal, where the story is broken into interconnected sections, and chunking, where more meaningful parts are taken and highlighted in some way. Ideally, each medium makes its own unique contribution to the unfolding of different aspects of a theme. I explored this specific concept through a series of iterative installations in an ongoing series at the Fisher Library in 2017, and this is described in Chapter Four.

We have seen immersive three dimensional virtual worlds move from the domain of gaming to art, and it seems a reasonable bridge to have the process also work in reverse, where an artwork can be used as the starting point and focus for an interactive transmedia experience relating to environmental concerns, by utilising different making conventions, operational modes and contextual histories. Artists and different media require different kinds of representation, and they are both influenced by alternative ways of visualising networks. Jenkins further references this concept when he describes the recent convergence of these ideas as “...a paradigm for thinking about the current moment of media change, one which is defined through the layering, diversification, and interconnectivity of media. Convergence contrasts with the Digital Revolution model which assumed old media would be displaced by new media.”<sup>111</sup>

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<sup>111</sup> Ibid.

We no longer have single dominant art movements, and the multimodal methods of media use frequently combine with aspects of art to concurrently promote and enhance the understanding of ideas. This is indicative of different ways of thinking about and responding to problems and issues. The introduction of increasingly complex, across platform tools have also led to a blurring of boundaries between disciplines, and have created alternative ways of generating original ideas. In addition to marches, petitions to parliaments and other more traditional methods of inspiring collective action, I assert that Transmedia Art combined with Eco Art can potentially create and generate momentum for more action, both at a personal and community level. Transmedia Art and Eco Art, as seen in the further use of Debbie Symons' films at international climate change conferences and festivals, enhances issues and gives audiences more than one way of accessing information, exploring it visually, and being influenced by it in perhaps more positively framed ways.

There is an interesting difference between artworks being used in this way, and visual communication, such as the drawings and animations seen in videos which animate and tell related stories and provide facts about climate change. One of these images on their own in isolation does not tell the story or emotionally engage the viewer, in the way that Christo or Watson's artwork might do. In each of those two cases the artist's image of the artwork is a complete entity, which works as an emotive and engaging form without further context being provided. The use of powerful art images is not just as a vessel for a message being visually communicated, but as a potential anchor to embed the message more clearly in the mind of the viewer. Beyond that is an important affective process connected to artwork, and its ability to influence how we feel, what we remember, and how we react and respond. The power of art to viscerally engage those who experience it can be both a positive and a negative however. As previously discussed in Chapter One, a quote from Klein's book summarised several common ways and tendencies people demonstrate to avoid feeling overwhelmed by the scale of climate change, and this was reinforced by the more recent report referenced in this chapter.

As time passes, I cannot remember each of the multiple drawings used in various climate change videos, but the images of Watson's sickly green drawing of a Pisonia plant, and

Christo's abandoned beach globe, are visually memorable in a fundamentally different way. Their art functions and has an impact on its own, in isolation from the added context, in a way that some examples found in visual communication tend not to do. From the distance of time I can still remember the image of Watson's drawing, but unfortunately not the details of what Bill McKibben wrote in *The Guardian* piece her work indirectly illustrated. This provokes the observation and open question - if we do not remember the details of something, how likely are we to enact perceptual or behavioural change?

This aspect of memory, what we remember, and why, ties in to recent research which has provided insights into our ways of thinking and understanding the visual in the light of advances in 21<sup>st</sup> century learning. Dr John Medina is a developmental molecular biologist and specialist on the development of the human brain. His *New York Times* bestselling book *Brain Rules* (2008), covers information relating to the influence that a number of topics have on the effective working of our brains, and these include sensory integration. He devotes a chapter to Vision, and concludes through statistically measured analysis of current research that, "We learn and remember best through pictures, not through written or spoken words."<sup>112</sup> He is quite specific in stating the measured outcomes of research which indicate that, "If information is presented orally, people remember about 10%, tested 72 hours after exposure. That figure goes up to 65% if you add a picture."<sup>113</sup> The impact of climate change images is more memorable than written text and discussion of the issues, and by inference, the use of climate change art images can also have a strong impact on the memories and reactions of audiences. This is discussed further, and the point is developed, in Chapter Three.

Multiple drawings can be combined to memorably render a large scale natural form, and in the case of the next work, these were used to create a virtual impression of the moon. The collaboration of Olafur Eliasson and Ai Weiwei commenced in 2013, and used the structural device of maps of the moon to produce an ongoing project, where tens of thousands of people around the world were invited to upload black and white drawings

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<sup>112</sup> John Medina, *Brain Rules*, (Seattle: Pear Press, 2008), 240.

<sup>113</sup> *Ibid.*, 234.

of things that were meaningful to them. These were combined to create a new, reconstructed large scale image in the form of the moon, which collectively produced a visually memorable piece which works in some senses at a micro, individual level, and also at a macro, collaborative scale. Eliasson and Weiwei document their art practices in many different ways and media, and in multiple collaborations, and like Christo they also record the methods of making, and the iterative progress of some of their work.

I was particularly interested in this project because of the small pre-set scale of each square drawing – this, coupled with the restricted use of monochrome drawing marks, suggested that some sort of holistic outcome might be possible. When you are invited to draw anything, what would you choose? If you know your work will become part of a community of images for the world to openly access, what subject would you want to share as a reflection of your own perspectives? What I had hoped and imagined *Moon* generating, and what it eventually became, were sadly out of sync.

It is initially fascinating to watch the online documentation as the whole moon progressively disintegrates and individual drawings come into focus. Four years on from its inception, the Twitter feed is still actively recording new images and messages, and the website shows the rotating three-dimensional sphere as a whole. Eliasson commented that “That’s how we came up with the *Moon*. It used to be part of Earth. It’s our friend, the marginalized part of the earth. It’s the idea that the *Moon* represents something unconscious from society.” Seeing the drawings of others recombined by these two artists provided me with an insight into their process, which engaged people interactively to consider becoming part of a greater whole. Participants are encouraged to, “Turn nothing into something – make a drawing, make a mark. Connect with others through this space of imagination. Look at other people’s drawings and share them with the world. Be part of the growing community to celebrate how creative expression transcends external borders and internal constraints. We are in this world together. Ideas, wind and air no one can stop. ENTER.”<sup>114</sup>

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<sup>114</sup> Olafur Eliasson and Ai Weiwei, “Moon,” last modified 2017, <https://www.moonmoonmoonmoon.com>

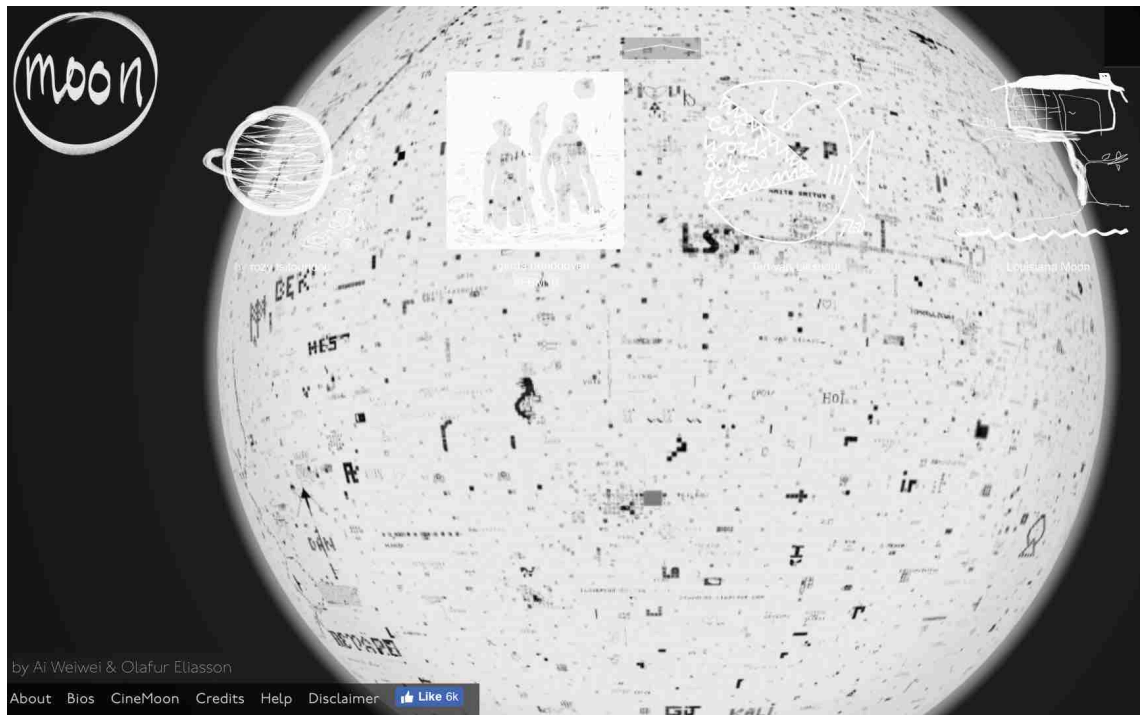


Figure 19. Olafur Eliasson and Ai Weiwei, *Moon*, 2013 – the present. Composite image of multiple digital drawings, size varies and changes with interactive, digital direction from the viewer.

*Moon* is on a much bigger and more collaborative scale than Wolseley's or Watson's drawings, but they share a compositional structure where maps and scientific diagrams are used as a key structural part of the hand drawn images. *Moon* uses multiples of digital drawings, mapped together, and Wolseley's *Keeling Curve* uses repeated paper pieces which create a sense of movement floating above and below the graph line. The physical movement of *Moon* engages the viewer in a heightened interactivity in a mapped grid, and, relevant to this thesis, there are many images of plants which appear, some which have been contributed to voluntarily by multiple people, as in the two examples shown in Figures 20 and 22.





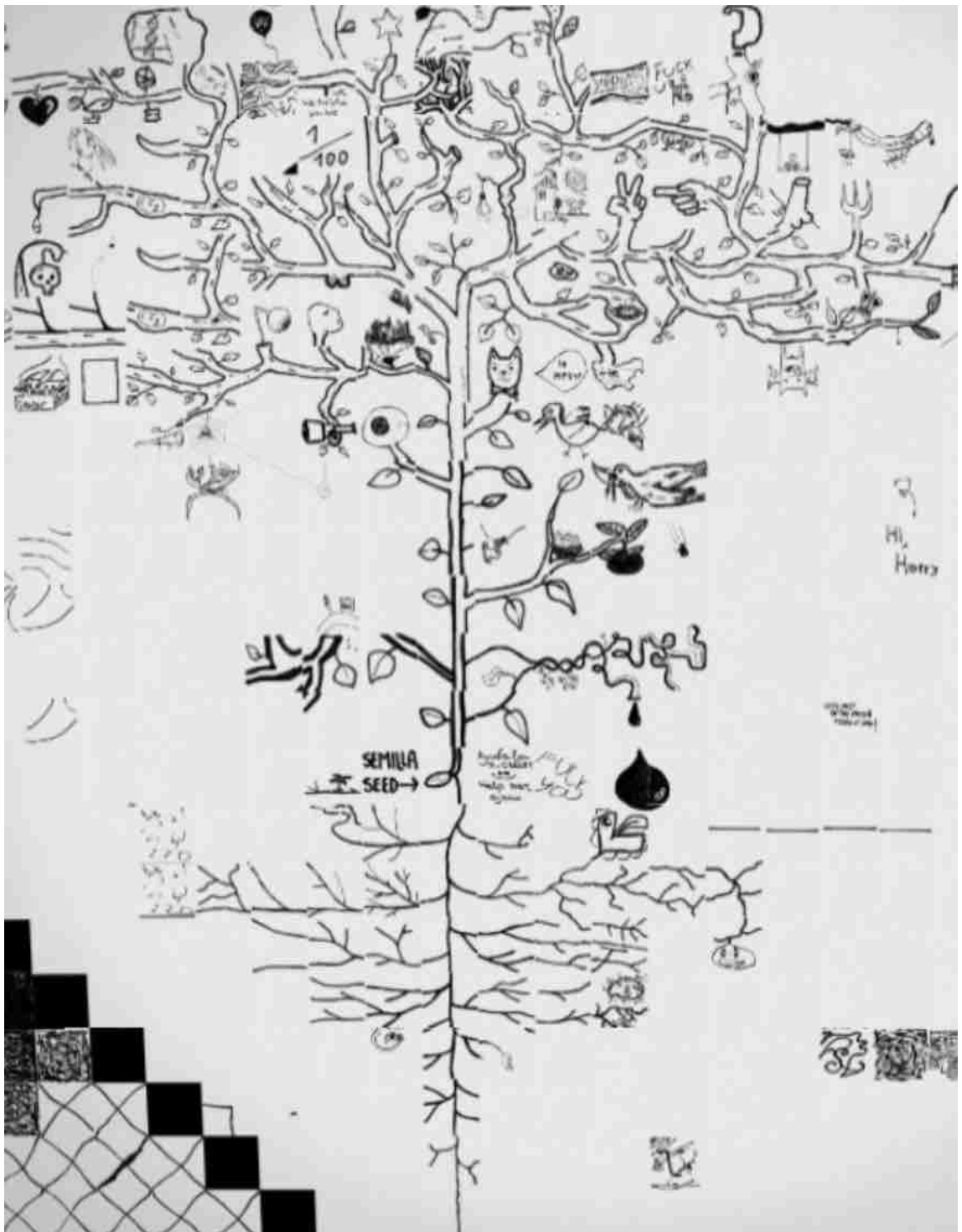


Figure 22. Seeds, tree, leaves and roots by multiple artists, from *Moon*, 2013 – the present. Composite image of multiple digital drawings, size varies and changes with digital direction from the viewer.

It would be idealistic and disingenuous to infer that *Moon* has fulfilled its stated aims, and that most of the more than 80,000 participants who have now generated hand drawn images have embraced the opportunity to reflect on and share the positive aspects of what it means to be human. In reality, from my observations, unfortunately the majority of individual images are actually written text, some of it offensive, some of

it self-serving, and some of it explicitly alarming. Many pornographic images appear, and there is an evident troll-like tendency for one person to appear to attempt to interlope and spoil another's work by adding inappropriate images or words next to it. Offensive statements denigrating various religious groups, Nazi swastikas, and images of cats all combine to leave an uncomfortable sense that the anonymity of the uploads brings out some of the worst – and not mostly the best - of humanity. In a telephone interview conducted by Robin Cembalest for *Art News*, Eliasson admitted to the observed toilet humour that abounds, adding “the men’s toilet at least,” and he acknowledged that “It is [an] odd mixture between the really creative, and side by side by something totally non-creative...Clearly we have no control over what is actually going on.”<sup>115</sup>

From the perspective of this research this was a disappointing outcome. I had considered some form of open, collaborative drawing project to raise awareness of endangered plant species, in the initial stages of generating ideas for outcomes.<sup>116</sup> In order for it to be global, I had considered digitally uploaded drawings, and this was what brought me to explore *Moon*. I was dismayed and dissuaded by many of the images, and wondered if it was an anomaly, perhaps related to the ‘tall poppy’ status of Eliasson and Weiwei. As I researched further, the next collaborative international drawing project I looked at, *Superfreedraw*, confirmed my perspective that open uploads suffered from diverse difficulties, and considerable issues related to uncensored images.<sup>117</sup> *Superfreedraw* is still active, and has had in excess of 150,000 uploads from all over the world, and on every occasion I have accessed it, racist, pornographic and offensive words and images appear at random, including drawn images of paedophilia and incest. As with *Moon*, on multiple occasions, when someone does attempt to draw something beautiful, it is obscured by an offensive image drawn by someone else over the top. *Superfreedraw* have published a book of these uncensored images, and have received international

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<sup>115</sup> Robin Cembalest, “How Ai Weiwei and Olafur Eliasson Got 35,000 People to Draw on the Moon,” *Art News*, last modified December 19, 2013, <http://www.artnews.com/2013/12/19/how-ai-weiwei-and-olafur-eliasson-got-35000-people-to-draw-on-the-moon/>

<sup>116</sup> There are a surprising number of these collaborative art projects, and most that I have investigated seem to relate to drawing, and often in monochrome. Examples of such initiatives are the Global Draw Project: Visualise and Connect, the International Collaborative Drawing Project, and The Sketchbook Project. As detailed above, my idea to initiate an open collaborative project did not progress due to the reservations I had about the objectively observed outcomes of both *Moon* and *Superfreedraw*, therefore the other websites were not ultimately used, and as a result are not listed in the Bibliography.

<sup>117</sup> Author unknown, “Superfreedraw,” Home page, last modified 2017, <http://www.superfreedraw.com>

press coverage, and I am surprised by the lack of criticism in relation to both *Moon* and *Superfreedraw*. I have not referenced the *Superfreedraw* publication because I did not want to go further down a path where I would have to consider or justify censorship myself, or enter into a deeper discussion about the negatives of collaborative, open, global drawing projects.

This was further demonstrated by a disclaimer in another, this time restricted collaborative drawing website, *The Big Picture Art Project*, which stated, “We reserve the right to refuse any image or text of a hateful, racist or discriminatory nature.”<sup>118</sup> From my observations and research, the aim and public image of what was intended by both *Moon* and *Superfreedraw* was significantly different to the outcome and reality, and it taught me an important lesson – not everyone cares in the way I do about nature and beauty. This knowledge and deeper questioning of the projected image versus the actual reality in relation to uncensored collaborative drawing projects, made me curious to better understand how others may be disconnected from the natural environment, living in cities, and experiencing anxiety. This insight directly led to my workshop proposal to *The Big Anxiety Festival*, discussed in Chapter Four. Instead of my initial idea of an open collaborative drawing project, I addressed my concerns in a reframed question - what if I worked with individuals who suffer from anxiety, and used the powerful tools of drawing, nature and beauty to enhance understanding and create a sense of a supportive society and caring community?

Independent of his *Moon* collaboration with Eliasson, Ai Weiwei has also individually used trees, and multiples of plant seeds and flowers in his work, most recently in 2013 - 2015 in an installation in a bicycle basket outside his Beijing studio. He changed the flowers each day in protest against the Chinese government’s withholding of his passport. The daily photographs were uploaded into Flickr, and the project was titled *With Flowers*.<sup>119</sup> Weiwei commented that “Flowers are the most common language. For one thing, they are about life.”<sup>120</sup> His installation seemed to also reference a dark time in

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<sup>118</sup> Sophie Babeanu and Sandrine Pelissier, “Participate” page, *The Big Picture Art Project*, last modified 2017, <https://thebigpictureartproject.com/how-to-participate/>

<sup>119</sup> Kriston Capps, “Ai Weiwei’s 600 Days of Flowers,” *The Atlantic*, July 22, 2015 <https://www.theatlantic.com/entertainment/archive/2015/07/ai-weiwei-with-flowers/399275/>

<sup>120</sup> Ai Weiwei, quoted in “Ai Weiwei’s Floral Bike Protest,” *Phaidon*, January 3, 2014, <http://au.phaidon.com/agenda/art/articles/2014/january/03/ai-weiweis-floral-bike-protest/>

Chinese history when Mao Zedong encouraged commentary about the Chinese Government, saying “The policy of letting a hundred flowers bloom and a hundred schools of thought contend is designed to promote the flourishing of the arts and the progress of science.”<sup>121</sup>

Many who participated in the Hundred Flowers movement were punished and subsequently imprisoned. The words of the original poem have been adopted, repurposed and adapted since 1956, by various artists, and have come to also represent the idea of openness in a community to different ideas and alternative perspectives. Weiwei’s 2014 ceramic installation work *Blossom* has also been associated with the Hundred Flowers theme, and a further interpretation of the porcelain flowers suggest their symbolic use as a form of comfort and sympathy for the previous prisoners of the cells in Alcatraz Prison where the artwork was installed.<sup>122</sup> *Blossom* is shown in Figures 23 and 24, and as with many of his other works, it uses multiples of a thematic image. I also observed that he is reductive in his approach – the lack of colour in the flowers lends a calm and mindful sensibility to the *Blossom* work.



Figure 23. Ai Weiwei, *Blossom*, detail, 2014, ceramic, sizes of installation components various.

<sup>121</sup> Hundred Flowers Definition, *Oxford Living Dictionaries*, last modified 2017, [https://en.oxforddictionaries.com/definition/hundred\\_flowers](https://en.oxforddictionaries.com/definition/hundred_flowers) and Gilbert King, “The Silence that Preceded China’s Great Leap into Famine,” *Smithsonian Magazine*, last modified September 26, 2012, <http://www.smithsonianmag.com/history/the-silence-that-preceded-chinas-great-leap-into-famine-51898077/>

<sup>122</sup> For-Site Foundation: Art About Place, “@Large: Ai Weiwei on Alcatraz: Blossom,” photo credit Jan Sturmman, last modified 2016, <https://www.for-site.org/project/ai-weiwei-alcatraz-blossom/>

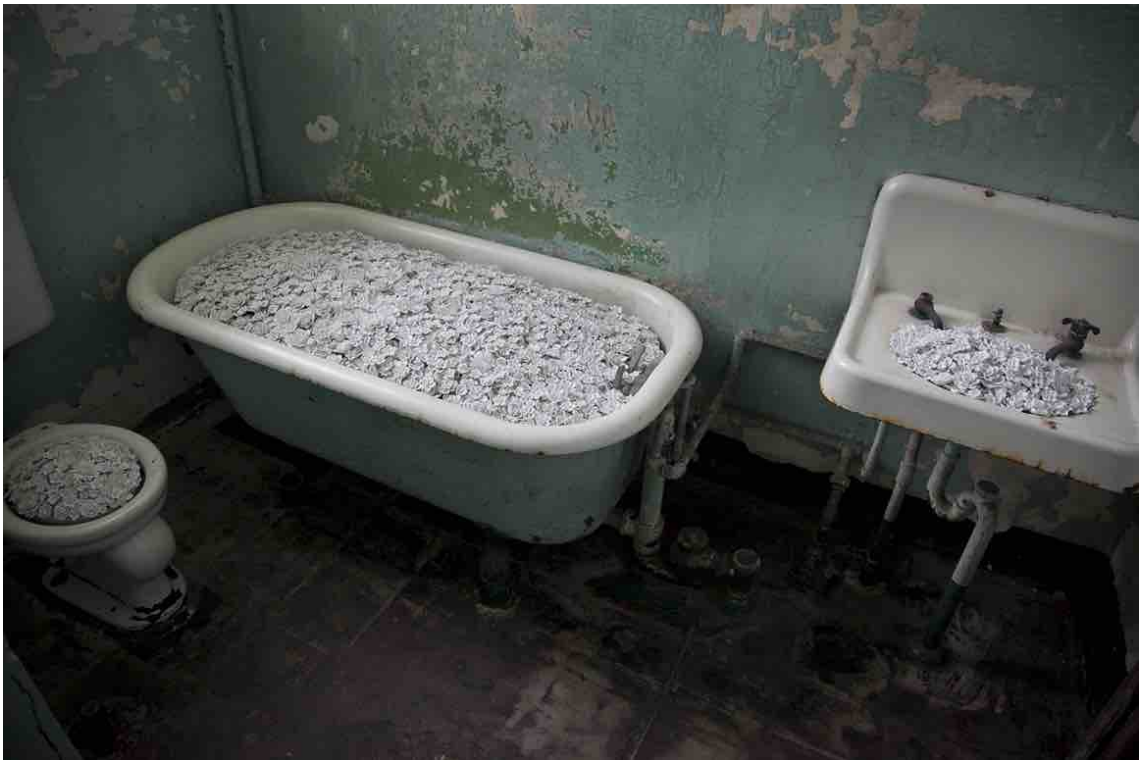


Figure 24. Ai Weiwei, *Blossom*, 2014, ceramic, sizes of installation components various.

I have frequently worked within series, using multiples and repeated images, and exploring Ai Weiwei's interest in, and remarkable body of work relating to nature and the environment was inspiring. Looking at his work in greater depth acted as an antidote to the disappointment of many of the drawings shown in *Moon*. Over a period of years Weiwei has also produced more than fifteen large scale sculptures in an ongoing series titled *Tree*, which use multiple sections and parts of different species of trees recombined together. The *Tree*, *Moon*, *With Flowers* and *Blossoms* projects all feature plants in some way, and bring different environmental and cultural perspectives and messages to audiences, incorporating various methods of execution and communication, and this can be compared to the earlier *Wrapped Globe*, by Christo, and more recent *Pisonia with Acidification Graph*, by Watson. Weiwei, from my observations, utilises many different ways of generating dialogue through his works, and he is not restricted by medium or method. He actively uses social media as a tool to communicate his artwork more broadly, and this aspect made me take a much more active approach to promoting the outcomes of my own work, as discussed in Chapter Four.

