CONTEMPORARY PHOTOGRAPHIC REPRESENTATION OF ENVIRONMENTAL ISSUES WITH AN EMPHASIS ON ARTS BASED CONSTRUCTED IMAGERY

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Abstract

This practice-based project investigates the uses of constructed photography to make comment on contemporary environmental issues. As humankind continues to develop, expand, and create new technology there is a growing awareness of the consequences of the waste accumulating from this expansion. The representation of impacts from human actions on nature, through photography, is an extensive field of enquiry, which has been covered by a wide range of photographers working in different genres such as landscape, documentary, and constructed imagery. Within my study I have investigated the way that the portrayal in photography of concerns about the environment has changed; from the picturing of 'pristine' nature in landscape photography by Ansel Adams to the constructed imagery of contemporary artists highlighting the detritus that pollutes the landscape.

My study aims to provide an analysis of the methods of the contemporary photographic artists Edward Burtynsky, Chris Jordan, Mandy Barker, and the artistic duo Sara Goldschmied and Eleonora Chiari. I investigate the processes and the aesthetics they use, in order to understand how they address the relationship between humans and nature. In particular I have examined these artists' use of the 'sublime' and the 'beautiful' and the ways they have developed these aesthetic categories to draw attention to environmental issues. The aim of my examination has been to identify what is interesting and important about the shifts in methods of representation in this field.

My practical research explores how photographic representations of the relationship between humans and nature can be created through fusing elements of electronic waste with plant life. My work confronts the serious ecological effects of electronic waste and its environmental consequences. My exploration uses obsolete electronic objects and the detritus of technology as a type of land upon which nature is forced to grow. In studio conditions I have grown seeds on waste circuit boards and discarded wires from the computer industry. I have constructed and photographed images that resemble miniature imaginary worlds. By fabricating new landscapes out of technological waste and plants, the images highlight the toxic relationship between humanity and nature in the contemporary world.

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Declaration

I declare that the research contained in this thesis, unless otherwise formally indicated within the text, is the original work of the author. The thesis has not been previously submitted to this or any other university for a degree, and does not incorporate any material already submitted for a degree.

Signed

Dated

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Introduction

Background

My research is an investigation into the photographic representation of environmental issues with an emphasis on electronic waste within the genre of constructed imagery. In my practice as a photographer I experiment with ways of using electronic waste to make imagery that comments on the relationship between humans and nature. The research presented here consists of an inquiry into the critical and historical context for such a practice, as well as a discussion of the practice itself. It begins by exploring the visual strategies artists and photographers have used to comment on environmental issues. The question addressed by this project is: 'How can constructed photography be used to raise awareness of, and generate new ideas about, the issue of electronic waste and its effects on nature in contemporary society?'

The wider backdrop for this project is the crisis in the relationship between humankind and nature that is recognised by almost all world leaders[1] as the foremost global issue of our time. It is the reason for my longstanding concern with environmental issues and it is the situation that the contemporary photographers studied here are addressing in their work. The relationship between humans and nature, and especially the perception and representation of that relationship, is a central concern of my research.

The unprecedented impact of human life on terrestrial ecology, geology and the atmosphere has become so widely acknowledged that there is now agreement among scientists that the present geological age should be named the Anthropocene. Use of this term to designate the period of time in which humans have had the most powerful effects on global ecosystems was first proposed in 2000 by Paul J. Crutzen, a Nobel Prize-winning Dutch atmospheric chemist, and the ecologist Eugene F. Stoermer (Mikhail, 2016:211). It has since been widely adopted by scientists as a term defining a new geological era in which, for the first time in earth's history, humans have radically affected the planet rather than merely being affected by it. The concept of the Anthropocene and its use by key writers is discussed in more detail in the Literature Review below; its increasing acceptance would suggest that society is becoming conscious of the fact that human activity is warming the earth, causing extinction of species and harming the ecosystem as a whole.

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[1] With the notable exception of Donald Trump

At the time of writing (2017) the Paris climate agreement[2] on limiting greenhouse gas emissions is in the headlines. Over recent years there has been a growing sense of urgency in preventing and ameliorating the destructive effects of human societies on the planet. 'Climate change is the defining issue of our age. It is defining our present. Our response will define the future.' This stark statement of what humankind is facing was made by then United Nations Secretary-General Ban Ki-moon, addressing world leaders at the 2014 Climate Summit. He continued: 'To ride this storm, we need all hands on deck. That's why we are here today. *We need a clear vision*' [my italics] (Ban, 2014).