The use of plant based art images being applied in non-traditional ways, including as illustrations on climate change articles, as designed diagrams, and in films, can help to tell an inter-related story. While some might suggest that their recontextualisation and use across different platforms diminishes their unique artistic perspective, this thesis argues against that view. Art can and does engage an audience without needing to have a prescriptive message, but the work of artists involved with environmental concerns using an Eco Art ethos, frequently blends with other visual communication techniques to produce a combined Transmedia Art approach, as we have seen in several of the works described in this chapter. This leads us to consider how we can consciously and deliberately integrate a blend of Eco Art and Transmedia Art with the need to more actively motivate audiences to connect with climate change.

Looking back at Chapter Two, examining the history of individual images that have previously influenced social change relating to ecology and the environment, helped to establish a context and foundation of understanding for my current research. Looking at some of the different ways scientific illustration has been repurposed and appropriated by other artists, assisted in informing the ideas I developed, particularly in the final year of my research. Learning more about Transmedia principles also assisted in the conceptual development of two short films in 2017, where I actively considered adaptation and extension in my drawings and creative practice. Exploring the output of artists who work within an Eco Art ethos also helped me to see what I did, and did not, want to do, and to more clearly see why. Finally, I became sure that my passion for drawing was unabated, as I looked on the beautiful and arresting works of Wolseley, Watson, Hesse-Honegger, Landy, Ikeda and Buckland. They provoke our attention, but with a peaceful mindfulness not found in *Moon* or in some photographic documentary images of the devastating impacts of climate change and global warming.

I was attracted by their subtle renderings of natural images, and inspired to further extend my own mark making abilities, but in a different way than I had in previous work. Chapter Three further explores the relationship between mindfulness and beauty, to facilitate a transition in the mindsets of audiences, through the creation of artwork that attracts instead of dissuades further engagement.

### CHAPTER THREE: Mindfulness and Beauty

Work is self-expression. We must not think of self-expression as something we may do or something we may not do. Self-expression is inevitable. In your work, in the way that you do your work and in the result of your work, your self is expressed. Behind and before self-expression is a developing awareness I will also call “the work.” It is the most important part of the work. There is the work in our minds, the work in our hands, and the work as a result.<sup>123</sup>

The Preface and Introduction described the impetus and rationale behind the body of creative work, and its selected practice based methodology. This included an overview of plants, and statistics on their endangered and at risk status, related to the research themes. Chapter One offered a further context for my research by analysing selected aspects of climate change and exploring its relationship with endangered plants and art, integrated within an initial Literature Review. This included some recent exhibitions relating to climate change, and discussed several critical factors which can potentially influence people’s disengagement.

Chapter Two explored the work of selected artists working with climate change themes, with a specific focus on plants, drawings, and some hand drawn moving images. My rationale for choosing these artists was in part to explore and examine contemporary drawing works through a proposed, overlapping lens of Eco Art and Transmedia Art, and to begin to consider how they can potentially integrate some aspects of beauty in a mindful way. The artwork of Wolseley, Watson, Hesse-Honegger, Landy, Ikeda and Buckland is notable in this respect. In the words of Agnes Martin, each of these artists demonstrates an awareness of self-expression in their work, combined with their concerns about the natural environment.

Following the contextualisation of my practice by considering climate change literature and artist’s practices, Chapter Three discusses relevant recent research into mindsight, mindfulness and emotional resonance, and explores the relationship of beauty in enhancing these meditative types of mindsets.<sup>124</sup> The process I experienced in

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<sup>123</sup> Agnes Martin, lecture at the opening of the exhibition “Agnes Martin,” Institute of Contemporary Art, University of Pennsylvania, February 14, 1973, republished by Anne Flourney, in *Agnes Martin’s Notes*, <http://anneflournoy.com/agnes-martins-notes/>

<sup>124</sup> Christopher K. Germer, “Mindfulness,” in *Mindfulness and Psychotherapy* (New York: The Guilford Press, 2013), 5. Germer states “The term *mindfulness* is an English translation of the Pali word *sati*. Pali was the language of Buddhist psychology, 2,500 years ago, and mindfulness is the core teaching of this



researching and subsequently combining these aspects alludes to the final line of Martin's observation, where she makes reference to the need to combine the work of the mind with the work of the hands. This relates to the challenges I experienced in my research in aligning my thinking with my making.

This Chapter considers alternative modes (not models) of thinking to the processes I had used prior to the PhD research, and investigates some theories from other disciplines which I found applicable to integrate into my research framework. This was driven by the perceived need to create images which could provide an antidote and respite from the ecoanxiety generated by steadily worsening climate change statistics. The hope is that through my artwork I can establish a stronger response to, and resonance for nature, and that viewer's attention and engagement might be framed in more action-orientated ways as a result.

The Introduction to this thesis discussed studies which have measured, assessed and proved the benefits of images of nature in relation to biophilia, and which have explored the negative ecopsychology of the impact of fear on people's avoidant responses to climate change. This discussion was extended in Chapter One. Recent research further supports these views; an article in the *Journal of Environmental Psychology* observed that "If climate change is too psychologically close...it is likely to be associated with intense emotional reactions, which have the potential to provoke avoidance..."<sup>125</sup> The authors go on to say that there is a "...need to avoid provoking fear and resulting avoidant emotional reactions."<sup>126</sup>

Artist and academic Professor Lesley Duxbury concurs with this view. She describes some climate scientists who believe that an important factor influencing decision making is the tendency for overtly 'catastrophic' climate change communication to reduce people's ability to feel. She goes on to assert that "...if art can evoke feelings

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tradition. *Sati* connotes *awareness, attention, and remembering.*" (Germer's italics and emphasis.) Mindfulness is, however, not always associated with Zen / Buddhist principles – I have read books by Pema Chodron, Jon Kabat-Zinn, Ruby Wax and Mark Williams, whose focus is the concept of secular, mindfulness based stress reduction. It is this non-religious and applied perspective that is advocated and actively applied within this thesis, and which I have used for many years as part of my yoga practice.

<sup>125</sup> Rachel McDonald, Hui Yi Chai, Ben Newell, "Personal experience and the 'psychological distance' of climate change: An integrative review," *Journal of Environmental Psychology*, 44 (2015): 115.

<sup>126</sup> *Ibid.*, 116.

about our world then we can possibly be motivated to make necessary changes in our lives to preserve it.”<sup>127</sup>

Significant in this regard is the important book by George Marshall, *Don't Even Think About It: Why Our Brains are Wired to Ignore Climate Change*. In Chapter Ten, The Two Brains, Marshall introduces a key idea that, “...we apply to climate change the psychological tools we have evolved to cope with previous challenges, and that these may turn out to be inappropriate for this new threat.”<sup>128</sup> This echoes the earlier assertions of both Naomi Klein and Professor Daniel Gilbert described in Chapter One. Marshall goes on to say that “...our avoidance of the issue of climate change may be driven by still-deeper mechanisms evolved to cope with our fears of death.”<sup>129</sup>

More important than this, however, is his belief that our decision making in relation to climate change is impaired by the two predominant, distinct, ways that the human brain processes information. Marshall comments, “One is analytical, logical, and encodes reality in abstract symbols, words, and numbers. The other is driven by emotions (especially fear and anxiety), images, intuition, and experience. Language operates in both processes, but in the analytic system, it is used to describe and define; in the emotional system, it is used to communicate meaning, especially in the form of stories.”<sup>130</sup> The divide between our rational minds and our emotional responses appears to be a factor that inhibits us from responding fully to the real threats of climate change. As Marshall concludes, “The view held by every specialist I spoke to is that we have still not found a way to effectively engage our emotional brains in climate change.”<sup>131</sup> This suggests that care could be taken in the creation of artwork which uses nature, to consider eliciting emotional responses associated with agency, and not provoking fear, anxiety, depression and disengagement.

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<sup>127</sup> Lesley Duxbury, “Breath-taking: Creating artistic visualisations of atmospheric conditions to evoke responses to climate change,” *Local-Global*, Media Asset Management System, RMIT, last modified date unrecorded, date of access 1 July 2017: 38. <http://mams.rmit.edu.au/935hrt45xgu7z.pdf>

<sup>128</sup> George Marshall, *Don't Even Think About It: Why Our Brains are Wired to Ignore Climate Change* (New York: Bloomsbury Pub PLC, 2014), 48.

<sup>129</sup> *Ibid.*, 48.

<sup>130</sup> *Ibid.*, 48.

<sup>131</sup> *Ibid.*, 50.

In the early stages of my research I explored the application of new models of thinking, and I attempted to investigate my themes and ideas using a rational and logical approach. This led not only to more obvious and initially safe creative outcomes, as will be discussed in Chapter Four, but also to a sense of personal frustration, that my research was not evolving in a more challenging and less predictable way. I recognised that in the first year of my studies I had become constrained by trying to figure out the ‘right answer’ and to systematically apply a set process to take me to a comfortable conclusion. I was inhibited by a dual approach where I on the one hand tried to bring logical and rational thinking into my thesis research and writing, while concurrently on the other hand I more intuitively explored plants, nature and beauty in my studio. Midway through my PhD I read two books which countered this initial approach, and which further illuminated the importance of extending my theoretical research in a different disciplinary direction, in order to find a deeper emotional resonance in the artwork I was creating. Both these books clearly demonstrated to me the importance of a more holistic integration and combination of both rational and emotional mindsets, to transition my work less predictably, and to explore alternative methods and new creative practices.

The first of these was *Mindsight*, written by Dr Daniel Siegel and published in 2015. This book was not about art, climate change or the Anthropocene, and yet it seemed to have everything to do with them. I was able to filter and apply the insights Siegel described, to ultimately map the information onto my own lived experiences, and to understand more clearly the focus of my research, and why I cared so much about the natural environment.<sup>132</sup>

Rather than a rationalist approach, by the time I had finished reading the book, I realised that I needed to apply empirical observations – to think less, and to feel more. In the

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<sup>132</sup> As a child, I first went to school in Guyana, South America and then Baghdad, Iraq, before returning to live in Scotland. We did not have a television, and travelled extensively. My high school years were spent living 1000 feet up a mountain beside Loch Ness, in a renovated croft house miles from the nearest town. I developed an embedded passion for nature as a result of these childhood experiences, and an aversion for the accumulation of possessions. Not owning a mobile phone is a conscious choice, and my lived experiences have demonstrated an ongoing need for nature as a source of respite and peace. Reading Siegel’s *Mindsight* book helped me to clarify my own drive to share how I feel about plants, and how nature, combined with art, could potentially be used as an antidote to ecoanxiety.

first year of my research I was guided by the idea that, “The real role is not about using artists to leverage our message up the agenda, but for the artist to make this agenda their own. It is important they maintain their authenticity.”<sup>133</sup> As a result of further, more diverse, and deeper reading, I realised that my lifelong passion for meditation and mindfulness was not a side story to my research, but was at the core of my journey as an artist, and that perhaps it always had been, in a way I had failed to previously recognise. I needed to more authentically articulate what I wanted my work to become, and to more clearly say why it needed to transition into an alternative, freer form of expression.

The second book was by Dr Lisa Feldman Barrett, published in 2017 and titled *How Emotions are Made: The Secret Life of the Brain*. This echoed many of the points made by Marshall in *Don't Even Think About It*, and further extended the insights I had gleaned from reading and personally applying the knowledge from Siegel's *Mindsight* in regards to emotional integration. The relevance and additional application of the research in Barrett's book helped me to have confidence in the new direction my research took halfway through my studies. I felt relieved after reading it, as my own anxiety had escalated, and I was feeling actively depressed by the extensive reading I had previously undertaken on climate change. This was also worsened by looking at many images of climate change art. The interdisciplinary connections between these two aspects suddenly started to make sense to me in my practice based work.

In *Mindsight* Siegel proposed an alternative mode of thinking he called The Tripod of Reflection: Openness, Observation, and Objectivity, and this resonated strongly with me as I worked through the impasse I had reached in my studio work.<sup>134</sup> In applying **Openness**, I needed to be receptive and become more aware of the potential for my work to be different, and to let go of preconceptions about how my work should be, based on my own history and academic career. Openness can help us to release our minds from restrictive approaches and to sense things more clearly, rather than following a pre-set familiar process. Further reflection on this, and the idea of mastery

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<sup>133</sup> Charlie Kronick, Senior Climate Change Adviser, Greenpeace, cited in Madeleine Bunting, “The Rise of Climate-Change Art,” *The Guardian*, December 3, 2009, <https://www.theguardian.com/artanddesign/2009/dec/02/climate-change-art-earth-rethink>

<sup>134</sup> Daniel Siegel, *Mindsight* (Brunswick, Victoria: Scribe Publications, 2015), 31.

versus originality, first discussed in the Introduction, came from this insight. Openness was obliquely referenced by Lynn Gamwell, in her 2002 book *Exploring the Invisible: Art, Science and the Spiritual* when she said that “Knowledge can be attained only by an inner journey – a via negativa – in which the seeker cleanses the mind of all preconceptions. Only then will the sacred truth of nature reveal itself. Today the creative artist or scientist adopts this attitude in order to see the natural world afresh by approaching it without preconceived ideas.”<sup>135</sup>

Combined with Openness, the second aspect of reflection was an **Observation** that stopping my own habitual ways of thinking and working, and instead allowing for a more emotionally resonant approach, would free me from creative inhibitors. I observed how I had previously worked, and I put these insights into a larger frame of reference to extend my perspective and integrate biophilia and beauty. By sensing my own habitual patterns, I could become more conscious of my own self-awareness, and bring my feelings of ecoanxiety into new knowledge and work, altering my artistic output. There was the physical content of my artwork made by my hands, and the mental processes I used to think about the content – the work of my hands, and the work of my mind, to produce the work as a result.

The third aspect of Siegel’s tripod of reflection was **Objectivity**, and it related to developing discernment, the skill of meta-awareness. In order to be objective, I needed to be mindful that how I felt about endangered plants, and that what I expressed in my artwork about how I felt may not be mirrored by others. This was brought home to me by surveying the drawings in *Moon* which were discussed in Chapter Two – there was a disconnect between the overwhelmingly positive collective image of humanity projected by the website, and the reality of the disappointing and disturbing things many people chose to create and upload in their drawings. Further, in surveying many exhibitions, I found that some of the art included in them seemed to discourage people’s engagement, either by confusing visual messages and odd combinations of themes, (as noted in Chapter One), or by provoking fear.

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<sup>135</sup> Lynn Gamwell, *Exploring the Invisible: Art, Science and the Spiritual* (Princeton NJ: Princeton University Press, 2002), 291. Gamwell goes on to comment, “Searchers on such a journey retain their basic vocabularies...but they leave their conceptual frameworks behind.” 291.

In an interesting recent 2016 publication, *Screen Ecologies: Art, Media, and the Environment in the Asia-Pacific Region*, the authors noted that they had needed a methodology that accommodated the trajectories of several different themes, and they proposed “...an approach to the world that situates art, media, and climate change – and ourselves as humans – as part of the environments that we inhabit. This approach views what is happening around us from the *inside* and explores the relationships between the things and processes that constitute the world.”<sup>136</sup> This correlated with something that I teach my students at UNSW, that it is not just the *content* of their work they must consider, but also the *processes* they consciously select and use in making their work in art and design. The content of my own work was strongly influenced by the recognition of the processes happening inside me, and the relationship of that knowledge to my own feelings of fear and anxiety.

Although Siegel does not show the Tripod of Reflection visually, I felt that representing it as I have designed it in Figure 25, shows its interrelationships in a more memorable way, as a conceptual map. I used the principles I summarised and demonstrated in a book chapter I researched, wrote and illustrated, which was published during the period of research.<sup>137</sup> My initial PhD proposal was to design models of thinking in combination with Transmedia Storytelling, in order to conceptually blend climate change knowledge with my artwork, and while this focus changed significantly as my research progressed, my published writing from the first year did ultimately help me to transition my drawings in an alternative way, in the final year of my research, and this is discussed in Chapter Four. Figure 25 also puts into play the statistic of visual memory, which was discussed in Chapter Two, where, as suggested by Dr John Medina in *Brain Rules*, it was seen that using visual images improves retention of information by an average of 65%. Figure 25 uses three evenly weighted circles, each of which show a subtly different image of a Ginkgo Biloba leaf (which sometimes symbolises resilience). The arrows flow interchangeably back and forth, demonstrating the interplay between the three aspects.

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<sup>136</sup> Larissa Hjorth, Sarah Pink, Kristen Sharp, and Linda Williams, *Screen Ecologies: Art, Media, and the Environment in the Asia-Pacific Region*, (Cambridge, Massachusetts: The MIT Press, 2016), 21.

<sup>137</sup> Emma Robertson, “Models of Creative Thinking and Problem Solving: Design Development, Application and Use,” in *Moving from Novice to Expert on the Road to Expertise: Developing Expertise in the Visual Domain*, ed. Arianne Rourke and Vaughan Rees, (Illinois: Common Ground Publishing LLC, 2015), 162-163.

## THE TRIPOD OF REFLECTION



Figure 25. Emma Robertson, *Model of the Tripod of Reflection*, designed to illustrate the principles discussed in the 2015 book *Mindsight* by Dr Daniel Siegel, image designed 2016.

This transition in my artwork, which led from anxiety to a changed artistic process, was important, as it allowed my content to finally progress in parallel with my research and writing. Once I made this connection, I continued to find correlations and further studies linking looking at positive images of nature, and enhanced human well-being and improved mental health. Negative images are just as memorable however, and this insight illuminated my concerns about some Eco Art. I had a direct personal experience of how important that was – I moved from feeling that I could not cope with reading one more climate change article or statistic, to realising that immersing myself in the beauty of nature brought feelings of calm and control, and an important and vital sense of reengagement in my passion for the endangered status of plants. Mid way through my research, a three-week trip camping in the Simpson Desert in 2016, away from all media, reinforced this knowledge. The desert was in full bloom after unexpected, heavy rain, and the landscape of vivid plants and flowers, along with my understanding of the importance of openness, observation and objectivity gleaned from Siegel’s book, restored my energy and enthusiasm.

In Siegel’s words “...the essence of reflection, which is central to mindsight, is that we remain open, observant, and objective about what is going on both inside us and inside others.”<sup>138</sup> This was an important factor that I had overlooked, that inside others there may be a mix of complex emotions, including fear, aversion and anxiety in responding to climate change. After reading *Mindsight*, instead of thinking about my artwork as a me-to-them communication, it resonated more emotionally to consider what “we” might collectively feel. Another way of expressing it is to say that I feel I moved from a solo focus to a dual focus. This led me to realise that I was not alone in my feelings of depression and desperation about the ‘state-of-the-world.’ I began to investigate anxiety in the broader community regarding climate change, and to explore emerging research into the applied use of nature as a proposed antidote to that anxiety.

Being a part of nature provides us with a measurable source of individual calm, and it can enhance a deeper connection between us as a species. Correlations have been found between human health and experiences of nature.<sup>139</sup> In some cultures, being a part of,

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<sup>138</sup> Daniel Siegel, *Mindsight*, (Brunswick, Victoria: Scribe Publications, 2015), 32.

<sup>139</sup> Alexandra Sifferlin, “The Healing Power of Nature,” *Time Magazine*, Issue July 25 (2016): 24-26.



not separate to nature also has a long and integrated human history.<sup>140</sup> This aligns with a section titled *Hope* in the recent *Art as Therapy* book which stated “...it is because the troubles of the world are so continually brought to our attention that we need tools that can preserve our hopeful dispositions.”<sup>141</sup> Commenting on the history of landscape works, the authors added that “...art that pays a great deal of attention to the natural world would be prized only when there was some special need for it. ‘As nature begins gradually to vanish from human life as a direct experience, so we see it emerge in the world of the poet as an idea.’ As life becomes more complex and artificial, as life is lived more indoors, the longing for a compensating natural simplicity gets stronger.”<sup>142</sup>

Siegel explored the importance of integration to our ability to make sense of our lives. As he described it, “...when we integrate those embedded experiences into our present consciousness and recognise them as implicit memories – not valid intuitions or reasoned decisions – then we begin to offer ourselves the means to become awakened and active authors of our own life story.”<sup>143</sup> The experience of researching climate change, and looking at some of the Eco Art produced in response to global warming, left me with a confused and unclear sense of how my work might fit into something that made me feel increasingly anxious. When I brought broader reading in ecopsychology and ecoanxiety into the mix, things started to make sense, and alternative and more authentic, less superficial ideas began to flow. Siegel commented that “Making sense is a source of strength and resilience...essential to our well-being and happiness.”<sup>144</sup>

As previously noted, three interrelated aspects of openness, observation, and objectivity are described, and these are variously discussed across several chapters in Siegel’s book, in relation to insight, intuition and integration. This helped me to see that my own insights and meta-awareness (or awareness of my own awareness) were crucial to the creative progression of my research. By constructively critiquing my past artworks I became more aware of the potential for new ideas to emerge. Later in the book Siegel

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<sup>140</sup> In Japan, the principles of human connection with nature are represent in Ikebana flower arranging, and in forest-bathing, Shinrin-yoku, both of which have a long cultural history. Karesansui rock gardens in Japan facilitate meditation and are often found in monasteries. In China, the collection of natural Scholar’s Stones also focusses on their natural beauty and calming asymmetrical balance.

<sup>141</sup> Alain de Botton and John Armstrong, *Art as Therapy* (London: Phaidon Press, 2016), 13.

<sup>142</sup> *Ibid.*, 30-31.

<sup>143</sup> Daniel Siegel, *Mindsight*, (Brunswick, Victoria: Scribe Publications, 2015), 65.

<sup>144</sup> *Ibid.*, 172-173.

posed a series of pertinent questions, and reading them and considering my own responses, progressed my understanding of the broader context my artwork needed to actively consider and exist within: “What can we do? Our species adapts, learns to make do, to live in megacities of millions, bombarded by information from around the planet. But many of us find that we either numb ourselves to cope or we become painfully aware of the fragility of our condition.”<sup>145</sup>

The more I researched and read about ecopsychology and ecoanxiety, the more I realised that my own need for biophilia and beauty might be a response felt by others, who shared my concerns about climate change, and who might also experience overwhelming responses to overtly distressing, unforgettable images and progressively worsening news. Siegel continued, “How do we find peace of mind? Where are the spaces, the mental sanctuaries, where can we put our heads down on a pillow, certain of our persona and collective survival? The longing for simplicity and shelter still stirs in our synaptic circuitry.”<sup>146</sup> This helped me to realise why my attempts to integrate diagrams of diminishing ice, rising sea levels, and global temperatures into my drawings had affected my own peace of mind, and had been fraught with dissatisfaction, difficulty and distress. As Suzi Gablik wrote in *The Re-enchantment of Art*, “Negative images have a way of coming alive just as positive images have. If we project images of beauty, hope, healing, courage, survival, cooperation, interrelatedness, serenity, imagination and harmony, this will have a positive effect.”<sup>147</sup>

It was around this time that I came across a quote which eloquently summarised the inner to outer, me to us, shift I was experiencing. The American philosopher Susanne Langer wrote about the connections of art, aesthetics and the human mind, and in reviewing her book, *Problems of Art*, Maria Popova said that:

Art is an act of translation – inner into outer into inner, artist to audience, part Rilke and part Sontag. It translates the innumerable dialects in which we each cry for connection into a universal language of belonging. Great art, therefore, requires a dual contemplation – it asks the artist to contemplate her interior life and give shape to what she finds there in abstract form; it asks the audience to

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<sup>145</sup> Ibid., 240.

<sup>146</sup> Ibid., 240.

<sup>147</sup> Suzi Gablik, *The Re-enchantment of Art*, (London & New York: Thames & Hudson, 1995), 155.

contemplate the abstraction and glean from it transcendent resonance with our own interior life, engaging in what Jeanette Winterson so memorably called ‘the paradox of active surrender’ and enlarging ourselves in the act of contemplation. In the process of that two-way translation, art transforms us.<sup>148</sup>

The use of the word translation in this quote seemed apt, and furthered the ideas of Siegel’s integrations of insight and intuition. I started to think about the translation of one thing to another, and from artist to artwork to audience, as a form of transition in my work, and amended the title of the thesis as a result. Related to this, in *Mindsight*, Siegel defined interpersonal neurobiology as a field which “examines the parallel findings from independent disciplines to uncover their common principles.”<sup>149</sup> Siegel goes on to acknowledge the 1998 book by Professor Edward O. Wilson, *Consilience – the Unity of Knowledge*, and he paraphrased Wilson’s view, that “consilience enables us to push the boundaries of our knowledge forward by moving beyond the usual constraints of academic fields’ often isolated attempts to describe reality.”<sup>150</sup> This helped me to establish important and relevant interconnections between Wilson’s research and writing on nature, biophilia and consilience, and Siegel’s descriptions of mindsight.<sup>151</sup> Siegel went on to say that “Interpersonal neurobiology is a consilient view that attempts to find these parallel discoveries across numerous ways of knowing – from science, the arts, and contemplative and spiritual practice...this field is an open forum for all ways of knowing to collaborate in deepening and expanding our way of understanding reality, the human mind, and well-being.”<sup>152</sup>

Professor of Psychology, Lisa Feldman Barrett shared and extended a number of the perspectives articulated by Siegel, and her 2017 book *How Emotions Are Made: The Secret Life of the Brain* helped me to synthesise and further reframe my developing

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<sup>148</sup> Maria Popova, “Trailblazing Philosopher Susanne Langer on the Purpose of Art, How It Works Us Over, and How Abstract Thinking Gives Shape to Human Emotion,” *Brain Pickings*, October 28, 2016, <https://www.brainpickings.org/2016/10/28/susanne-langer-problems-of-art/>

<sup>149</sup> Daniel Siegel, *Mindsight*, (Brunswick, Victoria: Scribe Publications, 2015), 279.

<sup>150</sup> *Ibid.*, 279.

<sup>151</sup> In the Introduction to this thesis on page 11, the affinity of human beings with the natural world was noted, as defined and popularised in the book by Professor Edward O. Wilson, *Biophilia* (Cambridge Massachusetts: Harvard University Press, 1984).

<sup>152</sup> This also builds on the collaborative approaches described by Dr Lisa Roberts in Chapter One. The concept of consilience as a unity of knowledge was popularised by humanist biologist Edward O. Wilson, and he strove to cross the cultural divide that existed between the humanities and sciences in the book Edward O. Wilson, *Consilience: The Unity of Knowledge*, (New York: Alfred A. Knopf, Inc., 1998) as described in Daniel Siegel, *Mindsight*, (Brunswick, Victoria: Scribe Publications, 2015), 279.

insights in relation to my art practice. Early in her book she described two failed attempts at finding objective ‘fingerprints of emotion’ in the body and face. She commented “But as they say, when a door closes, sometimes a window opens.”<sup>153</sup> Reading this, I felt encouraged that my own false start had led to another opening, and ultimately to a more authentic and personally challenging series of final works. It would require another thesis to unpack the myriad ways Barrett’s book influenced my own changing creative approach, but several pertinent key points have been selected for brief discussion here.

The first is her theory of constructed emotion, which incorporates three distinct elements. As described by Feldman Barrett, “From social construction, it acknowledges the importance of culture and concepts. From psychological construction, it considers emotions to be constructed by core systems in the brain and body. And from neuroconstruction, it adopts the idea that experience wires the brain.”<sup>154</sup> She then goes on to detail how each of these three elements interconnect to generate the emotional response of fear. I was fascinated by her analysis, and by the framing of the three elements relating to social, psychological and neuroconstruction research. Our emotional responses to threats such as climate change are not just built from an inborn predisposition to fear the impact of a threat; our brains also piece together our feelings, and we can positively – or negatively – impact on, and then influence, this emotional process through the use of art and associated experiential events.

Instead of doom-and-gloom images of the end of the world, consciously creating environments to interact with one another, and to facilitate more positive responses seems to be crucial.<sup>155</sup> Feldman Barrett further introduces the idea of interoceptive sensation, where she suggests through her experiments that we don’t have to have a direct experience of something in order to feel a strong, negative emotional response to it. If we just imagine something, even in the absence of an image, that is enough to perturb our “body balance” and detrimentally impact our heart rates, and body chemistry. Our brains imagine scenarios constantly, and, “As it turns out, people spend

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<sup>153</sup> Lisa Feldman Barrett, *How Emotions Are Made: The Secret Life of the Brain*, (London: Macmillan, 2017), 15.

<sup>154</sup> *Ibid.*, 35.

<sup>155</sup> As a direct result of this insight and understanding I developed two workshops for the public, which I taught at the Royal Botanic Garden Sydney as part of The Big Anxiety Festival, see Chapter Four and Appendix A.

at least half their waking hours simulating rather than paying attention to the world around them, and this pure simulation strongly drives their feelings.”<sup>156</sup> We experience less pain, Feldman Barrett comments, if we consciously regulate our emotional body budget, and this aligns with the research discussed in the Introduction, where looking at natural images for as little as five minutes can have a positive physiological impact.

Feldman Barrett helped me to question my own assumptions: “You might think that in everyday life, the things you see and hear influence what you feel, but it’s mostly the other way around: that what you feel alters your sight and hearing. Interoception in the moment is more influential to perception, and how you act, than the outside world is.”<sup>157</sup> I cannot control the interoception of others, but I can positively create images that convey the beauty of nature, and influence the social world we live in. Feldman Barrett goes on to say that “We take things that exist in nature and impose new functions on them that go beyond their physical properties. Then we transmit these concepts to each other, wiring each other’s brains for the social world. This is the core of social reality.”<sup>158</sup> My critique of recent climate change exhibitions in Chapter One connects to this point, and how we transmit concepts, and wire each other’s brains for the social world is deserving of careful consideration, to avoid overwhelming others with a shared anxiety.

Although you cannot will your feelings to change or be different in the current moment, according to Feldman Barrett’s research “...you can take steps now to influence your future emotional experiences, to sculpt who you will be tomorrow...in a very real, predicting-brain way.”<sup>159</sup> She goes on to advocate several concrete, tangible ways in which this can be facilitated. Of particular relevance to my own research was the suggestion to achieve positive benefits “simply by cultivating and experiencing awe, the feeling of being in the presence of something vastly greater than yourself.” I commenced work on the largest scale drawing I have created to date, as soon as I had finished reading Feldman Barrett’s book, and I credit the direct influence of these words on changing the approach I took to resolving the composition. I was inspired by my enhanced

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<sup>156</sup> Lisa Feldman Barrett, *How Emotions Are Made: The Secret Life of the Brain*, (London: Macmillan, 2017), 71.

<sup>157</sup> *Ibid.*, 79.

<sup>158</sup> *Ibid.*, 134.

<sup>159</sup> *Ibid.*, 176.

understanding of the human need for natural awe, to increase the scope and scale of my drawings of endangered plants.

Overall, Feldman Barrett's book left me feeling sure that I wanted to provide a positive response in my work, and it gave me the insight that I needed to try to generate a sense of calm and respite. If looking at a small watercolour painting of lichen could change how I felt about stepping on those small plants, then perhaps my own work could alter or impact on someone else's interoceptive sensation and body balance? That is not to say that I don't want my work to feel surprising, provoking or challenging – more that, "What we experience as "certainty" – the feeling of knowing what is true about ourselves, each other, and the world around us – is an illusion that the brain manufactures to help us make it through each day. Giving up a bit of that certainty now and then is a good idea."<sup>160</sup> Moving from a safe previous position of artistic mastery and career success, to transition to a less predictable, more uncertain creative process, felt like the only possible path to take, as I reached the end of the remarkably pertinent *How Emotions Are Made: The Secret Life of the Brain*.

In regards to the importance of uncertainty, Feldman Barrett concludes, "It's refreshing to question the concepts that have been given to us, and to be curious about which are physical and which are social. There is a kind of freedom in realizing that we categorize to create meaning, and therefore it is possible to change meaning by recategorizing. Uncertainty means that things can be other than they appear. This realization brings hope in difficult times..."<sup>161</sup> Brains and bodies construct emotional responses in tandem with one another, and we are the architects of our own experiences and responses to climate change. Bringing greater conscious thought and understanding to the emotional impact of my artwork on others, aligned the work of my hands with the work of my mind to produce new work.

Integrating mindsight with openness, observation and objectivity brought me to a clearer and more creative outcome, particularly when I combined this knowledge with interoceptive sensation theory. As suggested by Feldman Barrett's research, I can be

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<sup>160</sup> *Ibid.*, 290.

<sup>161</sup> *Ibid.*, 292.

negatively impacted by climate change even when I am not directly exposed to images of it, and this sets up a resistant predisposition to disengage from positive action regarding global warming. An antidote to that ecoanxiety can be found in art that utilises beauty and awe, to re-engage our attention and emotions in more constructive ways, and in works that also feature consilience – a unification of knowledge from different disciplines. Synthesising multiple sources of information from different disciplines, and recombining them, showed me that the evidence conclusively pointed in the same new direction, increasing my confidence in significantly altering my creative work. By considering Siegel and Feldman Barrett’s research in the final year of my studies, I was able to bridge a gap in my knowledge, and to apply my understanding in a consilient way which interconnected neuroscience with artistic practice.

The Introduction and Chapter One of this thesis described the negative psychological impact that viewing provocative climate change art images can have, and the research of Klein and Gilbert reinforced this perspective. Here in Chapter Three, we have seen that interoceptive sensation and the knowledge of increasing global warming can affect how we see and hear, and what we feel, even in the absence of images, causing ecoanxiety and depression. This actively dissuades impacted individuals from an engagement in climate change. What then, is the antidote to this anxiety?

An article in the *International Journal of Environmental Health* provided some interesting answers, and the two authors’ conclusions were based on an impressively broad evaluation of some fifty relevant empirical studies. They commented on Attention Restoration Theory, saying that it provides a framework to describe the psychological benefits of nature. They noted that, “Directing attention to demanding tasks and dealing with disturbing environmental factors may lead to mental fatigue. On the other hand, environments that provide a possibility for more effortless attention offer an opportunity to restore mental capacity. Surroundings dominated by elements of Nature are thought to be restorative.”<sup>162</sup> Their use of the word dominant brought forth a comparison with Feldman Barrett’s previous comments about awe, and I embedded this

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<sup>162</sup> Bjorn Grinde and Grete Grindal Patil, “Biophilia: Does Visual Contact with Nature Impact on Health and Well-being?,” *International Journal of Environmental Research and Public Health*, August 31 (2009): doi: <http://www.mdpi.com/1660-4601/6/9/2332> & <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2760412/>

idea of larger-than-human scale into the final Fisher Library exhibition, *Art and Nature: Antidotes to Anxiety*.

The paper's authors provided a list of benefits derived from contact with visual elements of nature from their survey of fifty other studies, and these included, "reducing stress...and...improving attention, by having a positive effect on mental restoration."<sup>163</sup> They added that, "...nature appears to have qualities useful for stress relief, mental restoration, and improved mood simply by being consciously or unconsciously "pleasing to the eye" ..."<sup>164</sup>

The authors wrote that "A visual presence of plants may be one such stress-reducing factor as affective responses to visual stimuli deemed aesthetic may release tension. Beauty has been defined as visual input that gives pleasure to the mind, thus aesthetics offer per definition a positive experience."<sup>165</sup> They go on to note that, "A theoretical examination of aesthetic values points towards the importance of elements reflecting Nature; such as complexity, choice of colors, perspective and balance. In other words, Nature itself may offer potent aesthetic stimuli."<sup>166</sup> An important source of images which reflect the beauty and visual aesthetics of plants, can be found in art. Some research suggests that simplicity, not complexity, should be integrated in images where there is an aim to manifest beauty, so I was particularly interested that they argued for complexity in nature as a principle. I had been going through a process of reducing the detail in my drawings, which were previously quite dense in marks, and instead I started to consider the integration of the whole image, which is discussed in Chapter Four.

This thesis focuses predominantly on drawings of endangered plants as an outcome of the practice based research process. However, the impact of deliberately applying the persuasive premise of beauty as an additional method in my creative practice should be briefly noted, while acknowledging that to fully unpack and explore beauty as a complex topic with its own rich history and multi-layered meanings is beyond the scope of this

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<sup>163</sup> Ibid.

<sup>164</sup> Ibid.

<sup>165</sup> Ibid.

<sup>166</sup> Ibid.



thesis. Keeping our focus on beauty in relation to art and nature, the words of author and Canadian film-maker Daniel Conrad resonate:

Consider again things that invoke feelings of beauty (music, poetry, painting, nature, mathematics, cosmology). They all have at least this in common: a structure (including texture and detail) that provokes and challenges specific parts of the mind: the parts that perceive and interpret, that make sense, that draw out meaning and pattern from initially random input, that creatively organize and make sense out of a chaotic universe. And this provocation occurs through an implied or explicit transformation, even if it is just a simple transformation of paint into an image, or a metaphor in a poem, or a melody from a sequence of sounds.<sup>167</sup>

Conrad's perspective, that beauty provokes, challenges and transforms us, not only echoes my earlier discussion of interoceptive sensation, but also aligns with the comments of philosopher Professor Elaine Scarry who noted, "...behind the beautiful person or thing...the perceiver is led to a more capacious regard for the world."<sup>168</sup> She goes on to say that "...in general "beauty" is associated with a life compact or contract, where the perceiver abstains from harming, or even actively enters into the protection of, this fragment of the world."<sup>169</sup>

Scarry's use of the word perceiver is particularly interesting, as instead of the more passive idea of an audience who observe artwork, it indicates a perceptual process, where an individual might gain greater personal understanding from actively reflecting on, and perceiving something beyond its surface image. In the earlier quote, Conrad, too, describes the parts of the mind that perceive and interpret ideas further, in response to an engagement with beauty. Related to this, Scarry notes that, "The structure of perceiving beauty appears to have a two-part scaffolding: first, one's attention is voluntarily extended out to other persons or things. It is as though beautiful things have been placed here and there throughout the world to serve as small wake-up calls to perception, spurring lapsed alertness back to its most acute level. Through its

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<sup>167</sup> Daniel Conrad, "Aesthetics in Science and Art" *Mapping the Terrain of Contemporary Eco Art Practice and Collaboration*, Art in Ecology – A Think Tank on Arts and Sustainability, A Research Report by Beth Carruthers for the Canadian Commission for UNESCO, Vancouver, British Columbia, April 27 2006: 20, <http://unesco.ca/~media/pdf/unesco/bethcarruthersartinecologyresearchreportenglish.pdf>

<sup>168</sup> Elaine Scarry, *On Beauty and Being Just* (New Jersey: Princeton University Press, 1999), 47-48.

<sup>169</sup> *Ibid.*, 128.

beauty, the world continually recommits us to a rigorous standard of perceptual care; if we do not search it out, it comes and finds us.”<sup>170</sup>

Echoing the previously cited journal paper, Conrad describes beauty as having a structure, including texture and detail, and he also describes meaning and pattern in relation to creative organisation. These aspects, which connect to the transformation of beauty, can also be found in the work of the artist Agnes Martin, who said, “When I think of art I think of beauty. Beauty is the mystery of life. It is not just in the eye. It is in the mind. It is our positive response to life. We see everything in its perfection.”<sup>171</sup> Through her artwork and her writing about her artwork, Martin used various processes to enhance meditative practice, and this aligns with the work of several artists whose work was previously discussed in Chapter Two. She was clear and articulate, in first analysing, and then describing her own aesthetic and artistic intent.

Looking at the artwork of Agnes Martin provokes feelings of calmness and a meditative mindfulness. Her drawings and paintings appear deceptively simple, and yet manage to communicate a sense of soulful stillness, and I feel they show a great depth of the insight, intuition and integration that Siegel described. As I view her often geometrically based art I sense nature and beauty, and the rhythm of waves, wind, water and wood. For many years, I have had this inspiring quote pinned up in my studio: “When I first made a grid I happened to be thinking of the innocence of trees, and then this grid came into my mind and I thought it represented innocence, and I still do, and so I painted it and then I was satisfied. I thought, this is my vision.”<sup>172</sup>

Martin’s eloquent writing about her own thought processes while creating and making art also remind me of the Tripod of Reflection in their inherent openness, observation and objectivity. Martin was acutely aware of her own thought processes, as evidenced by the many handwritten statements and explanations she offered as reflections on her artistic practice. The sentiments she expressed are also echoed by others, “Art is one resource that can lead us back to a more accurate assessment of what is valuable by

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<sup>170</sup> *Ibid.*, 81.

<sup>171</sup> Arne Glimcher, *Agnes Martin Paintings, Writings, Remembrances* (London: Phaidon Press, 2012), 169.

<sup>172</sup> Suzan Campbell, “Agnes Martin Interview” transcript in *Archives of American Art, The Smithsonian Institution*, Washington, D.C., May 15, 1989.

working against habit and inviting us to recalibrate what we admire or love.”<sup>173</sup> There are some established, older oppositions between nature and culture, and human and non-human that are beyond the scope of this thesis – but Martin, like the Eco Artist Andy Goldsworthy, consciously wanted her works to look human-made and saw no opposition between applying her ideas of nature and trees in lined grids. She was not trying to replicate nature, or trees, she was capturing their innocence, and creating a still source of calm in a busy world. Goldsworthy shares this perspective, and, “Everything he does has, at some point, the imprint of the human. My art is unmistakably the work of a person,” he insisted, “I would not want it otherwise – it celebrates my human nature and a need to be physically and spiritually bound to the earth.”<sup>174</sup> This pared back, beautiful aesthetic in the work of Martin and Goldsworthy can also be seen in the earlier works of Wolseley, Watson, Hesse-Honegger, Landy, Ikeda and Buckland, discussed in Chapter Two.

Further, Goldsworthy “...has a more inclusive take – he is exploring what it means to be alive. In this sense, Goldsworthy is a truly ecological artist, a founder member of a new tradition.”<sup>175</sup> Martin and Goldsworthy both generate a sense of awe and use nature to produce works which dominate in their larger than human scale, reminding us of nature’s persuasive power to calm and restore us.<sup>176</sup> We perceive through their subtle use of scale, pattern, balance, texture, detail and colour, not just a transition from nature, but a transience, where time seems to slow down the frantic pace of modern life. Our ‘capacious regard’ is enhanced and honed by reflecting on their art, and standing before them, we are in the ‘presence of something vastly greater’ than ourselves.

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<sup>173</sup> Alain de Botton and John Armstrong, *Art as Therapy* (London: Phaidon Press, 2016), 53.

<sup>174</sup> Richard Mabey, “The Lie of the Land,” *The Guardian*, 1 April 2007, <https://www.theguardian.com/books/2007/mar/31/art.art>

<sup>175</sup> Ibid.

<sup>176</sup> The philosopher Immanuel Kant proposed that beauty was more connected to objects, whereas the sublime was more frequently associated with formless subjects. Prior to the work of Martin and Goldsworthy, Romantic artists in the nineteenth century also sometimes explored the idea of the sublime through large scale, epic representations of nature. Many philosophers, art theorists and historians have debated differing definitions and descriptions of what the sublime is, over several time periods. A further exploration of beauty in connection with its associated relationship with the sublime is beyond the remit of this thesis, and for the sake of clarity and coherent narrative, the sometimes confusingly contradictory explorations of others regarding the sublime are subsequently avoided.

As Charles Darwin, in the last words of *Origin of the Species* wrote, “There is grandeur in this view of life, with its several powers, having been originally breathed into a few forms or into one; and that, whilst this planet has gone cycling on according to the fixed law of gravity, from so simple a beginning endless forms most beautiful and most wonderful have been, and are being evolved.”<sup>177</sup>

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<sup>177</sup> Charles Darwin, *On the Origin of the Species by Means of Natural Selection*, First Edition, (London: John Murray, 1859), 490.

## CHAPTER FOUR: My Work

Is a return to beauty, then, an acknowledgement of art's limitations when it comes to effecting social change? Or have artists come to sense a desolation to which they themselves have contributed – mere ashes, given the lingering hope for beauty? Is a return to beauty a gesture of reconciliation with a world desperately in need of it after what it has been through in the intervening decades – a kind of aesthetic amnesty? Or, finally, is the return a concession that in a futile effort to modify social awareness, art has sacrificed precisely that which gives it its deepest meaning? Perhaps withholding beauty is no less deep a moral infraction as much of what deliberately de-beautified art criticizes. Why should anyone believe an artist who inveighs against the way the environment is treated yet whose own work gives ashes instead of beauty?<sup>178</sup>

As noted in Chapter Three, a mindful combination of endangered plant images with beauty has the potential to re-engage us with the natural world around us, and the work of several artists discussed in Chapter Two, also show, in the words of the quote above, "...a return to beauty," in a "gesture of reconciliation."<sup>179</sup> A static drawing on a wall is a completed entity, but as we view it, it may suggest other associations or related things. In one person in an audience, a drawing may spark a specific memory or association unique to them, through interoceptive sensation, as defined in Chapter Three. In a different person, an alternative memory or association may be made. So, outside the drawing itself, and unplanned by the artist who created the drawing, is an unseen, extended border where other things may lie – an unknowable "adjacent possible."<sup>180</sup>

There is a personal, uniquely individual possibility for feelings to be evoked and for alternative, interdisciplinary associations to be made in this adjacent, possible, mindful space. Scarry and others have described the role of the perceiver in taking the effects of visual beauty further, and embedding them beyond merely viewing an image of nature in a passive and disconnected, impartial way. The idea suggested by Scarry, that a perceiver of my work may want to protect the world from further harm, as a result of being influenced by being exposed to art which addresses the beauty of nature, motivates and inspires me.

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<sup>178</sup> Arthur C. Danto, "Beauty for Ashes," in Neal Benezra and Olga M. Viso, *Regarding Beauty: A View of the Late Twentieth Century*, (Washington, D.C.: Smithsonian Institution, 1999), 184.

<sup>179</sup> Ibid.

<sup>180</sup> As previously described in this thesis on Page 43. Steven Johnson, *Where Good Ideas Come From: The Seven Patterns of Innovation*, (London: Penguin, 2010), 31.

In this adjacent possible there is significant potential for Transmedia Art to overlap and combine with Eco Art, to play a more dynamic role, to transition into the “shadow future” described by Johnson, “...where the present can reinvent itself.”<sup>181</sup> The combination of moving image and sound can potentially enhance a dream-like state, and spark more subconscious free associations and emotional connections. The sense of dissatisfaction I felt in 2009 when I looked at my solo exhibition – all static framed drawings under glass on the walls of the Red Box Gallery – was a catalyst for the desire to subsequently research other ways of evolving my work into something artistically new and less predictable in practice. As previously noted, developing the ideas for the residency artwork throughout 2008 was challenging, as I seemed to have an inherent predisposition from years of teaching to want to somehow make the drawings overtly didactic and prescriptive. The work was better if I managed to reduce the strong urge to preach an environmental message at the same time, and this has continued to be the case.

In the 2009 series *A Book of Hours* (Figures 3 and 4), the pages of the imaginary book initially had words on them – quotes and passages about endangered species – making the message crystal-clear. After much trial and error, I realised that all that was needed were lines, suggesting a printed page. As the series progressed, however, in the final four pieces the lines disappeared altogether, and the images of the Living Fossil plants floated out of the oval and into the frame, as seen in Figure 3 in the Introduction. With the benefit of hindsight, these final four were the strongest images of the twelve in the completed *Book of Hours* series – simpler, yet more suggestive of the idea of memory and loss. This sense of a reduced, pared down image, where the essence of the idea has a subtler sensibility, appears in the work of other artists whose beautiful drawings, also related to environmental concerns, are described in Chapter Two.

The hand-sized *Shards* by David Buckland shown in Figure 18 allow a physical closeness to the images in a more direct and tangible way than I managed to achieve in my previous exhibition. As the preparation for *Ascendant and Descendant* show concluded, I realised that I had become uncomfortable with the idea of the framed works, practical

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<sup>181</sup> *Ibid.*, 31.

as they were. The convention of the mounts and frames, hung on a wall under glass somehow removed the viewer from the natural immediacy I had hoped for in my drawings. I was protecting the work, but in doing so a barrier was created between the viewer - the perceiver - and the beauty I had hoped would resonate, absorb and engage them. Looking back on that exhibition now, I think that I was also subconsciously influenced by the rectangular Red Boxes which were used to store pressed plant specimens in the Herbarium, and by the scientific systems, rules, and rigid order in the working environment around me.<sup>182</sup> I was required to follow a strict process of approvals, with at least three people reading and checking the final draft of my catalogue for example, to ensure the scientific names for the plants were correct. The *Book of Hours* drawings were even the same scale as the Red Boxes, and when removed from the Herbarium walls and viewed individually, the drawings seemed reduced in impact. This retrospective understanding of my restricted thinking, and constructive critique of my own previous process, has led to a very different approach to the work I completed during the three years of the research described in this thesis. I kept the reservations I had noted regarding my previous body of work at the front of my mind.