Although my thesis does not focus on the political debates or negotiations about environmental issues, Ban Ki-Moon's statement explains the motivation and underlying concern of my research. A 'vision' applies to more than a proposed set of regulations adopted to deal with issues – it refers to how the issues are represented. This becomes a matter of perspective made up of lines, shapes, and colours in an image, as well as cultural understanding, which in turn is partly shaped by actual images. As a medium for representation, photography occupies a special role in visually and theoretically shaping vision of the relationship of humans with nature. 'Photography has played an integral role in cultural expansion and economic development and yet, since the second half of the 19th century, landscape photography has also been employed in debates regarding the politics of land preservation and management' (Lowe, 2009:109). Photography has been an important source of information about environmental issues and of perspectives on how to deal with those issues.

If photography is able to aid in the protection of nature, then it is important to understand the changing ways in which nature has been photographically portrayed. This understanding is particularly important to my practice, in which I attempt to help others see the relationship between humans and nature differently. Lowe emphasised this point thus: 'The ways we visually define our relationship with the environment play a significant role in influencing how we interact with our environment' (Lowe, 2009:107). In developing an approach to making fine art photography that communicates ideas about the relationship between humans and nature, the primary concern of my research has been to look at how environmental issues have been portrayed in photography – at how the relationship between humans and nature has been

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[2] A non-legally binding agreement aimed at increasing global response in limiting climate change. (UNFCCC, 2015)

communicated about through photographs. I investigate how photographic practice has changed with changing perceptions of environmental issues, exploring the ways that aesthetic traditions in landscape and other forms of photography have developed at the same time that understanding of environmental issues has changed. Photography about environmental issues has undergone several fundamental shifts in approach. Major changes of focus have taken place in views on what to capture and present, on how to use nature, preserve it, and prevent the harmful impact by human action to it. As such, aesthetic theories have changed as well. Where landscape photography, including documentary practices, has been practised since nearly the advent of photography, it has been a key method utilised to expose what humans have done to nature. In today's global setting in which environmental concerns are continuously studied and reported on this method of photography is still crucial. However, constructed photography, in which the subjects have either been invented or arranged, is also widely utilised to comment on and raise awareness about environmental issues. I investigate both these types of photography in my historical and critical research, and utilise elements of both in my own practice.

Environmental Photography: A Brief Overview

Since the invention and development of photography in the 19th century, the medium has been used to examine, explore, and comment on the relationship humans have with nature. The key genres of photography focused on in this thesis, as mentioned above, are landscape and documentary photography that shows impacts of human action on the environment, and constructed photography in which environmental issues are represented through direct engagement with the elements of damage and pollution. As concern for the environment has grown there have been significant changes in how photography has been used to make commentary about the impact humans have on nature. The various methods now being used by photographers are built on historical approaches in photography, informed by 19th-century painting, yet produce very different results due to changes in the aesthetics and how the issues are represented (Blessing, 2008:10). Early landscape photography was used to encourage the preservation of nature. In the 1930s, Ansel Adams composed images depicting the sublime beauty of pristine nature partly in order to help preserve the Sierra Nevada mountain range in California. Photography has been used to observe changes, as a result

of human action, in landscapes throughout the world. Both Robert Adams and Lewis Baltz were among photographers in the 1970s who photographed the landscape as it was being reshaped by human action. In their images they composed views of the natural landscape being covered up as the land was developed for urban use. The images were void of the sublime aesthetic prevalent in landscape photography before them. This was a very deliberate break with landscape photography traditions to propose a different way of seeing the world. In contemporary photography there is a mix of landscape, documentary and constructed approaches being used to raise awareness about how humans affect nature. The contemporary photographer Richard Misrach is known for his images of the American west in the ongoing series *Desert Cantos*. Depicted in the images are visible changes from human action on the landscape. He makes reference to their appearance as evidence and scars. The shape of the landscape as a result of large-scale industrial activity such as mining, manufacturing, water use, and waste has been the subject of Edward Burtynsky's images of human impact on nature in numerous different series of images that he began taking in the early 1980s. In his large-scale images, the sublime aesthetic is attributed not to nature but to the large-scale industrial mining and pollution that is shaping the landscape.