### **The First Year 2015**

At the start of my research in 2015, I felt both overwhelmed and excited by many ideas and possibilities, and it was difficult in that confusing mix not to default to known, safe and more predictable outcomes. Initially, I continued to submit work for competitive exhibitions, and one piece, completed after the commencement of my PhD research showed that the pull of conformity was a strong force which I needed to more actively resist. *Mapping the Memory of the World*, shown in Figure 26, has as its background the vine of an endangered plant weaving in and out of a man-made environment, with an image of an old map gore of the globe in the foreground. Melting ice is suggested at the tips of the 'flattened earth' form. This work was selected for the *Laureates of the International Biennial of Drawing* exhibition, and also published in the book *A Different Perspective: Artwork by the Laureates of the Biennial of Drawing Pilsen* in 2015, as shown in Figure 27.<sup>183</sup>

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<sup>182</sup> The *Red Box Gallery* at the Royal Botanic Garden Sydney is named after the boxes which are used to store the plant specimens.

<sup>183</sup> Dana Doricova and Gabriela Darebna, *A Different Perspective: Artwork by the Laureates of the Biennial of Drawing Pilsen*, (Pilsen: Biennial of Drawing, 2015).

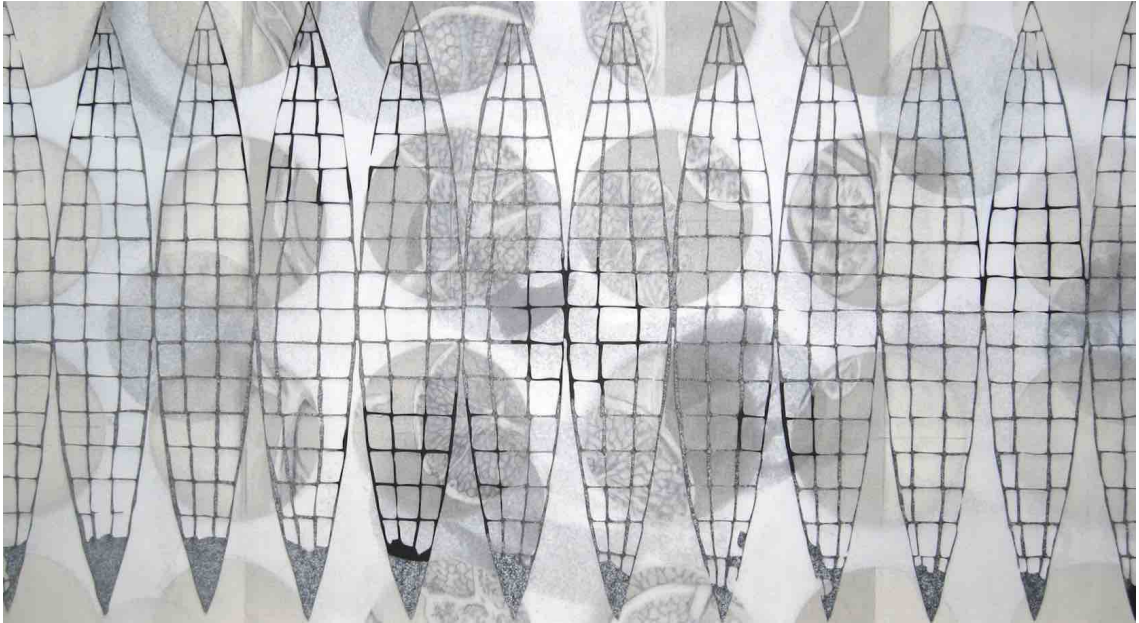


Figure 26. Emma Robertson, *Mapping the Memory of the World*, 2015, mixed media, 39 x 59 cm.

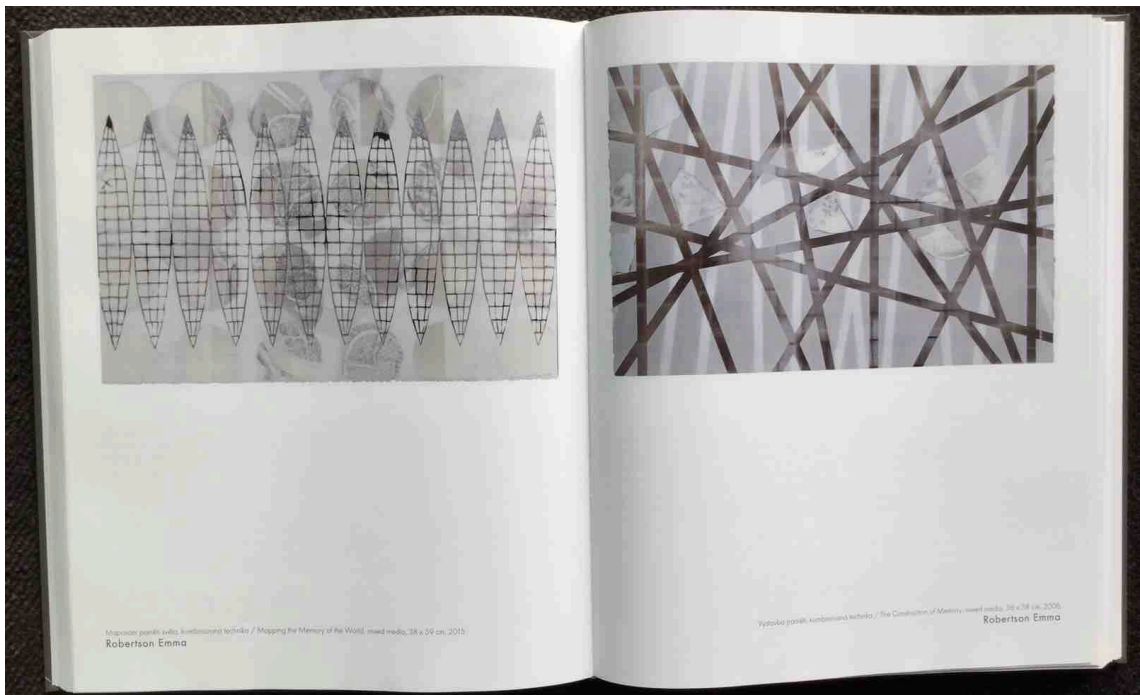


Figure 27. Emma Robertson, *Mapping the Memory of the World*, 2015, mixed media, 39 x 59 cm shown in *A Different Perspective: Artwork by the Laureates of the Biennial of Drawing Pilsen*. On the right is a previous drawing I exhibited in the *International Biennial of Drawing*, titled *The Construction of Memory*, 2006, mixed media, 38 x 58 cm.

There is nothing wrong with a rectangular or square composition per se, but when I reviewed my sketchbooks and photographs from various site visits to different international Botanic Gardens, I felt that the confines of the geometrical format inhibited the sense of growth and nature that I, in part, had hoped to communicate. The



medium scale was also an issue when I reviewed *Mapping the Memory of the World*, and as more time passed, I realised that I wanted to have someone stand in front of my drawings and feel something larger than themselves, across a more expansive and absorbing proportion. In all honesty, the use of the map gore was also influenced by examining other climate change artist's works, which frequently seemed to use diagrams of melting ice, rising sea levels, and other statistically measured global warming changes. While the work integrated some of the new papercut techniques I had been experimenting with, it ultimately defaulted to a safer, more conventional compositional format, albeit not as predictable and conventional as the first option I had developed, shown in the initial *Test Drawing* below in Figure 28.



Figure 28. Emma Robertson, *Test Drawing*, 2015, mixed media, 30 x 42 cm.

This was precisely the opposite of what I wanted, and so when I was given an opportunity the following year to do a large-scale installation piece for a group show, I consciously explored images that could potentially be further developed afterwards, into a hand-drawn film of my own. I observed that I needed to find a more authentic artistic voice, rather than align with the work of others. The *Mapping the Memory of the World* drawing was not a false start or mistake, but a stage in an ongoing process of experimentation. Similar to the experience of writing this thesis, sometimes I became more clearly aware of how I felt about something by writing it down, and making artwork iteratively throughout my research also allowed me to see visually what was developing in my own mind. Sometimes the product of this process worked, and sometimes the drawings were not successful in the way I wanted them to be. The most challenging aspect of my first year of research in 2015 was the negative impact of reading many articles and books on climate change, which, as described in Chapter Three, left me feeling depressed and disillusioned.

In spite of this, I continued to work and experiment with drawing techniques in the studio, and these became increasingly influenced by what I was researching, and in particular, as noted in Chapter One, by reading Rachel Carson's *Silent Spring*, and Elizabeth Kolbert's *The Sixth Extinction*, which directly influenced my images and artistic approaches. Figures 29 and 30 show two further experiments exploring the idea of making the invisible, visible – the air, carbon dioxide, and the sense of floating particles appear in both.<sup>184</sup> The *Test Drawing* shown in Figure 29 is the last time I used the oval format which had consistently appeared in my work from 2008 on, as my ideas were becoming increasingly influenced by Kolbert's species-area modelling research and writing, and also her descriptions of fragmentation, as noted in Chapter One. The oval, inspired by Victorian mourning frames and memorial shapes, became less important as a compositional device in my work, and this was also influenced by alternative drawing techniques I was exploring. My research into mindfulness brought me to examine the device of circles, and I became interested in their use in mandalas and ensos.<sup>185</sup>

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<sup>184</sup> The influence of Carson's writing was also noted in the previously described Figure 9 on page 25.

<sup>185</sup> "In Tibetan Buddhism there is the intricate practice of creating mandalas, circular representations of the universe and all of its aspects, used as a device for concentrating the mind. And there is the Zen enso." Audrey Yoshiko Seo, *Enso: Zen Circles of Enlightenment* (Boulder, Colorado: Weatherhill, 2009), XI.

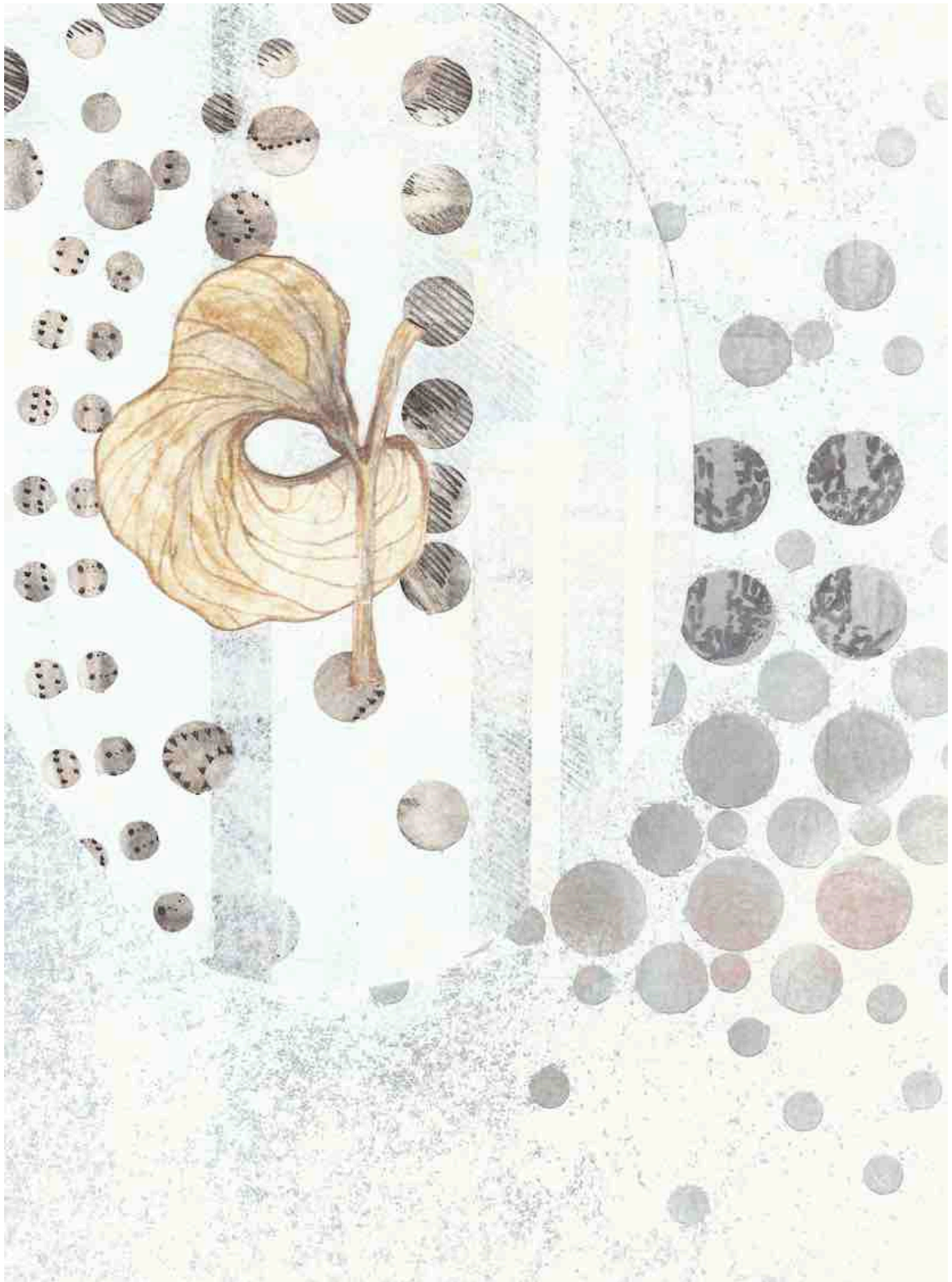


Figure 29. Emma Robertson, *Test Drawing*, 2015, mixed media, 21 x 30 cm.

Figures 29, 30 and 32 show some of the first tests I completed where circles appeared. The last work I completed for *Ascendant and Descendant* in 2009, shown in Figure 2, used a circular composition for the first time, and I see this previous work, *The Shape of Loss*, as a bridge between the earlier body of work, and my more recent explorations.



Figure 30. Emma Robertson, *Test Drawing*, 2015, mixed media, 30 x 42 cm.



Figure 31. Emma Robertson, *Test Drawing*, 2015, mixed media, 42 x 60 cm.



Figure 32. Emma Robertson, *Test Drawing*, 2015, mixed media, 21 x 30 cm.

Figure 31 shows one of the material changes in my artistic practice, as I experimented with scanning layered constructions featuring real pressed plants. The layering of strata described by Kolbert, and the sense of the passage of time over millennia on Earth, was considered in this *Test Drawing*. Figure 32 shows the idea of shadows being cast by the plant, and the reiterated image is placed within the compositional structure of an old page of a book, with tabs marked on the right-hand side, as though the plant has been catalogued and indexed as one in a series of other endangered species.

Figure 33 extended the idea of time layers, and it used the same papercut form introduced in the previous work shown in Figure 10, which was drawn from endangered Australian seaweeds. Figure 34 focusses on plant seeds, and cast shadows, extending my earlier drawings on these themes, discussed in relation to Figure 5, *Fossil, Amber, Ice*. All of these experiments helped me to find my way, and by the end of 2015, I knew that I wanted to move away from the rectangular format, and to express more clearly how nature and plants can help us to feel and reconnect, not just what they look like. My work in the following two years of research sought to bring that sensibility of silent sentience into public spaces in less conventional ways, to encourage and enhance our ability for a more considered reconnection with our own natures, and a reflection on potential loss, explored through the lens of biophilia and beauty.



Figure 33. Emma Robertson, *Test Drawing*, 2015, mixed media, 30 x 42 cm.

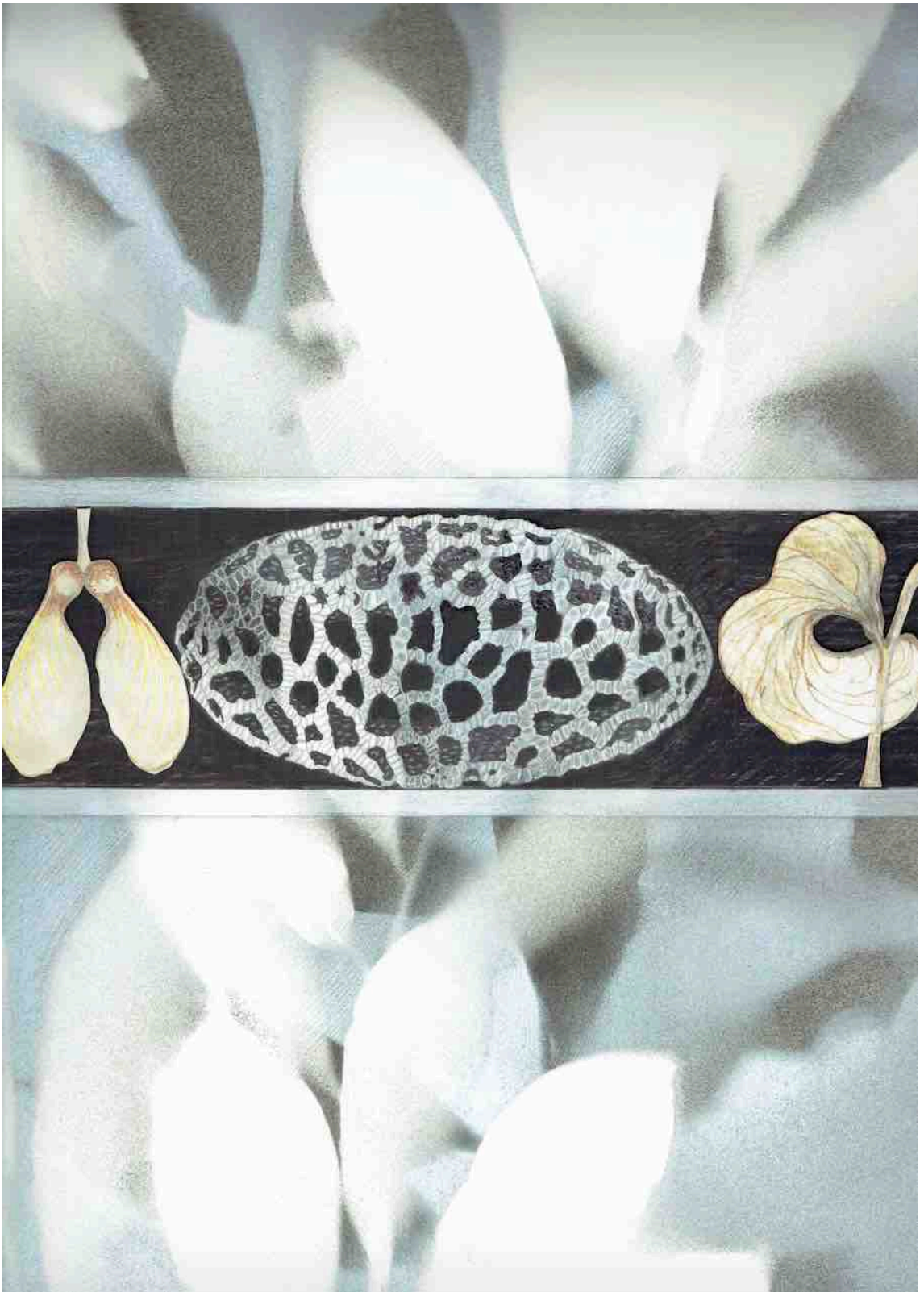


Figure 34. Emma Robertson, *Test Drawing*, 2015, mixed media, 30 x 42 cm.

## The Second Year 2016

A good idea is a network. A specific constellation of neurons – thousands of them – fire in sync with each other for the first time in your brain, and an idea pops into your consciousness. A new idea is a network of cells exploring the adjacent possible of connections that they can make in your mind. If we are going to try to explain the mystery of where ideas come from, we'll have to start by shaking ourselves free of this common misconception: an idea is not a single thing. It is more like a swarm.<sup>186</sup>

The first year helped me to reinvigorate my practice, and part of this process featured using my drawings to create laser cut paper pieces, and examples of this technique, which I had not previously used, are shown in Figures 10, 26, 33, 35, and 36. The above quote aptly describes the sense I had at the beginning of 2016, where multiple ideas were swarming in my conscious mind. I was enjoying the processes of making in the studio, but I was still working on aligning my creative practice with the rest of my research and writing. In early 2016, a call for submissions for the *Future Stratigraphy* exhibition, curated by Dr Kath Fries, helped considerably to narrow my focus, as having to articulate and express my response to the invitation to submit, clarified my own thinking. *Future Stratigraphy* was presented by the *New Materialism in Contemporary Art* research cluster at Sydney College of the Arts, the University of Sydney. The exhibition catalogue notes, in part, that, "*Future Stratigraphy* offers a slice of present time, an almost archaeological gathering of work by artists critiquing the Anthropocene from within. These artists are engaging with the material agency of their surroundings, both metaphorically and actually."<sup>187</sup>

After I was notified of my successful selection, Dr Kath Fries came to visit me in my studio, and her enthusiasm for my work, and generous spirit was very encouraging. I had derived considerable benefit from attending the Graduate Forum presentations and workshops, and becoming part of a further community of my fellow artists and peers gave me the important support I needed to step out of my comfort zone. My first test for the work for *Future Stratigraphy* is shown in Figure 35, and following various iterations, I abandoned the background and perforated pieces for a simpler, larger scale

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<sup>186</sup> Steven Johnson, *Where Good Ideas Come From: The Seven Patterns of Innovation*, (London: Penguin, 2010), 45-46.

<sup>187</sup> Kath Fries, "Future Stratigraphy," in *Future Stratigraphy*, Sydney: Sydney College of the Arts, 2016, exhibition catalogue, 7.



work, shown in Figure 36. I consciously chose to move away from the presentation style of framed drawings, and after considering Figure 35, I chose instead to explore the shadows cast by the cut paper when positioned slightly out from the wall in a freer format.

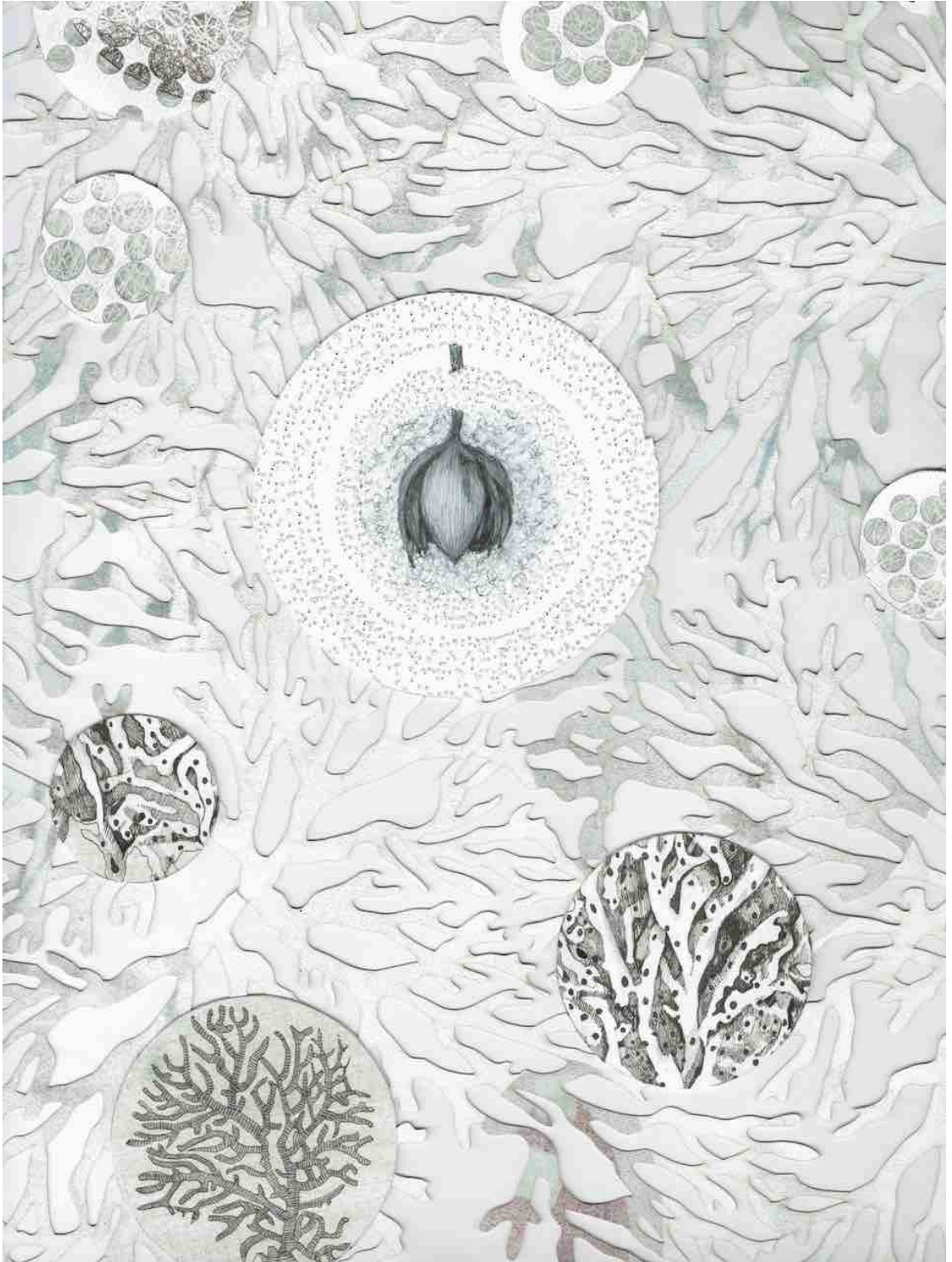


Figure 35. Emma Robertson, *Test Drawing*, experiment for *The Archaeology of Absence*, 2016, mixed media, 30 x 42 cm.

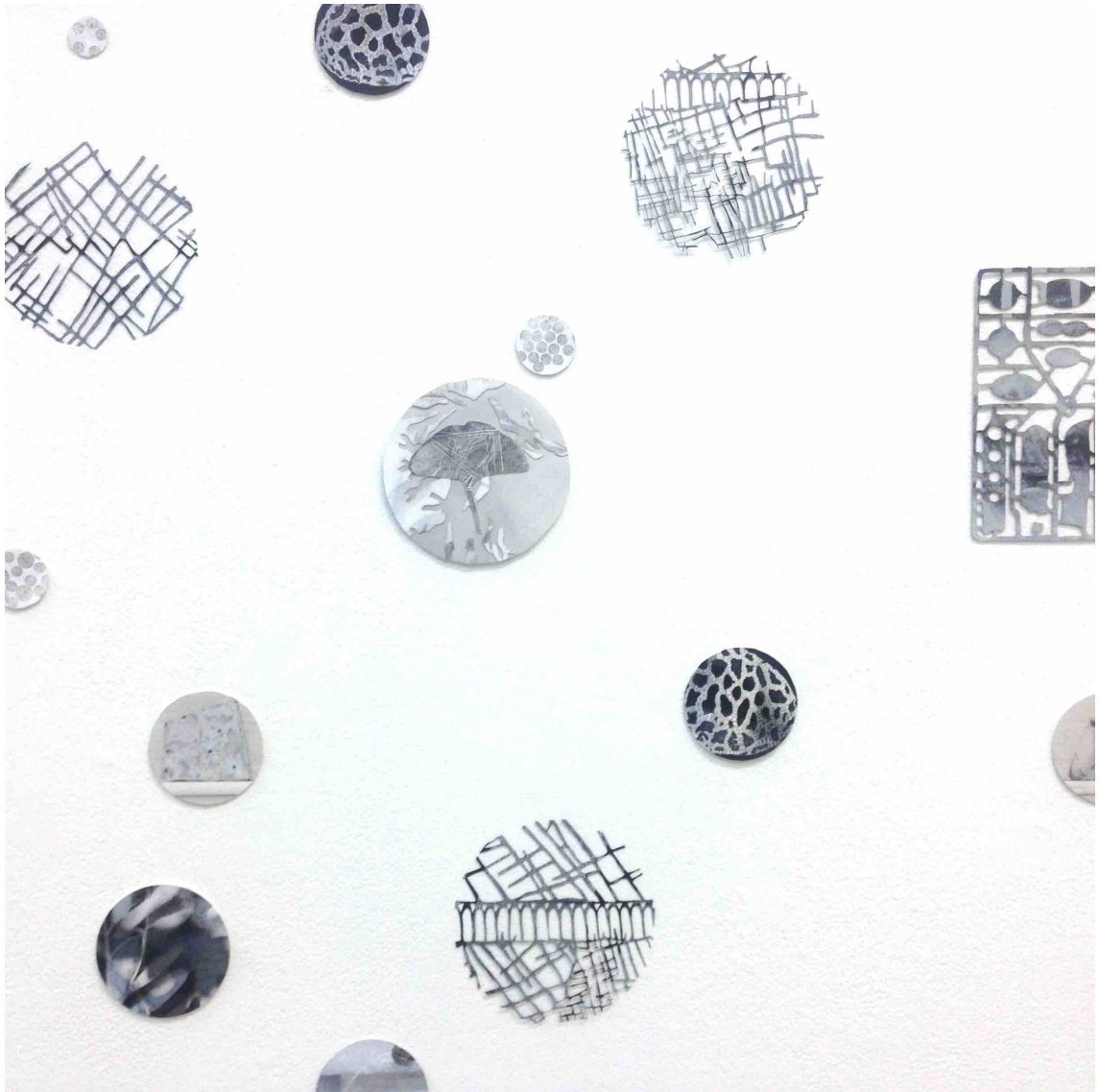


Figure 36. Emma Robertson, *The Archaeology of Absence*, detail, 2016, mixed media, 300 x 300 cm.

*The Archaeology of Absence* was inspired by both the brief Dr Kath Fries set, and by a quote from Colette “It is the memory in the mind that binds us to our lost treasures, but it is the loss that shapes the image, gathers the flowers, weaves the garland.”<sup>188</sup> This is the same quote that I used as the basis of the earlier work *The Shape of Loss* in 2009, which featured the extinct *Bennett’s Seaweed*. For the first time in my practice, I positioned the 115 predominantly circular shaped drawings from roof to floor and across three metres square of white wall, so that they appeared to float across the space. During the installation, I intuitively experimented with the scale and weighting of each piece, to allow a stronger sense of falling through space to occur, and this was influenced

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<sup>188</sup> Colette, *Earthly Paradise: An Autobiography of Colette Drawn from Her Lifetime Writings*, (New York: Farrar, Straus and Giroux, 1966), n.p.

by the earlier studies of air particles. Not all of the pieces were details of plants, and many of the geometrically shaped details were left ambiguously abstract to stimulate a stronger sense of the adjacent possible. Some of the circles showed shadows of plants which echoed a sense of movement and layering, and I enjoyed the feeling of a freer process, as I could iteratively experiment with different assimilations and combinations of possibilities, and further document these in my sketchbook and notes. Initially I arranged the multiple shaped drawings in a large circle, and although I ultimately changed this in the final arrangement, I returned to that compositional idea in a later work, *Living Fossils* in 2017 (Figure 45). Monochrome was selected to hold the composition together visually, and to also enhance a sense of stillness and calm. Some of the cut paper pieces came from a drawing of an archaeological dig at the site of an old urban settlement, so the work as a whole juxtaposed free flowing lines from nature, alongside the cross hatched lines of human environments. Seeds were also included, and some were drawn as though enlarged through a microscope, while other plants such as the *Ginkgo Biloba* leaf were drawn to scale. The rectangular forms showed leaves repeated in the form of a sprue, a device used to mass produce plastic items, where individual pieces are pressed out in one sheet. The end result was a biomorphic abstraction, and it fed into my ideas for the new film work which followed in 2017.

Another reason for wanting to get out of the physical artwork frame, and to integrate my drawings into a specific environment in a more direct and tactile way, is suggested by the following quote from the scientist and palaeontologist Scott Sampson: “We must learn to see ourselves not as isolated but as permeable and interwoven – selves within larger selves, including the species self (humanity) and the biospheric self (life). The interbeing perspective encourages us to view other life forms not as objects but subjects, fellow travellers in the current of this ancient river. On a still more profound level, it enables us to envision ourselves and other organisms not as static “things” at all, but as processes deeply and inextricably embedded in the background flow.”<sup>189</sup> This quote was at the front of my mind as I installed *The Archaeology of Absence*, and I carefully considered the overall weight and balance of the work, and generated circles

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<sup>189</sup> Scott Sampson, “What Scientific Concept Would Improve Everybody’s Cognitive Toolkit?” *Edge*, last modified October 22 2015, <https://www.edge.org/response-detail/10866>

within larger circles as a way of representing an osmosis, and permeable sense of interrelated images flowing back and forth.

Appropriate to the discussion on mindsight and mindfulness, the article that this quote comes from, details the concept of interbeing as originating in Buddhist philosophy. The concepts of the adjacent possible and interbeing seem to interconnect with one another, and both reinforce the importance in my new bodies of work of bringing the 'background flow' of the 'ancient river' obliquely referenced by Sampson more into the foreground of the work. I was delighted when Professor Amanda Barnier selected this image from more than twenty I sent through for consideration as a cover design for *Collaborative Remembering* (Oxford University Press, 2017), shown in Figure 37. None of the twenty images provided were dated, and the fact that she chose my most recent work from all those supplied, further encouraged my new direction.

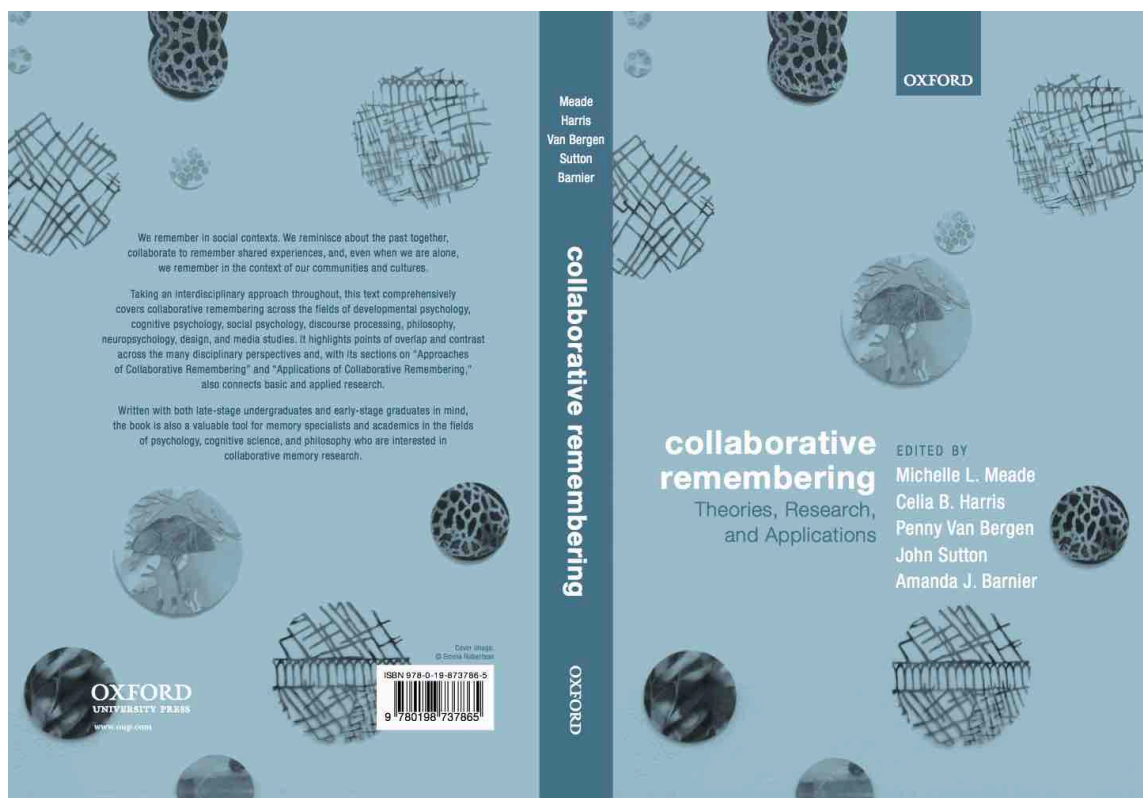


Figure 37. Emma Robertson, *The Archaeology of Absence*, detail, 2015, on the cover of *Collaborative Remembering* (Oxford University Press, 2017).

### The Third Year 2017

Through my involvement in *Future Stratigraphy*, and after becoming part of an important, supportive community of other artists interested in climate change issues, my spirits and depression lifted, and I pursued an opportunity to again exhibit my developing work in public, within the Fisher Library at the University of Sydney. *Requiem (Red)* was displayed in three large glass vitrines for several months in early 2017 (Figures 38, 39, and 40). This installation used the device of repurposed old display boxes from the British Museum, and the cast shadows of actual pressed plants, to create a layered entangling of plants and people, in honour of the scientists and others who work to update *The Red List* of endangered species. The work evokes the feeling of the stillness and quiet of Herbariums, and the setting in the Fisher Library enhanced this sense of history, and the different forms of storing precious unique objects.

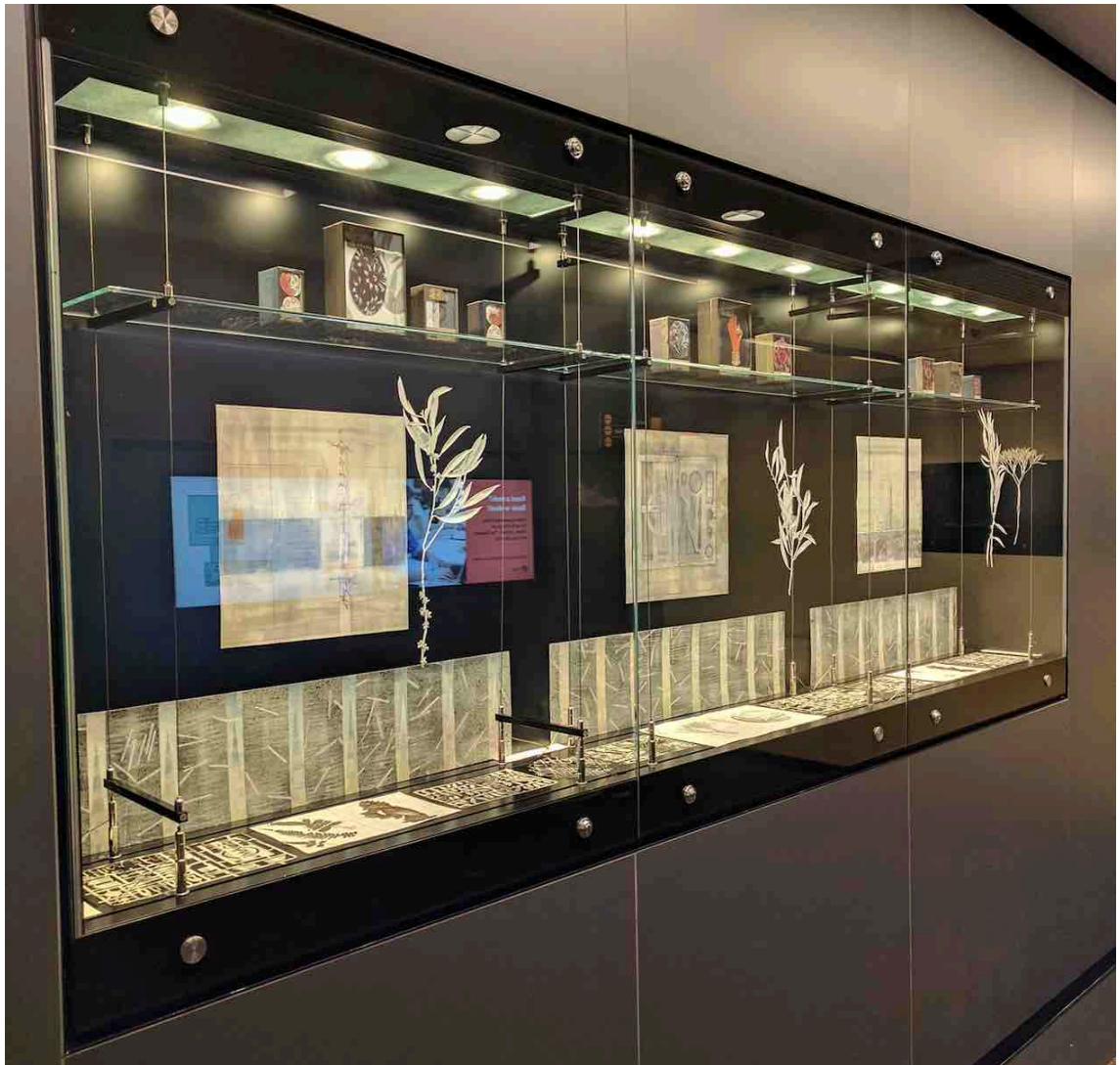


Figure 38. Emma Robertson, *Requiem (Red)*, detail, 2017, mixed media, sizes of installation various. This shows one of three large glass vitrines on three floors of the Fisher Library at Sydney University. The critically endangered *Eucalyptus Copulans* pressed plants were attached to the glass doors, floating in front of the drawings.



Figure 39. Emma Robertson, *Requiem (Red)*, detail, 2017, mixed media, sizes of installation various. This shows a detail of one of three glass vitrines on three floors of the Fisher Library at Sydney University. On the top shelf were repurposed old display boxes from the British Museum. The drawn images in the boxes reference mourning jewellery, which was often made out of jet, a fossilised wood, in Victorian times. Sizes of installation various.

I aimed to layer together and integrate images from the personal, the representational, and the historic, and for the work to feel calm and reflective, with an inherent sense of order and balance. I was also interested in attempting to convey some of the aspects of beauty I had observed in the work of several other artists, and particularly in the work of Agnes Martin, discussed in Chapter Three. I deliberately explored: the changing of scales and details, from small boxes to larger drawings; layering, in the pressed plants appearing in front of the drawings; colour focal points, in small details of red against otherwise neutral fields; textural variation, in real plants juxtaposed with cut paper works; and finally, balance and pattern, in the use of repetition in some of the drawings, such as the three main works in Figure 38, and the museum boxes in Figure 39.

The exhibition had a temporal aspect, and was an attempt to present a dialogue between the time in which we live, while integrating images of plants from the past. I deliberately explored the concept of the cases by using the filter described by James Putnam, as the increasing tendency for contemporary artists to, “...employ typical museum display devices such as vitrines, archive boxes, specimen jars, descriptive labels, drawer cabinets and even packing crates.”<sup>190</sup> He also noted the “...application of museological methods to both the production and presentation of their work.”<sup>191</sup>

<sup>190</sup> James Putnam, *Art and Artifact: The Museum as Medium*, (London: Thames & Hudson, 2009), 34.

<sup>191</sup> *Ibid.*, 34.



Figure 40. Emma Robertson, *Requiem (Red)*, detail, 2017, mixed media, sizes of installation various. This shows a detail of one of three glass vitrines across three floors of the Fisher Library at Sydney University. Pressed plants of endangered species are included in the installation artwork to evoke the feeling of Herbarium displays. The critically endangered *Nightcap Oak* is shown here, in front of a cut paper drawing. Specific to this work, in addition to James Putnam's writing, I was also influenced by Professor Colin Renfrew who provided further analysis regarding the ideas of memory and community recollections in the "symbolic storage" of museum and artistic objects in *Figuring It Out: The Parallel Visions of Artists and Archaeologists*, (London: Thames & Hudson, 2003), 144.

Completing this installation made many of my ideas feel real – I could see things that worked, and things that did not work in the way I had imagined them. I made notes in my sketchbook where I recorded the idea of floating the cut paper pieces freely from the edge of the glass shelves, and I came back to this idea, and realised it in a different installation, *Art and Nature: Antidotes to Anxiety*, again at the Fisher Library, later in 2017.

This Chapter has noted the first series of new works in 2016 which featured free floating circles, and the second series which was an installation in a library in 2017. The third series, also created in 2017, used scanned images of my drawings from 2015-2017 to create a visual meditation and narrative in two short films. I was keen to pursue this idea in parallel with my developing research into the possible overlaps between Eco Art and Transmedia Art, previously described in Chapter Two.

The focus of this thesis specifically relates to drawings, and it analyses and discusses the ability of this medium to move people in response to imagery and compositions relating to the environment and natural world. Connected to this overarching theme is the 2012 work *Flux* by the Australian artist Ana Pollak, which she has described as a hand-drawn film. More than one thousand drawings were made by Pollak, based on her observations of the Hawkesbury River near her studio. Each drawing has its own beauty, and engages us in the way it suggests water, and in its use of calligraphic, loose marks on the surface of the paper. In combination, however, and with careful and creative editing, the moving images surpass the static drawings and collectively create an absorbing, meditative and moving piece of work. The short film innovatively explores the impact and potential of rendered marks, when subsequently presented as moving images. These drawings engage the viewer in one way as static stand-alone entities, but in combination they synthesise into another entity, and become memorable in a different way, when movement is added.

The film shows Pollak's ability to combine the sometimes disparate oppositional qualities of silence and noise, movement and calm, and density and open fluid space. Pollack reflected that she "...didn't know where each drawing was going to go at the beginning...[or] where the sequence [would] go.' Her process was intuitive and reactive,



with each finished drawing suggesting a way for the next.”<sup>192</sup> Of particular importance to Pollak was the challenge of echoing the variation of the water in the passages of minimalist music, composed by a sound artist. Pollak says of working with the soundtrack that “It added to a continuum of transformations, where images are turned into sound, sound into images, and back again.”<sup>193</sup>

Like Pollak, my process in creating two short films using my drawings was intuitive, and I was learning about the medium of moving images as I went. The first film I co-created using my drawings was called *Micrographia*, (Figure 42) and the second was *Deposition Lines* (Figure 43). Both films used soundscapes and combined real images of endangered plants with the drawings, and they integrated cut paper layers, changing focal points, alternating light sources, and other visual devices to evoke a calm, meditative experience (links to both films are noted below in Figure 41).

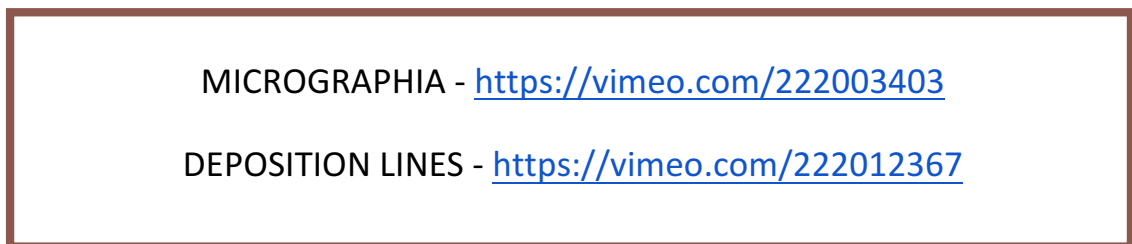


Figure 41. Emma Robertson and Margaret McHugh, *Micrographia*, and *Deposition Lines* video links, 2017.

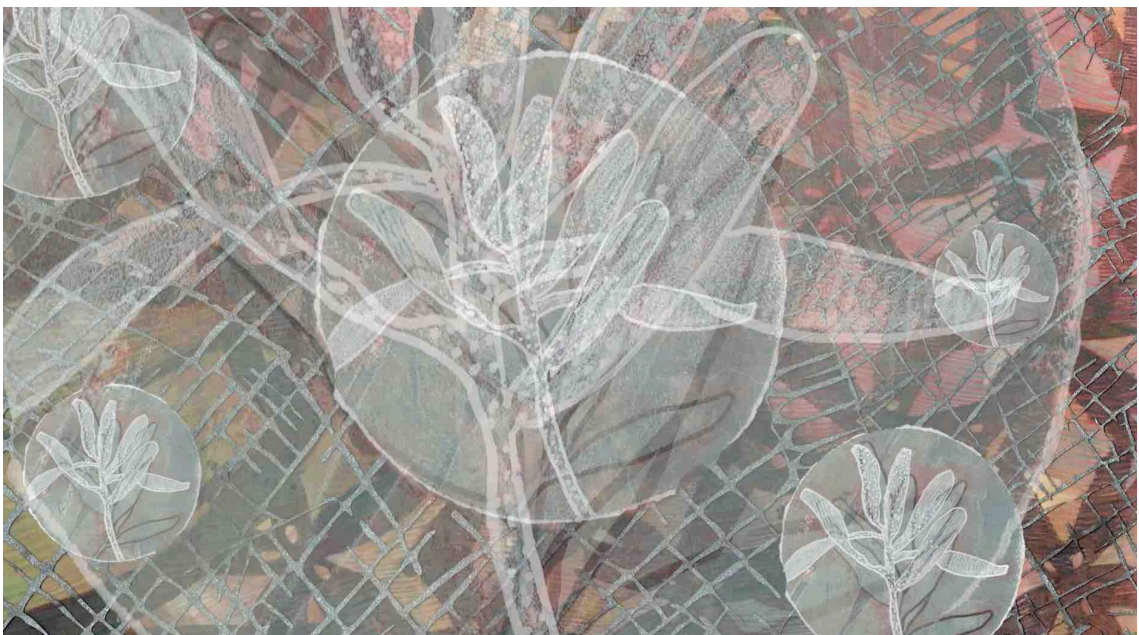


Figure 42. Emma Robertson and Margaret McHugh, *Micrographia* still, at 2.44 from video, 2017.

<sup>192</sup> Anne Ryan, “Ana Pollak,” *Drawing Out, Dobell Australian Biennial*, (Sydney: Art Gallery of New South Wales, 2014), 45-46.

<sup>193</sup> *Ibid.*, 46.

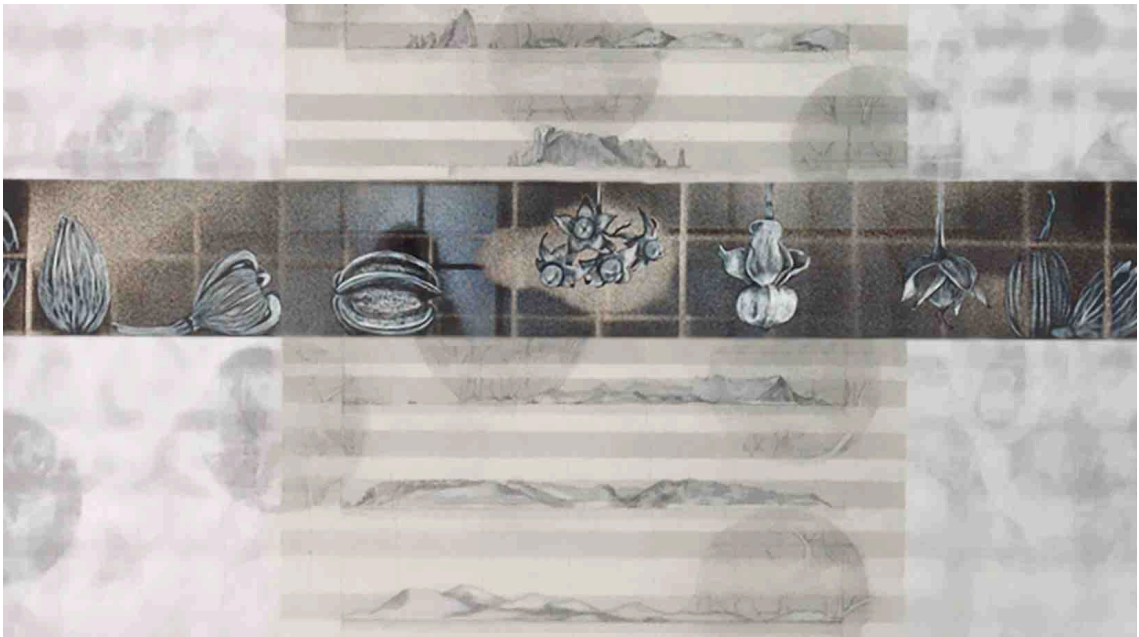


Figure 43. Emma Robertson and Margaret McHugh, *Deposition Lines* still, at 1.14 from video, 2017.

I scanned my drawings, and then grouped them thematically, aligning them with a conceptual brief related to the idea of a central line flowing through the work. I initially created a film myself, which scrolled through a sequence of my images, and I experimented with fading in and out, but I could not get the standard of finish I wanted, so I then collaborated with a video editor, Margaret McHugh. Each of the two films required three separate edits to get the level of integration and sense of harmonious flow I wanted. The intent of *Micrographia* was two-fold, as I wanted to use the endangered plant drawings in a new way, and I also wanted to reintroduce more colour back in to my work. The *Requiem (Red)* installation also gave me further ideas, which reappeared in the film in regards to layering.

*Deposition Lines* looked quite different to *Micrographia*, as the device of moving water was deployed, and rather than the more static quality of the scanned drawings used in *Micrographia*, (in part inspired by Robert Hooke's book of micro studies in 1665) longer panning shots of larger drawings appeared. I had intended to complete a third film, but I was invited to submit work to a group exhibition, *Drawn Threads*, at the Australian National University in Canberra, and opted to pursue that opportunity instead.

At the time I was working on the two films, I researched several other artist's films which featured drawing. Although I have never owned a mobile phone, I am not against

technology – digital collaboration can undoubtedly help artists to reach new audiences, and as a designer as well as an artist, I am well versed in the myriad ways that technology can assist creative practice, as evidenced by my recent exploration of laser cut paper, which is facilitated by using illustrator software programs. However, the use of technology can potentially inhibit or enhance ‘mindsight’ – and I need to take care I am not conversely and counterintuitively feeding the problem of anxious disconnection I am, in part, trying to address. From my perspective, is the process of watching my drawings as moving images on a screen likely to improve an immersion in mindfulness, and create a stronger sense of re-engagement with beauty? I am still not sure of the answer to that question, although the addition of soundscapes in both films did appear to add an additional resonance, that my static drawings perhaps do not have. I always listen to music when I draw, and it is an important part of my artistic process and sense of creative flow, so hearing sounds seemed to add a further calming effect to the films. My sketchbook shows the many ideas which flowed from the film process, and from important conversations with Margaret, as I fine-tuned the editing. I had one idea to freeze pressed plants in ice, and then film them melting into a drawing, and another idea to repeat the film projection, but onto a different surface each time. The idea of projecting the film back onto real plants, and then refilming their cast shadows, is one of several future adaptations and extensions I am keen to develop and explore.

Mid way in the final year of my research, I developed another large-scale installation drawing, not long after the films were completed. This work, *Living Fossils*, formed a reinterpretation of the discussion of appropriated scientific illustration images in Chapter Two. In June-July of 2017 I spent some time working at the Royal Botanic Garden Edinburgh, Scotland, and discovered a wonderful book of drawings and studies of fossil plants, preserved in coal and rock, from more than 160 years ago.<sup>194</sup> I was disappointed to see that the research and writing of the scientist and author, Dr Constantin von Ettingshausen was acknowledged and prominently displayed, but that the names of the illustrators, whose extraordinary skill and beautiful renderings so adeptly brought the scientific understanding in the book to the fore, were unfortunately not recorded for posterity. I considered titling the work *Artists Unknown*, in recognition of this oversight,

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<sup>194</sup> Constantin von Ettingshausen, *Die Tertiaer-Floren Der Oesterreichischen Monarchie* (Vienna, Austria, 1851).

but ultimately felt that bringing the images of the preserved plants back to life in a new format, and much larger scale, was perhaps a form of recognition in itself. In the *Living Fossil* installation, I took the small studies, enlarged them, and had them printed onto watercolour paper. In my experimentation, I discovered that this medium gives a lovely textural mark, when it is perforated by a sewing machine needle run over the surface, without thread in it, as seen in the detail in Figure 44. Cross sections of fossilised trees appeared, and I merged the work of the old with the new, floating many of the 24 images onto laser cut paper circles, creating a duality between urban settlements from archaeological maps, juxtaposed with the plants. Utilising the concept of meditative mandalas and enso rings, without a defined beginning and end, I arranged the circles into a large two metre diameter circle. An installation view at the *Drawn Thread* group exhibition at the Australian National University in Canberra is shown in Figure 45.

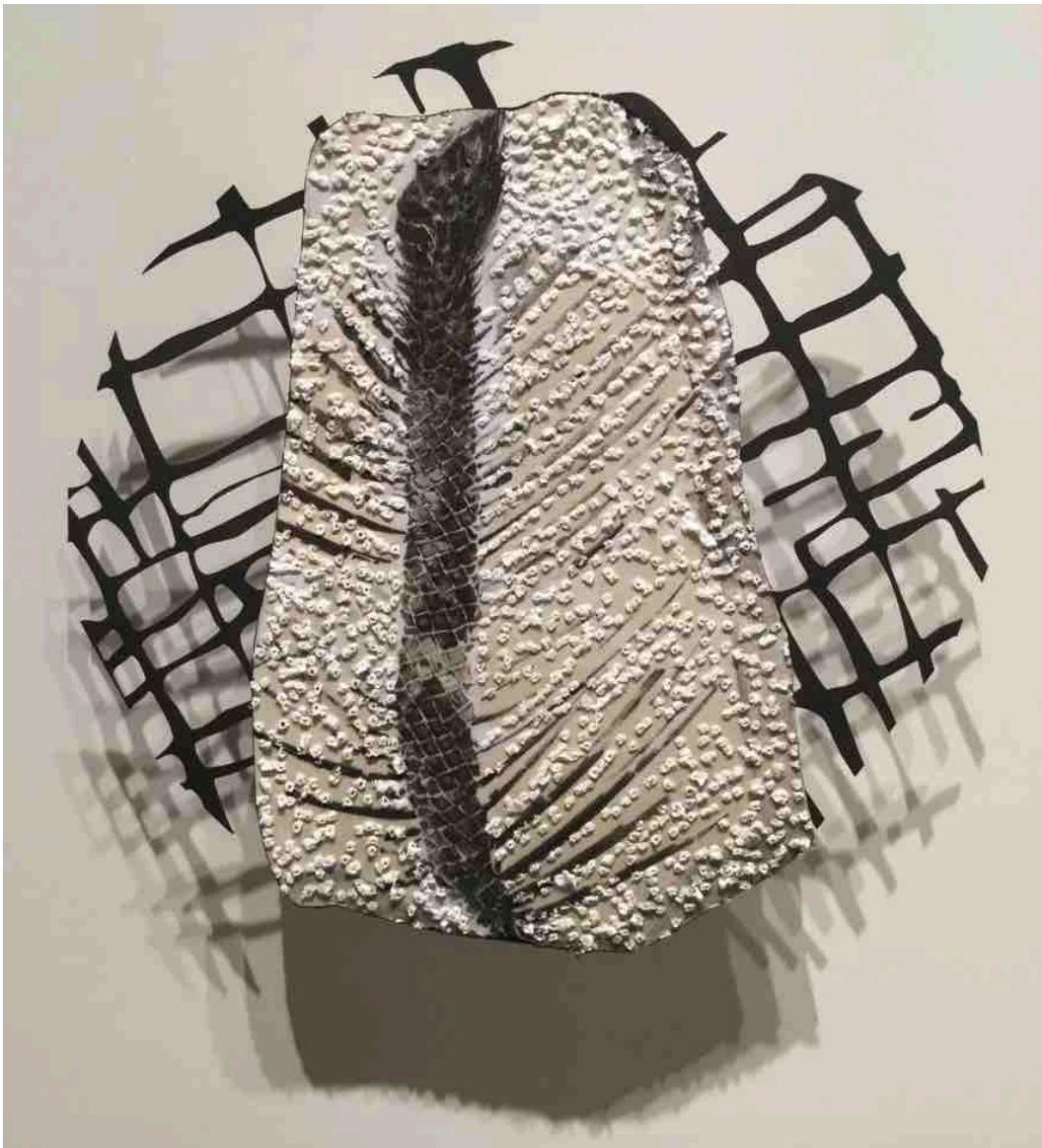


Figure 44. Emma Robertson, *Living Fossil*, detail of one of the 24 panels, 2017.

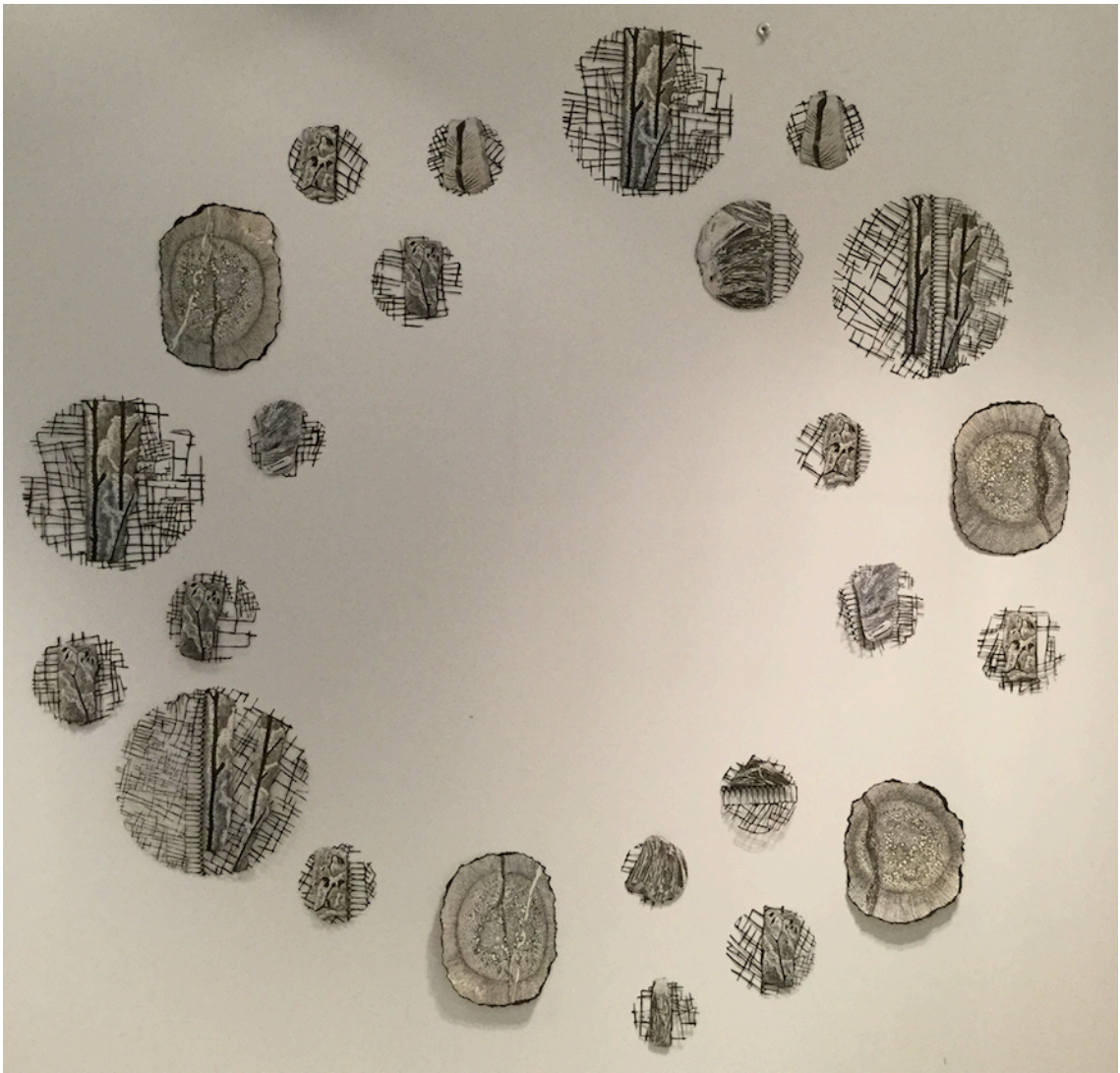


Figure 45. Emma Robertson, *Living Fossils*, watercolour paper, printing ink and cut paper, 24 panels, 2017. Installation view at the *Drawn Thread* exhibition, Australian National University. Size 200 x 200 cm.

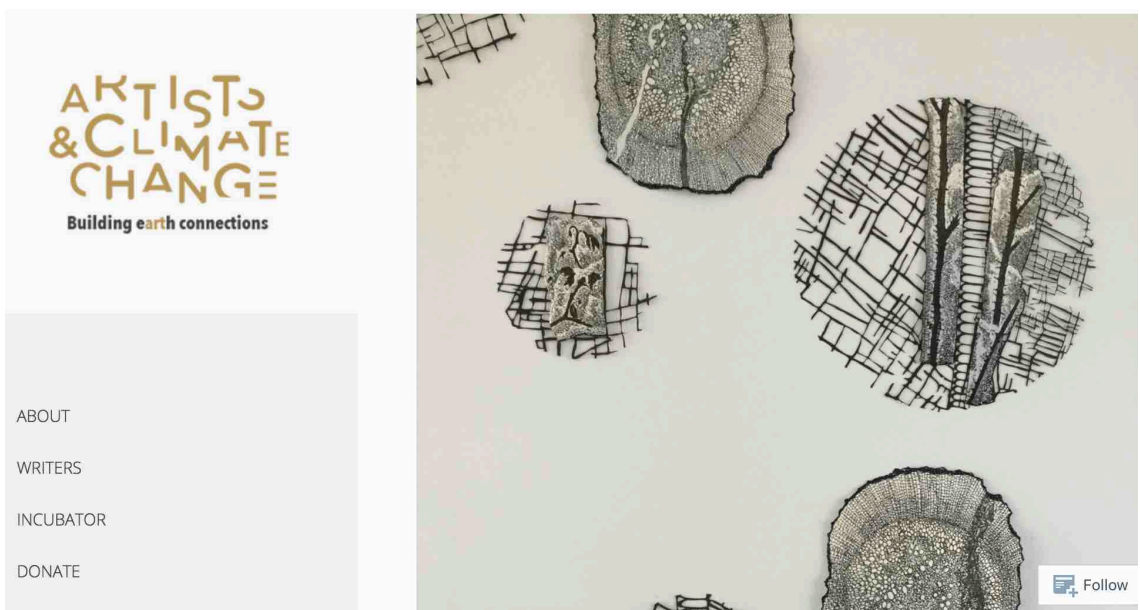


Figure 46. Emma Robertson, article *Biophilia and Beauty*, originally published in *Artists and Climate Change*, 2017.



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# BIOPHILIA AND BEAUTY

August 28, 2017 Artists and Climate Change

This post comes from the Artists and Climate Change Blog

Over the last three years, I have sought to develop work in new ways in order to offer an alternative discourse to the overwhelming pessimism of climate change debates. Taking my artwork out of the frame, and then off the wall, into three dimensional installations, and ultimately short films, has allowed me to explore original and diverse forms of artistic expression.

My journey started in 2009, following a year as Artist in Residence at the Royal Botanic Garden Sydney, where I exhibited a series of 27 mixed media drawings featuring extinct and endangered plants. Since then, I have continued to explore ways of communicating the escalating impact of climate change, while trying to reinforce that appreciating the beauty of nature – biophilia – is a necessary need for all people.

I was able to integrate a lifelong passion for meditation and mindfulness into my work as it evolved, and this has presented an opportunity to draw not just from the knowledge of the scientists I worked with at the Royal Botanic Garden, but from recent studies in neuroscience and ecopsychology, about how the brain constructs emotional responses which flow through the body.

Figure 47. Emma Robertson, article *Biophilia and Beauty*, republished in *The Center for Sustainable Practice in the Arts*, 2017.

As with the first year of my research, my writing continued to develop in parallel with my art practice, and I had a Journal proposal peer reviewed and accepted by Dr Thomas Bristow and Dr Danielle Wyatt, University of Melbourne, co-editors of *Unlikely Journal, Special Issue, Art and Herbariums*. Sixteen figures, most of them my drawings, appeared in the piece, *Transitions: Biophilia, Beauty and Herbariums*, which described the development of my work since 2008, and ongoing connections with several Royal Botanic Gardens in different major cities. I have spent a lot of time in different international Herbariums over the last ten years, and welcomed the opportunity to describe the influences that they have had on my research into endangered plant species, and artwork.

Following this, a separate article, *Biophilia and Beauty*, see Figure 46, was accepted by Chantal Bilodeau, Founder of the international network *Artists and Climate Change*, (USA) and featured on their website. Four recent images, and the two short films from my PhD study were featured in this piece, and it was subsequently republished (see Figure 47) by *The Center for Sustainable Practice in the Arts* (USA), and also by Richard Povall, who cross-promoted it on *Art.Earth.org*, which is based in the UK. Theatre Director Leyla Modirzadeh at San Jose City College, USA, saw my film work through the

links in the article, and as a result, she screened and used both my films on stage in their *Climate Change Theatre Action* in November 2017.

This activity represented a significant increase in using my artwork and writing to consciously connect with new global audiences, and I was encouraged by the feedback and messages I received as a result of these endeavours. In the final stage of my study, I approached, and was accepted by *The Big Anxiety Festival*, an event which connects more than sixty different creative practitioners and multiple organisations, who work on themes relating to people who suffer from anxiety in our society. This was a remarkably well timed opportunity to test and explore my interest in ecoanxiety, biophilia, mindfulness and beauty in a more interactive and deliberate way. I created an exhibition, *Art and Nature: Antidotes to Anxiety*, at the Fisher Library in October 2017, and also, as part of *The Big Anxiety Festival* and *Mental Health Month*, I organised and taught two public workshops at the Royal Botanic Garden Sydney, see Figure 48. The workshops built on the idea that using drawn images of observed nature can allow us to reconnect with our own emotions and help to alleviate anxiety. We used seed pods and plants as sources of creative inspiration, and tested various meditative and mindful drawing techniques, which explored the idea that our empathy is enhanced by our emotional response to natural beauty. I was delighted by the excellent feedback I received from teaching both these workshops (see Appendix A).

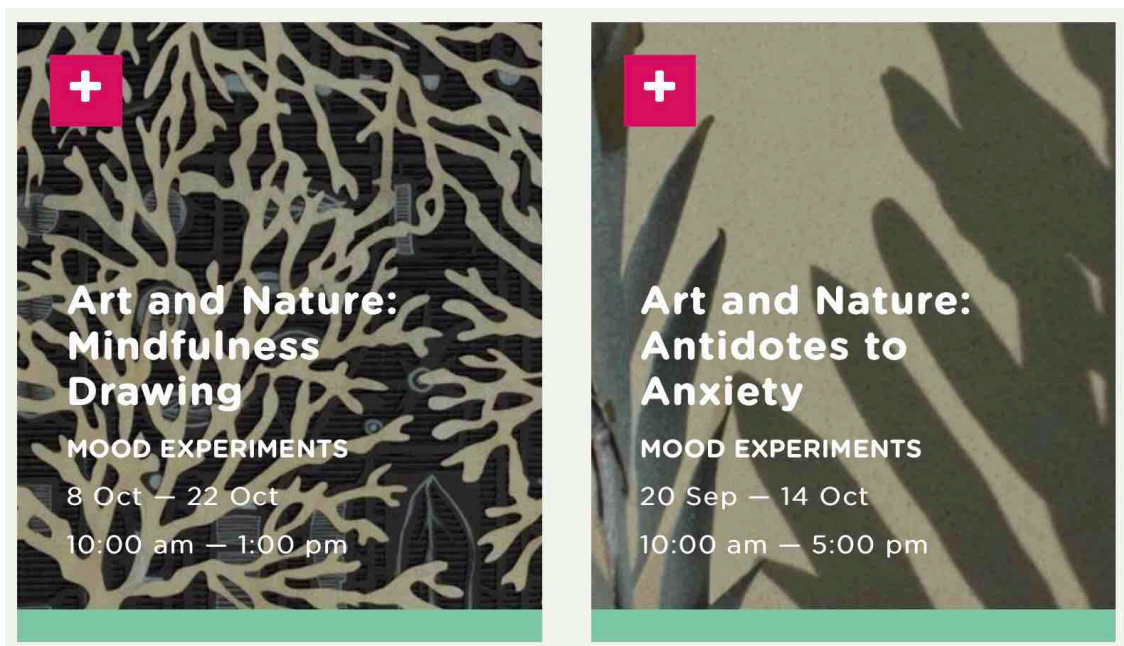



Figure 48. Emma Robertson, from *The Big Anxiety Festival* website, showing part of the marketing for my exhibition *Art and Nature: Antidotes to Anxiety*, and two workshops, *Drawing for the Mind* on Sunday 8 October, and *Making with Mindfulness* on Sunday 22 October, 2017.

Selected images from my work in *Art and Nature: Antidotes to Anxiety*, are shown in Figures 49-53. I used five cases, the three previously described large glass vitrines, and also two freestanding three dimensional units.



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sydney\_library We have a new exciting exhibition coming up in Fisher Library (Levels 1,2 and 3). On 20 September Emma Robertson's exhibition 'Art and Nature: Antidotes to anxiety' will open as part of the 'Big anxiety festival of arts + science + people'. Taking a walk in the countryside or strolling along the beach is always a good way to lift your mood, but can spending time in front of a piece of art have a similar effect? Emma proposes that observing natural forms can help reduce blood pressure, improve immune responses, and help alleviate depression. Check it out yourself.  
#mindfulness #thebiganxiety #usydlibrary

\_scatty Would love to see more shots of this! I know for me drawing and even just colouring in can be super relaxing when I'm feeling stressed about uni :)



85 likes

SEPTEMBER 19

Figure 49. Emma Robertson, *Art and Nature: Antidotes to Anxiety*, installing Case 4, 2017.



Figure 50. Emma Robertson, *Art and Nature: Antidotes to Anxiety*, completed Case 5, 2017.



These additional two freestanding units provided a chance to explore another aspect, and I embraced the opportunity to realise an idea that I had been thinking about for over two years, since the first year of my PhD studies. The image of Christo's *Wrapped Globe*, discussed previously in Chapter One, had provoked me, and I wanted to experiment with globe forms, but instead of a pessimistic, abandoned Earth on a beach, I chose to show images of plants in nature that I had drawn, across multiple three-dimensional forms, as shown in Figures 51 and 52. This expanded the idea that art can create aesthetic experiences where the audience can perceive work that empowers them to interpret and re-see the natural world. The idea of cast shadows flowed from the work in Cases 4 and 5, shown in Figures 49 and 50. I deployed mirrors in the shelving in Figure 50, and the smaller globes in Case 5 cast an interesting reflection alongside lotus seed pods.



Figure 51. Emma Robertson, *Art and Nature: Antidotes to Anxiety*, Case 2, detail, 2017. Left hand globe 30 cm diameter, right hand globe 25 cm diameter.



Figure 52. Emma Robertson, *Art and Nature: Antidotes to Anxiety*, installing Cases 1 and 2, 2017. Sizes various, ranging from 10 cm diameter to 30 cm diameter.



Figure 53. Emma Robertson, testing globe groupings and scale, for *Art and Nature: Antidotes to Anxiety*, 2017. Sizes range from 15 cm diameter to 30 cm diameter.

Further extending the idea of beauty, balance and pattern, I used my drawings across several different and diverse proportional scales, as though the orbs were somehow interconnected as family groups which belong together. Smaller patterns and textures derived from plants were juxtaposed with larger leaves and details. I worked with asymmetry, on the one hand creating each globe as a balanced and harmonious whole, while on the other hand, suggesting subtle focal points of attention.

Once I had completed the globes, I started to consider how they would look filmed outside in nature, with dappled light creating a sense of movement, and on reflective surfaces such as water, and I look forward to developing these ideas further in the future. This three-dimensional series represented a significant departure for my drawing work, and inspired me to further reconsider another idea for an artist's book which I had developed as a result of researching *Living Fossils*. Co-authors Professor Andrew Hoskins and Professor Amanda Barnier's forthcoming book *Memory in the Head and in the Wild: Interdisciplinarity in Memory Studies* will also be illustrated by my recent drawings.

Chapter Four, along with the exhibition works listed in Appendix B, demonstrates that my practice based research over the last three years has explored alternative ways to use drawn images of endangered plants, in order to connect with a wider and more diverse audience about the negative psychological impact of climate change. I propose, through several distinct bodies of works, that reconceptualising static drawings into new three dimensional forms, including moving images and artist's books, can potentially extend and deepen emotive experiences, and can assuage feelings of ecoanxiety in relation to climate change. Archival, and scientific material from Herbariums and old books, can also re-emerge in unexpected places and alternative locations, and become connected to, and entangled with, other new ideas, extending and adapting the adjacent possibilities. Our need to reconnect with nature, in the midst of everyday urban environments such as libraries, online through links to artist films, and in workshops with others, present opportunities to share the beauty of nature in more mindful ways.<sup>195</sup>

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<sup>195</sup> Although not directly used as a reference within this thesis, I have previously been influenced by the distinction described by Sarah Woods between personal and communal narratives, where I can look for opportunities to extend my own involvement and engagement, and actively and honestly share my work with others. The model of Narrative Layers by Sarah Woods, as noted in Lucy Neal, *Playing for Time: making art as if the world mattered* (London: Oberon Books, 2015), 396.

## CONCLUSION: Transitions and Future View

A human being is a part of the whole, called by us “Universe,” a part limited in time and space. He experiences himself, his thoughts and feelings, as something separated from the rest, a kind of optical delusion of his consciousness. This delusion is a kind of prison for us, restricting us to our personal desires and to affection for a few persons nearest to us. Our task must be to free ourselves from this prison by widening our circle of compassion to embrace all living creatures and the whole of nature in its beauty. Nobody is able to achieve this completely, but the striving for such achievement is in itself a part of the liberation and a foundation for inner security.<sup>196</sup>

The time I have spent on this research has given me the space to reconsider and fundamentally alter my artistic practice, in ways that I could not imagine at the start. Learning more about climate change, and the worsening impact of global warming, made me want to retreat to safer, known outcomes in the first year of my research. In the words of the quote above, learning to widen my circle of compassion through the conscious application of mindsight, allowed me to first recognise, and then integrate my own intuition, in the realisation that ecoanxiety can dissuade us from taking appropriate, personal action. This insight came from a conscious choice to reframe and transition my practice using openness, observation and objectivity.

As stated at the start of this thesis, while the science continues to underline the increasing risks posed by climate change, rallying the public to the cause has proved increasingly difficult. Finding artistic alternatives to the despair, hopelessness and consequent sense of disempowerment that confronting the realities of climate change can provoke was initially challenging. Artists have been active in exploring the impact of climate change through a variety of aesthetic strategies in attempts to address these challenges, and mobilise complex understandings of the phenomenon, and I have learnt a great deal from considering their work, and from reframing some of their contextual concerns within my own practice based research.

The response of this thesis has been to focus on a specific issue and location – endangered Australian plants – and to experiment with a range of different artistic approaches, filtered through the lens of biophilia and beauty. The experimental artwork

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<sup>196</sup> Albert Einstein, 1950, cited in Daniel Siegel, *Mindsight*, (Brunswick, Victoria: Scribe Publications, 2015), 255.

produced, builds and demonstrates a bridge between botanical science, endangered plant species, and art, in relation to climate change. First, I presented a different perspective on the applied use of art as a mode of enquiry into climate change, through creative agency and advocacy on the focused theme of endangered Australian plants.

Second, through my research I explored and actively assessed alternative methods for making and reconceptualising static drawings into moving images, as a strategy to engage artistically and positively with the negative ecopsychology and ecoanxiety of climate change.

Third, newly initiated, collaborative projects with non-arts partners were pursued and deployed to enhance audience's perception and engagement through the application of drawings. In parallel to this, conventional international and national exhibitions, publications and workshops for the public were also realised as additional contributions to knowledge within different communities.

Fourth, the research has resulted in a document which has explored a hopeful reconnection with nature, through applying and embracing an aesthetic of beauty and meditative mindfulness. A Transmedia Art method was utilised to enhance broader community understanding of Eco Art, using a mindful, practice based research process. A mindful relationship with plants, explored through drawing, can enhance our perception and sense of connection to nature:

Drawing changes our relationship to a place. We see it more. We enter into it more fully. We start to see more beauty, more value in the spaces we encounter, and develop a deeper intimacy and familiarity with them. Once this happens, it's much harder to treat them carelessly, inconsiderately – because we come to feel for them, we come to care. Through the mindfulness of drawing, we discover one of the most profound aspects of mindfulness – that in our awareness, a natural sense of sympathy and empathy arises for the things we encounter. These may be things of the natural world, but they may also be other people, our own drawings, or even ourselves. Out of mindfulness, kindness can arise, concern and caring, compassion and understanding. With our sense of connection to the world around us affirmed, we no longer tread blindly through it; we feel more inclined to treat things and ourselves with loving-kindness.<sup>197</sup>

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<sup>197</sup> Wendy Ann Greenhalgh, *Mindfulness and the Art of Drawing: A Creative Path to Awareness* (Brighton: Leaping Hare Press, 2017), 99.

As implied in the *CLIMARTE* quote below, through collaboration with others, and extending past our own individual practice, the arts more generally can also be a catalyst for change in our collective conscience:

Throughout history the arts have played a major role in recording and reflecting the state of human society and its relationship with the natural world. Indeed, for some historical periods it is only through the arts that we have been able to learn about our past. But sometimes we have also needed the arts to be a catalyst for change, a call to action, a pricking of humanity's collective conscience. We believe that now is one of those times...It is time for us to come together, as representatives of all that is creative, imaginative and hopeful in humanity. It is time for us to engage with our communities and our leaders, our peers and our audiences. It is time to let them know that we will act and that we expect them to act on this clear and present danger to humanity, and to the wondrous world we inhabit. It is time to have our voices heard on climate change.<sup>198</sup>

Over the last three years I have observed my work transitioning in more authentic, and not always easy ways. For every successful test drawing, there were many others which did not effectively realise what I hoped to share about my love for the beauty we can find in nature. This accommodation of the reality versus the image of being an artist, is an important part of practice based art research. Like Agnes Martin, I strongly believe that "the work" of honest artistic self-expression requires reflection, consistent and conscious effort, and an integration of the mind with the hands, as implied by the image in the final Figure 54. Additionally, synthesising mindful perspectives into my work drawing endangered plants, allowed me to "...slow down' reasoning and create an opportunity to arouse a slightly different awareness of the problems and situations mobilizing us..."<sup>199</sup> Through this research, my own circle of compassion has broadened and deepened, and I feel that I have become a part of a community of like-minded people, who care as I do, and who believe that our collective future, and the planet we live on, matters.

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<sup>198</sup> CLIMARTE: ARTS FOR A SAFE CLIMATE, "About," last modified 2017, <http://climarte.org/about/>

<sup>199</sup> Stengers, cited in Jennifer Gabrys and Kathryn Yusoff, "Arts, Sciences and Climate Change: Practices, and Politics at the Threshold," *Science as Culture*, Routledge, Vol 21 No.1, 1-24, (2012): 2. doi: 10.1080/09505431.2010.550139



Figure 54. Emma Robertson, globes from *Art and Nature: Antidotes to Anxiety*, 2017. Sizes various.

There is a strong connection between the desire for survival and the art of a people and a time. We have a task in hand. Culture in the developed western world has always positioned itself in distinction to nature: now we have to discover our nature within nature...Having done all of this, my greatest responsibility is to make work in the most direct way that I can, and interpret this time and place in a way that makes people more aware of themselves and it.<sup>200</sup>

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<sup>200</sup> Antony Gormley, "Art in the Time of Global Warming," in *Long Horizons: An Exploration of Art + Climate Change*, British Council, last modified, and launched, February 15, 2010, 14-16.

## BIBLIOGRAPHY

Abrahams, Guy, Johnson, Bronwyn and Gellatly, Kelly. *Art + Climate = Change*.  
Melbourne: Melbourne University Press, 2016.

Abrahams, Guy and Karoly, David. "Climate science is looking to art to create change."  
*The Conversation*. Last modified May 7, 2015.  
<https://theconversation.com/climate-science-is-looking-to-art-to-create-change-41185>

Babeanu, Sophie and Pelissier, Sandrine. "Participate." *The Big Picture Art Project*. Last  
modified 2017. <https://thebigpictureartproject.com/how-to-participate/>

Boulton, Elizabeth. "Climate change as a 'hyperobject': a critical review of Timothy  
Morton's reframing narrative." *Wiley Online Library*. Last modified June 3, 2016.  
WIREs Climate Change. 7: 772–785, doi:10.1002/wcc.410.  
<http://onlinelibrary.wiley.com/doi/10.1002/wcc.410/abstract>

Brant, Steven G. "The Brilliance (and Stupidity) of The Age of Stupid." *Huffington Post*.  
Last modified May 25, 2011. [http://www.huffingtonpost.com/steven-g-brant/the-brilliance-and-stupid\\_b\\_295518.html](http://www.huffingtonpost.com/steven-g-brant/the-brilliance-and-stupid_b_295518.html)

Bunting, Madeleine. "The Rise of Climate Change Art." *The Guardian*. Last modified  
December 3, 2009.  
<https://www.theguardian.com/artanddesign/2009/dec/02/climate-change-art-earth-rethink>

Campbell, Suzan. "Agnes Martin Interview." *Archives of American Art*. The Smithsonian  
Institution, Washington, D.C. (May 15, 1989).

Cape Farewell. "Earth: Art of a Changing World." *Cape Farewell*. Last modified date  
unrecorded, date of access August 30, 2017.  
<http://www.capefarewell.com/art/past-projects/earth-art-of-a-changing-world.html>



- Capps, Kriston. "Ai Weiwei's 600 Days of Flowers." *The Atlantic*. Last modified July 22, 2015. <https://www.theatlantic.com/entertainment/archive/2015/07/ai-weiwei-with-flowers/399275/>
- Carson, Rachel. *Silent Spring*. Fortieth Anniversary Edition. Boston & NY: Mariner Book & Houghton Mifflin Company, 2002.
- Carson, Rachel. *The Sense of Wonder*. New York: Harper Collins, 1998.
- Cembalest, Robin. "How Ai Weiwei and Olafur Eliasson Got 35,000 People to Draw on the Moon," *Art News*. Last modified December 19, 2013. <http://www.artnews.com/2013/12/19/how-ai-weiwei-and-olafur-eliasson-got-35000-people-to-draw-on-the-moon/>
- Chick, Anne & Micklethwaite, Paul. *Design for Sustainable Change: How Design and Designers can Drive the Sustainability Agenda*. Switzerland: AVA Publishing, 2011.
- Clayton Whitmore-Williams, Susan et al. "Mental Health and Our Changing Climate: Impacts, Implications, and Guidance." Washington, D.C.: APA & ecoAmerica, 2017.
- CLIMARTE. "Art + Climate = Change 2017." *Home Page*. Last modified 2017. <https://www.artclimatechange.org>
- CLIMARTE: ARTS FOR A SAFE CLIMATE. "About." Last modified 2017. <http://climarte.org/about/>
- Colette. *Earthly Paradise: An Autobiography of Colette Drawn from Her Lifetime Writings*. New York: Farrar, Straus and Giroux, 1966.
- Conrad, Daniel. "Aesthetics in Science and Art." *Mapping the Terrain of Contemporary Eco Art Practice and Collaboration*. Art in Ecology – A Think Tank on Arts and Sustainability, A Research Report by Beth Carruthers for the Canadian

Commission for UNESCO, Vancouver. British Columbia. Last modified, April 27 2006.

<http://unesco.ca/~media/pdf/unesco/bethcarruthersartinecologyresearchreportenglish.pdf>

Creativity and Cognition Studios. "Practice-Related Research." *UTS*. Last modified date unrecorded, accessed October 22, 2016.

<https://www.creativityandcognition.com/research/practice-based-research/practice-related-research/>

Danto, Arthur C. "Beauty for Ashes," in Benezra, Neal and Viso, Olga M. *Regarding Beauty: A View of the Late Twentieth Century*. Washington, D.C.: Smithsonian Institution, 1999.

Darwin, Charles. *On the Origin of the Species by Means of Natural Selection*. First Edition. London: John Murray, 1859.

de Botton, Alain and Armstrong, John. *Art as Therapy*. London: Phaidon Press, 2016.

Dombrovskis, Liz. "Peter Dombrovskis." *The Companion Guide to Tasmanian History*. Last modified 2006.

[http://www.utas.edu.au/library/companion\\_to\\_tasmanian\\_history/D/Dombrovskis.htm](http://www.utas.edu.au/library/companion_to_tasmanian_history/D/Dombrovskis.htm)

Doricova, Dana and Darebna, Gabriela. *A Different Perspective: Artwork by the Laureates of the Biennial of Drawing Pilsen*. Pilsen: Biennial of Drawing, 2015.

Dunaway, Finis. *Seeing Green: The Use and Abuse of American Environmental Images*. Chicago: The University of Chicago Press, 2015.

Duxbury, Lesley. "Breath-taking: Creating artistic visualisations of atmospheric conditions to evoke responses to climate change." *Local-Global*. Media Asset

Management System, RMIT. Last modified date unrecorded, date of access 1 July 2017. <http://mams.rmit.edu.au/935hrt45xgu7z.pdf>

Eliasson, Olafur and Weiwei, Ai. "Moon." Last modified 2017.

<https://www.moonmoonmoonmoon.com>

Environmental Change Institute. "News Release." *University of Oxford*. Last modified July 2, 2015.

Feldman Barrett, Lisa. *How Emotions Are Made: The Secret Life of the Brain*. London: Macmillan, 2017.

For-Site Foundation: Art About Place. "@Large: Ai Weiwei on Alcatraz: Blossom," photo credit Jan Sturmman. Last modified 2016. <https://www.for-site.org/project/ai-weiwei-alcatraz-blossom/>

Fries, Kath. "Future Stratigraphy." *Future Stratigraphy*. Sydney: Sydney College of the Arts, 2016, exhibition catalogue.

Gablik, Suzi. *The Re-enchantment of Art*. London & New York: Thames & Hudson, 1995.

Gabrys, Jennifer & Yusoff, Kathryn. "Arts, Sciences and Climate Change: Practices, and Politics at the Threshold." *Science as Culture*. 21:1, 2012.

Gamwell, Lynn. *Exploring the Invisible: Art, Science and the Spiritual*. Princeton NJ: Princeton University Press, 2002.

Germer, Christopher K. "Mindfulness." *Mindfulness and Psychotherapy*. New York: The Guilford Press, 2013.

Gilbert, Daniel. "It's the End of the World as We Know It, and I Feel Fine." *Harvard Thinks Big*. Last modified, March 1, 2011.

<https://news.harvard.edu/gazette/story/2011/03/harvard-thinks-big-its-the-end-of-the-world-as-we-know-it-and-i-feel-fine-daniel-gilbert/>

Glimcher, Arne. *Agnes Martin Paintings, Writings, Remembrances*. London: Phaidon Press, 2012.

Goldsworthy, Andy. "Sacred Ecology." Last modified 2017.

<http://sacredecology.com/andygoldsworthy/>

Gore, Al in Stoll, Mark. "Legacy of Rachel Carson's Silent Spring." *Environment & Society Portal*. Last modified 2012, ISSN2198-7696,

<http://www.environmentandsociety.org/exhibitions/silent-spring/legacy-rachel-carsons-silent-spring>

Gormley, Antony. "Art in the Time of Global Warming." *Long Horizons: An Exploration of Art + Climate Change*. London: British Council. Last modified, and launched, February 15, 2010. Link now inactive.

Greenhalgh, Wendy Ann. *Mindfulness and the Art of Drawing: A Creative Path to Awareness*. Brighton: Leaping Hare Press, 2017.

Grinde, Bjorn and Grindal Patil, Grete. "Biophilia: Does Visual Contact with Nature Impact on Health and Well-being?" *International Journal of Environmental Research and Public Health*. Last modified August 31, 2009. doi:

<http://www.mdpi.com/1660-4601/6/9/2332> &

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2760412/>

Grishin, Sasha. *John Wolseley Landmarks II*. Melbourne: Craftsman House / Thames & Hudson, 2006.

Hanak, Mia. "Act: Afterword." *Art in Action: Nature, Creativity and Our Collective Future*. The editors of Natural World Museum. San Rafael: Earth Aware Editions, 2007.

Hesse-Honegger, Cornelia. "Field Study in the Environs of Swiss Nuclear Power Plants in Entlebuch Canton, Lucerne, Switzerland." *Current Projects*. Last modified 2008.

<http://www.wissenskunst.ch/uk/current-projects/1/>

Hjorth, Larissa, Pink, Sarah, Sharp, Kristen, and Williams, Linda. *Screen Ecologies: Art, Media, and the Environment in the Asia-Pacific Region*. Cambridge, Massachusetts: The MIT Press, 2016.

Hooke, Robert. *Micrographia*. Great Britain: Royal Society, 1665.

Nielsen. "Survey Press Release." Last modified July 2007.

[http://www.nielsen.com/content/dam/nielsen/en\\_us/documents/pdf/Press%20Releases/2007/July/Global%20Consumers%20Vote%20Al%20Gore,%20Oprah%20Winfrey%20and%20Kofi%20Annan%20Most%20Influential%20to%20Champion%20Global%20Warming%20Cause%20Nielsen%20Survey.pdf](http://www.nielsen.com/content/dam/nielsen/en_us/documents/pdf/Press%20Releases/2007/July/Global%20Consumers%20Vote%20Al%20Gore,%20Oprah%20Winfrey%20and%20Kofi%20Annan%20Most%20Influential%20to%20Champion%20Global%20Warming%20Cause%20Nielsen%20Survey.pdf)

Institute of Development Studies, Participation Research Cluster. "Reflective Practice."

*Institute of Development Studies*. Last modified date unrecorded, accessed

October 22, 2016. <http://www.participatorymethods.org/method/reflective-practice>

International Community for Ecopsychology. "About Ecopsychology." *I.C.E.* Last modified 2017. <http://www.ecopsychology.org/about-ecopsychology/>

Jenkins, Henry. "Defining Transmedia Further." Last modified July 31, 2011.

[http://henryjenkins.org/blog/2011/08/defining\\_transmedia\\_further\\_re.html](http://henryjenkins.org/blog/2011/08/defining_transmedia_further_re.html)

Jenkins, Henry. "Transmedia 202: Further Reflections." *Confessions of an Aca-Fan*. Last modified July 31, 2011.

[http://henryjenkins.org/blog/2011/08/defining\\_transmedia\\_further\\_re.html](http://henryjenkins.org/blog/2011/08/defining_transmedia_further_re.html)

Jenkins, Henry. *Convergence Culture: Where Old and New Media Collide*. New York: New York University Press, 2006.

Johnson, Ken. "The Natural World: Here, It's Had Work." *The New York Times*. Last modified May 30, 2013.  
<http://www.nytimes.com/2013/05/31/arts/design/expo-1-new-york-at-moma-ps1-and-other-sites.html>

Johnson, Steven. *Where Good Ideas Come From: The Seven Patterns of Innovation*. London: Penguin, 2010.

Kaufman, Rachel. "32,000-Year-Old Plant Brought Back to Life – Oldest Yet." *National Geographic*. Last modified February 23, 2012.  
<http://news.nationalgeographic.com/news/2012/02/120221-oldest-seeds-regenerated-plants-science/>

King, Gilbert. "The Silence that Preceded China's Great Leap into Famine." *Smithsonian Magazine*. Last modified September 26, 2012.  
<http://www.smithsonianmag.com/history/the-silence-that-preceded-chinas-great-leap-into-famine-51898077/>

Klein, Naomi. Source cited as *New York Times Book Review*. "This Changes Everything." Last modified 2017. <https://thischangeseverything.org/book/>

Klein, Naomi. "This Changes Everything – The Film – About" Last modified 2017.  
<https://thefilm.thischangeseverything.org/about/>

Klein, Naomi. *This Changes Everything: Capitalism vs. The Climate*. New York: Simon & Schuster, 2014.

Kolbert, Elizabeth. *The Sixth Extinction*. New York: Picador, 2014.

Kronick, Charlie, cited in Bunting, Madeleine. "The Rise of Climate-Change Art." *The Guardian*. Last modified December 3, 2009.

<https://www.theguardian.com/artanddesign/2009/dec/02/climate-change-art-earth-rethink>

Krug, Don H. "Teaching Art in the Contexts of Everyday Life." *Contemporary Issues in Art Education*. Upper Saddle River NJ: Prentice Hall, 2002.

Mabey, Richard. "The Lie of the Land." *The Guardian*. Last modified April 1, 2007.

<https://www.theguardian.com/books/2007/mar/31/art.art>

Marshall, George. *Don't Even Think About It: Why Our Brains are Wired to Ignore Climate Change*. New York: Bloomsbury Pub PLC, 2014.

Martin, Agnes. Lecture at the opening of the exhibition "Agnes Martin," Institute of Contemporary Art, University of Pennsylvania, February 14, 1973. Republished by Anne Flourney, in *Agnes Martin's Notes*. <http://anneflournoy.com/agnes-martins-notes/>

Martinique, Elena. "The Era of Environmental Art." *Widewalls*. Last modified 2017.

<http://www.widewalls.ch/environmental-art/>

McDonald, John. "In the Balance." *The Sydney Morning Herald*. Last modified October 2, 2010. <http://johnmcdonald.net.au/2010/in-the-balance/>

McDonald, Rachel, Chai, Hui Yi and Newell, Ben. "Personal experience and the 'psychological distance' of climate change: An integrative review." *Journal of Environmental Psychology*. 44 (2015).

McIntyre, Simon, and Robertson, Emma et al. Last modified 2017,

<https://www.artdesign.unsw.edu.au/whats-on/news/transmedia-storytelling-narrative-worlds-emerging-technologies-and-global-audiences>

- McKibben, Bill. "Climate Fight Won't Wait for Paris: vive la resistance." *The Guardian*. Last modified March 10, 2015. <https://www.theguardian.com/environment/2015/mar/09/climate-fight-wont-wait-for-paris-vive-la-resistance>
- Meadows, Donella. "Definition of Sustainability." *Sustainability Leaders Network*. Last modified 1995, <http://www.sustainabilityleadersnetwork.org/definition-of-sustainability/>
- Meadows, Donella. "The State of the Planet is Grim. Should We Give Up Hope?" *Grist Magazine, Inc.* Last modified April 20, 2001. <http://grist.org/article/out2/>
- Meadows, Donella, Randers, Jorgen & Meadows, Dennis. *Limits to Growth: The 30-Year Update*. Vermont US: Chelsea Green Publishing, 2004.
- Medina, John. *Brain Rules*. Seattle: Pear Press, 2008.
- Merriam-Webster Dictionary. Last modified 2017. <https://www.merriam-webster.com/dictionary/anthropogenic>
- Miles, Malcolm. *Art, Literature and Architecture in a Period of Climate Change*. London & New York: Bloomsbury Academic, 2014.
- Miller, Robert L. "From the Publisher." *Time Magazine*. January 2, 1989.
- MOMA New York. "Expo 1: New York." Last modified 2013. <http://www.momaps1.org/expo1/module/dark-optimism/>
- Monash Gallery of Art. "Peter Dombrovskis." *Monash Gallery of Art*. Last modified 2016. <https://www.mga.org.au/index.php/collection/explore/index/image/450>



Natural Heritage Trust. "Fact Sheet: Threatened Australian Plants." *Threatened Species and Communities Series*. Natural Heritage Trust, Australian Government: Department of the Environment and Heritage, 2015.

Neal, Lucy. *Playing for Time: making art as if the world mattered*. London: Oberon Books, 2015.

Oxford Living Dictionaries. "Hundred Flowers Definition." Last modified 2017.  
[https://en.oxforddictionaries.com/definition/hundred\\_flowers](https://en.oxforddictionaries.com/definition/hundred_flowers)

Pedersen, Martin. *Art for Survival*. United Nations Environmental Protection Agency, Graphis Inc., USA, 1992.

Popova, Maria. "Trailblazing Philosopher Susanne Langer on the Purpose of Art, How It Works Us Over, and How Abstract Thinking Gives Shape to Human Emotion." *Brain Pickings*. Last modified October 28, 2016.  
<https://www.brainpickings.org/2016/10/28/susanne-langer-problems-of-art/>

Porritt, Jonathon. *Mapping the Terrain of Contemporary Eco Art Practice and Collaboration, Art in Ecology – A Think Tank on Arts and Sustainability, A Research Report* by Beth Carruthers for the Canadian Commission for UNESCO. Vancouver, British Columbia. Last modified April 27, 2006.  
<http://unesco.ca/~media/pdf/unesco/bethcarruthersartinecologyresearchreportenglish.pdf>

Putnam, James. *Art and Artifact: The Museum as Medium*. London: Thames & Hudson, 2009.

Renfrew, Colin. *Figuring It Out: The Parallel Visions of Artists and Archaeologists*. London: Thames & Hudson, 2003.

Roberts, Lisa. "Living data: how art helps us all understand climate change." Last modified February 5, 2015. <https://theconversation.com/living-data-how-art-helps-us-all-understand-climate-change-36890>

Robertson, Emma. "Models of Creative Thinking and Problem Solving: Design Development, Application and Use." *Moving from Novice to Expert on the Road to Expertise: Developing Expertise in the Visual Domain*, ed. Arianne Rourke and Vaughan Rees. Illinois: Common Ground Publishing LLC, 2015.

Robertson, Emma. *Ascendant and Descendant*. Edited by Emma Robertson. Sydney: Botanic Gardens Trust, 2009. Exhibition catalogue.

Robertson, Emma. "Biophilia and Beauty." *Sustainable Practice*. Last modified August 28, 2017. <http://www.sustainablepractice.org/2017/08/28/biophilia-and-beauty/>

Robertson, Emma. "Biophilia and Beauty." *Artists and Climate Change*. Last modified August 24, 2017. <https://artistsandclimatechange.com/2017/08/24/biophilia-and-beauty/>

Robertson, Emma. "Transitions: Biophilia, Beauty and Herbariums." *Unlikely Journal, Special Issue, Art and Herbariums*. Co-editors Dr Thomas Bristow and Dr Danielle Wyatt, University of Melbourne. November 2017.

Ruddock, Julian. "SciArt, The confluence of art and science in conveying the uncertainties of climate change." *Art Science Climate Change*. Last modified December 4, 2012. <http://cargocollective.com/artscienceclimatechange/SciArt-The-confluence-of-art-and-science-in-conveying-the-uncertaintie>

Ryan, Anne. "Ana Pollak." *Drawing Out, Dobell Australian Biennial*. Sydney: Art Gallery of New South Wales, 2014.

- Sampson, Scott. "What Scientific Concept Would Improve Everybody's Cognitive Toolkit?" *Edge*. Last modified October 22 2015. <https://www.edge.org/response-detail/10866>
- Scarry, Elaine. *On Beauty and Being Just*. New Jersey: Princeton University Press, 1999.
- Siegel, Daniel. "About Mindsight, An Introduction to Mindsight." Last modified 2010, <http://www.drdansiegel.com/about/mindsight/>
- Siegel, Daniel. *Mindsight*. Brunswick, Victoria: Scribe Publications, 2015.
- Sifferlin, Alexandra. "The Healing Power of Nature." *Time Magazine*. Issue July 25 (2016).
- Stoll, Mark. "Legacy of Rachel Carson's Silent Spring." *Environment & Society Portal*. Last modified 2012, ISSN2198-7696. <http://www.environmentandsociety.org/exhibitions/silent-spring/legacy-rachel-carsons-silent-spring>
- Stoll, Mark. "Rachel Carson's Silent Spring, A Book That Changed the World." *Environment & Society Portal*. Last modified 2012, ISSN2198-7696. <http://www.environmentandsociety.org/exhibitions/silent-spring/about-exhibition>
- Stoll, Mark. "Silent Spring in Literature and the Arts." *Environment & Society Portal*. Last modified 2012, ISSN 2198-7696. <http://www.environmentandsociety.org/exhibitions/silent-spring/silent-spring-literature-and-arts>
- Superfreedraw. "Home page." Last modified 2017. <http://www.superfreedraw.com>
- Symons, Debbie. "Amazonia, 2015." Last modified 2015. <http://debbiesymons.com.au/amazonia/>

- Tarn Pedder-Smith, Rachel. *The Glow of Significance: Narrating Stories using Natural History Specimens*. Royal College of Art: London. Unpublished Doctor of Philosophy thesis, 2011.
- Tate Gallery. "Gunter Brus, Arnulf Rainer." *Tate Gallery: Illustrated Catalogue of Acquisitions 1986-88*. Last modified date unrecorded, accessed July 20, 2017. <http://www.tate.org.uk/art/artworks/brus-rainer-no-title-p77236>
- Taylor, Rachel. "Michael Landy, Creeping Buttercup 2002, Summary." *Tate Gallery*. Last modified December 2003. <http://www.tate.org.uk/art/artworks/landy-creeping-buttercup-p78730>
- The University of Queensland. "Judy Watson's Heron Island Artworks Alert Danger in Paradise." Last modified October 5, 2009. <https://www.uq.edu.au/news/article/2009/10/judy-watson's-heron-island-artworks-alert-danger-paradise>
- The Wilderness Society. "Pivotal Wilderness Society campaigner Karen Alexander has been awarded an Order of Australia Medal." *The Wilderness Society*. Last modified July 6, 2015. <https://www.wilderness.org.au/articles/pivotal-wilderness-society-campaigner-karen-alexander-has-been-awarded-order-australia>
- University of Applied Arts, Vienna. "Transmedia Art." *University of Applied Arts, Vienna*. Last modified 2017. [http://www.dieangewandte.at/en/institutes/fine\\_arts\\_and\\_media\\_art/transmedia\\_art](http://www.dieangewandte.at/en/institutes/fine_arts_and_media_art/transmedia_art)
- van den Berg, Magdalena et al. "Autonomic Nervous System Responses to Viewing Green and Built Settings: Differentiating Between Sympathetic and Parasympathetic Activity." *International Journal of Environmental Research and*

*Public Health*. v.12, December 14, 2015. doi: <http://www.mdpi.com/1660-4601/12/12/15026> & <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4690962/>

von Ettingshausen, Constantin. *Die Tertiaer-Floren Der Oesterreichischen Monarchie*. Vienna, Austria, 1851.

Weintraub, Linda. *To Life: Eco Art in Pursuit of a Sustainable Planet*. Berkeley, CA: University of California Press, 2012.

Weitman, Wendy and Wye, Deborah. *Eye on Europe: Prints, Books and Multiples, 1960 to Now*. New York: MOMA, 2006.

Weiwei, Ai. "Ai Weiwei's Floral Bike Protest." *Phaidon*. Last modified January 3, 2014. <http://au.phaidon.com/agenda/art/articles/2014/january/03/ai-weiweis-floral-bike-protest/>

Wilson, Edward O. *Biophilia*. Cambridge Massachusetts: Harvard University Press, 1984.

Wohlleben, Peter. *The Hidden Life of Trees: What They Feel, How They Communicate: Discoveries from a Secret World*. Vancouver: Greystone Books, 2016.

Wolseley, John. "Carboniferous." *roslynxley9 gallery*. Last modified September 9, 2010. <http://www.roslynxley9.com.au/news/releases/2010/09/09/189/>

Wolseley, John. "Heartland and Headwaters." *John Wolseley Website*. Last modified 2017. <http://johnwolseley.net/exhibitions/john-wolseley-heartlands-and-headwaters>

Wolseley, John. "Home page." *John Wolseley Website*. Last modified 2017. <http://johnwolseley.net>

Wolseley, John. *Tracing the Wallace Line*. Bendigo: Bendigo Art Gallery, 2001.  
Exhibition catalogue.

Yoshiko Seo, Audrey. *Enso: Zen Circles of Enlightenment*. Boulder, Colorado:  
Weatherhill, 2009.

## Appendix A: Two Workshops

As part of *The Big Anxiety Festival* I developed, wrote and taught two workshops hosted by the Royal Botanic Garden Sydney, which were on at the same time as my *Art and Nature: Antidotes to Anxiety* exhibition at the Fisher Library, Sydney University. I am a Scientia Education Fellow at UNSW, and the workshops were funded by a grant from the Scientia Education Academy at UNSW, so they were offered free to the public. As these were part of my academic work, I conducted evaluations for:

### Drawing for the Mind on Sunday 8 October 2017 -



Providing a written evaluation was voluntary, and the 19 feedback statements received from 19 participants were 100% positive in their anonymous responses, including:

“Thank you from the bottom of my heart for allowing me this opportunity – such an accessible and beautiful opportunity to free my mind.” “Excellent.” “I feel inspired...”

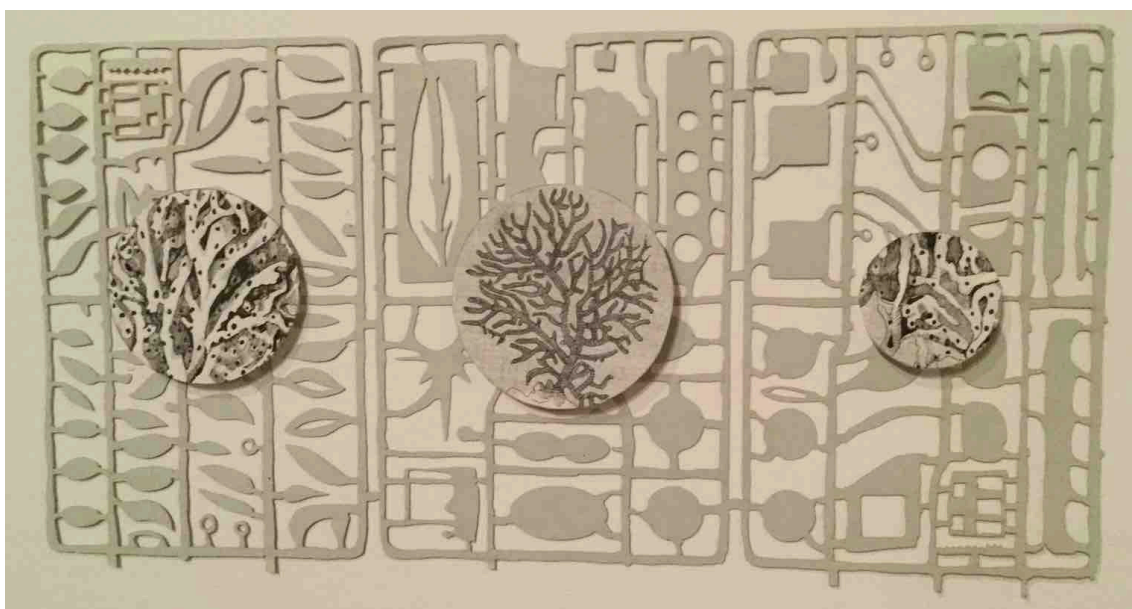
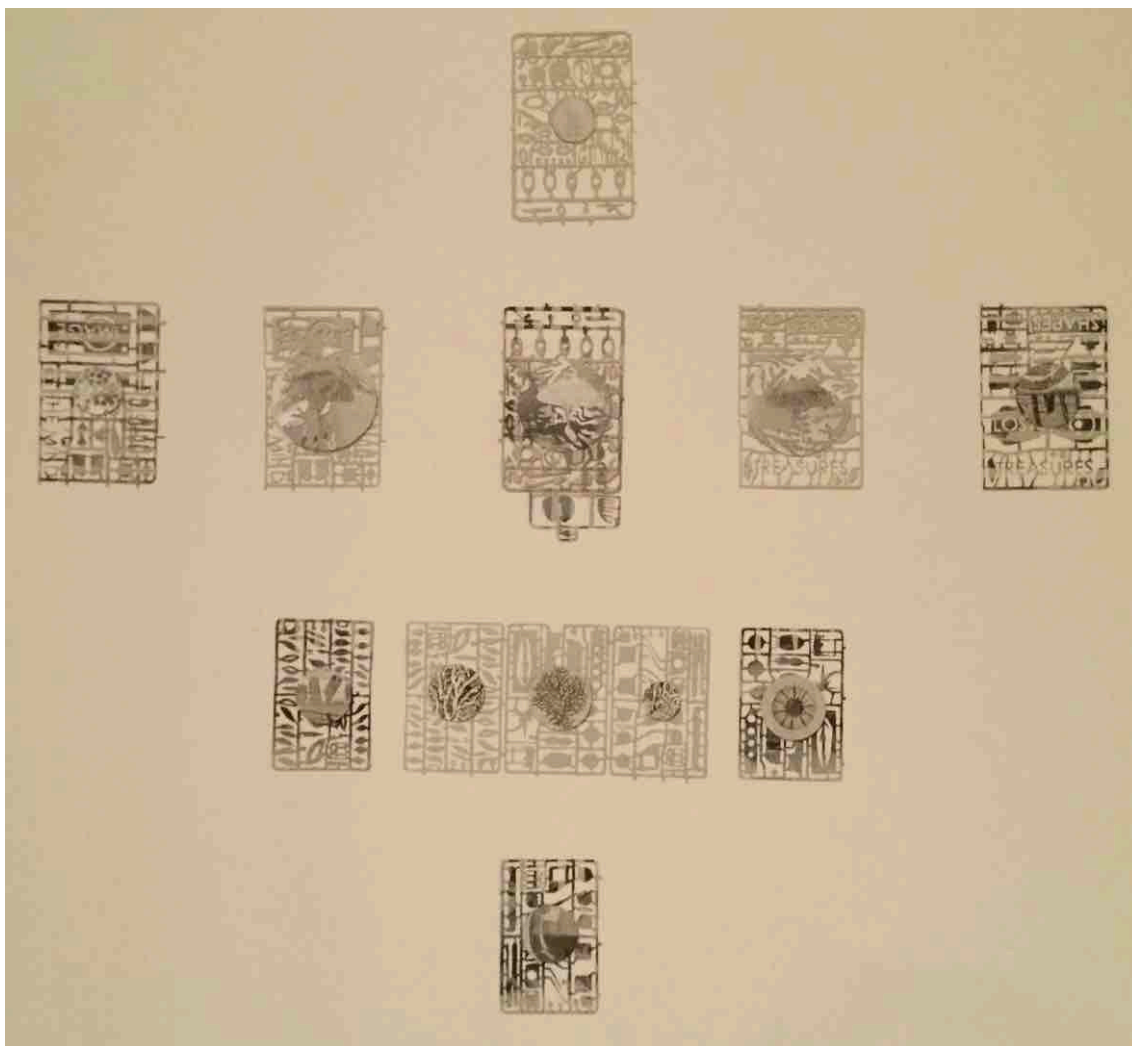
### Making with Mindfulness on Sunday 22 October 2017 -

Providing a written evaluation was voluntary, and the 19 feedback statements received from 19 participants were 100% positive in their anonymous responses, including:

“FANTASTIC! Your presentation and content were excellent.” “I loved this workshop.” “Incredibly engaging workshop...” “Extremely calming...” “Brilliant workshop. Emma’s teaching style was inspirational and also calming.”

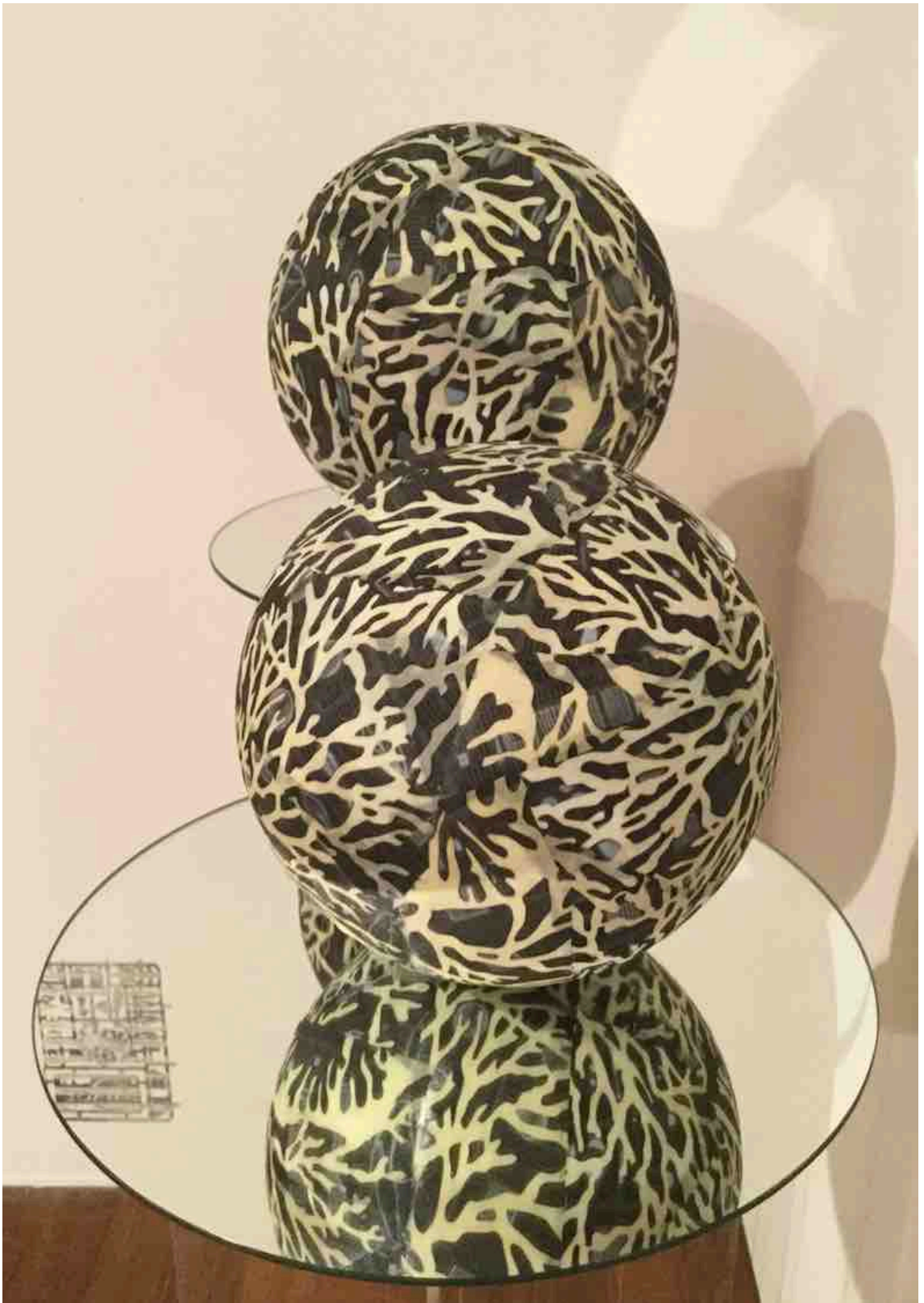
<h3>Drawing for the Mind</h3>	<h3>Making with Mindfulness</h3>
<p>Sunday 8 Oct from 10am-1pm in the Moore Room, Education Centre, Royal Botanic Garden</p>	<p>Sunday 22 Oct from 10am-1pm in the Moore Room, Education Centre, Royal Botanic Garden</p>
<p>This workshop explores the recent popularity of using colouring in drawings to help relax the mind and create a sense of flow. We will use the resources of the beautiful botanic gardens to create simple line drawings and then draw repeated, meditative shapes. Drawing is thinking in a visual form, and it can be an effective tool to create a sense of calm engagement with the natural world around us. Drawing can help us to slow down, observe and see more clearly, and to bring a focus of quiet attention on the current moment in time. No prior art experience is required for this workshop, and adult participants at all levels of ability are welcome. Registration through Eventbrite is required.</p>	<p>This workshop explores some recent research in mindfulness which connects being in nature with an enhanced sense of calm and relaxation. We will use natural forms from the beautiful botanic gardens to create shapes inspired by the principles of balance and harmony, and then draw these forms in several different ways. Spending time looking at and observing nature has been proven to help reduce stress and increase health and wellbeing. No prior art experience is required for this workshop, and adult participants at all levels of ability are welcome. Registration through Eventbrite is required.</p>
<p>Associate Professor Emma Robertson, UNSW, teaches this special workshop which explores how art and nature both provide antidotes to feelings of anxiety, as proven in recent research into biophilia and ecopsychology. Drawn images of plants can enhance a calm meditation, and observing natural forms can help to reduce blood pressure, improve immune responses, and help alleviate depression and anxiety. The workshop is associated with the Art + Nature: Antidotes to Anxiety exhibition which is being held at the Fisher Library, Sydney University from 20 September to 14 October.</p>	<p>Associate Professor Emma Robertson, UNSW, teaches this special workshop which explores how art and nature both provide antidotes to feelings of anxiety, as proven in recent research into biophilia and ecopsychology. Drawn images of plants can enhance a calm meditation, and observing natural forms can help to reduce blood pressure, improve immune responses, and help alleviate depression and anxiety. The workshop is associated with the Art + Nature: Antidotes to Anxiety exhibition which is being held at the Fisher Library, Sydney University from 20 September to 14 October.</p>
<p>Thanks to the Scientia Education Fellowship at UNSW and the Royal Botanic Garden Sydney for their support for this free workshop. Class size is limited to 25 participants.</p>	<p>Thanks to the Scientia Education Fellowship at UNSW and the Royal Botanic Garden Sydney for their support for this free workshop. Class size is limited to 25 participants.</p>
	

Appendix B: Artwork Presented for Examination



Emma Robertson, *The Adjacent Possible*, 2017. Mixed media, 120 x 120 cm. (Whole image, top, and detail view, below).





Emma Robertson, *Material Traces*, 2017. Mixed media, 2 x 40 cm diameter.



Emma Robertson, *The Light of Memory*, 2017. Mixed media, series of three, each 56 x 76 cm.



Emma Robertson, *What Remains*, 2017. Mixed media, 2 x 40 cm diameter.



Emma Robertson, *Living Fossils*, 2017. Mixed media, 200 x 200 cm, in the background.  
Emma Robertson, *Deep Ecology*, 2017. Mixed media, 3 x 40 cm, in the foreground.

MICROGRAPHIA - <https://vimeo.com/222003403>

DEPOSITION LINES - <https://vimeo.com/222012367>

Emma Robertson and Margaret McHugh, *Deposition Lines*, 2017. Film.

Emma Robertson and Margaret McHugh, *Micrographia*, 2017. Film.



Emma Robertson, *Natural Histories*, 2017. Mixed media, dimensions various.



Emma Robertson, *Natural Histories*, 2017, detail. Mixed media, dimensions various. Photograph by Ian Hobbs.



Emma Robertson, *Late Fragment*, 2017. Mixed media, 42 x 96 cm.



Emma Robertson, *Deep Ecology*, 2017. Mixed media, 3 x 40 cm diameter, overall installation dimensions various.



Emma Robertson, *Family*, 2017. Mixed media, various diameters, 15-30 cm. (The film *Micrographia*, 2017, is shown in the background).



Emma Robertson, *Exhibition Overview*, 2017. Photograph by Ian Hobbs.



Emma Robertson, *Exhibition Overview*, 2017. Photograph by Ian Hobbs.



Emma Robertson, *Exhibition Overview*, 2017. Photograph by Ian Hobbs.