In addition to landscape and documentary practices, photographers are also constructing or staging images that address the negative impact humans are having on nature. Photographers and artists such as Tim Head, Boyd Webb, Chris Jordan, Mandy Barker, and Sara Goldschmied and Eleonora Chiari have represented environmental issues through pre-arranged and prepared motifs both to question, comment about, and to explore what modes of representing them are available. Photography has been used to represent documented facts, to make a document about particular issues, for staging new landscapes, and in performative works that engage with environmental concerns. One of the first photographers to address environmental concerns in constructed photography was the British artist Tim Head in the 1980s. Using plastics, washing-up powder, and other modern objects and materials he created images depicting polluted landscapes in works such as *Alien Landscape* (1985). Since this time constructed photography about environmental issues has been a growing area within photography. The contemporary American photographer Chris Jordan has completed several bodies of work including *Intolerable Beauty* (2003- 2005)*, Running the Numbers: An American Self-Portrait* (2006-present)*,* and *Running the Numbers II: Portraits of Global Mass Culture* (2009-present)*,* in which he has digitally combined images of waste into larger compositions in order to represent the vast amounts of consumption and subsequent

pollution from modern items. The British photographer Mandy Barker has used digital technology in a similar fashion as Jordan. Working with plastics found in the ocean since 2011, Barker has produced several series of images including *Indefinite, SHOAL, SOUP, Snow Flurry, and PENALTY,* in abstract compositions depicting the plastics polluting the ocean. The artistic duo Sara Goldschmied and Eleonora Chiari have used a technique of recreating nature with plastic bags which are then placed in nature and photographed. The work brings attention to the ways in which pollution from the items we consume are often overlooked or ignored.

There have been some key exhibitions, focused on environmental issues, which illustrate the changes in how photography has been used to address those issues. The exhibitions are: *New Topographics: Photographs of a Man-Altered Landscape* (1975); *Decomposition: Constructed Photography in Britain* (1991); *Ecotopia* (2006); the *Prix Pictet,* established in 2008, which has become a leading prize aimed at recognising outstanding photography of the most pressing social and environmental challenges; and the 2011 Nevada Museum of Art exhibition *Altered Landscape: Photographs of a Changing Environment*. Each of the exhibitions explored representations of environmental issues and concerns through different remits. Imagery included in the *New Topographics: Photographs of a Man-Altered Landscape* signified a change in how landscape was viewed and humankind's role in shaping the landscape. Since then the concept of humankind's impact on the environment has been the subject of numerous exhibitions. In *Ecotopia* the exhibition showed destructive ecological engagement as well as visions of future interactions with nature. Only a few of the photographers actually engaged with environmental issues through the genre of constructed photography. The most recent of these exhibitions, *Altered Landscape: Photographs of a Changing Environment*, presented a wide range of artists, techniques, visual styles, subjects, and ideological positions that engage with the changing landscape. The issues were related to human impacts on nature and not changes made by natural geological processes. The exhibition highlighted 150 images from among the museum's permanent collection of over 900 photographs and was important for its ability to show the extent to which photography has been used to examine the issues facing the environment. However, of the 100 artists represented, only 8 were within the genre of constructed photography. This is a small percent of work that may have, as Lowe stated, '… a force akin to fact' (Lowe, 2009:117).

The use of constructed photography to make commentary about human impact on nature is much more widespread than would be apparent from the curation of these exhibitions. The only exhibition to consist solely of constructed imagery that was concerned with environmental issues was *Decomposition: Constructed Photography in Britain.* This exhibition was curated by Andrea Rose in 1991. Since then, the use of constructed photography to make commentary about environmental issues has grown; however, discussion about this area has been limited. In my thesis I look at individual photographers who have exhibited constructed photography extensively to raise awareness about environmental issues. My practice continues the debate of how pressing issues of the environment and the impact of pollution and destruction of nature can be represented in photography. The wide range of practices that I have outlined above show that there are many ways these issues could be represented, but I hope to show in this research that constructed photography is especially powerful as a means to comment on environmental issues.

Literature Review

There is extensive literature on the relationship between humans and nature, and on issues relating to the environment. For the purposes of this project I have necessarily been selective in focusing on: (1) texts providing an overview of the historical and philosophical background for conceptualising the relationship between humans and nature, including those discussing the Anthropocene; (2) critical approaches to photography and discussions of specific photographers in relation to environmental issues; and (3) key texts on environmental issues which, whether or not they directly speak about photography, have had an impact on perceptions and image making and have thus been part of the cultural developments I explore. In each chapter of this thesis there are further historical and critical texts discussed which relate to specific topics under consideration, but I present here an overview of the key texts relating to the project as a whole, and the three categories that I have distinguished indicate their different kinds of relevance to it.

(1) Historical and philosophical concepts of humans and nature
Jan Boersema, who was then Reader in Environmental Science and Philosophy at Leiden University, discussed the relationship between humans and nature in his 1994 study *First the Jew but also the Greek: In Search of the Roots of the Environmental*

Problem in Western Civilization. His historical and ecological study investigates ideas within culture that have contributed to the harm that is being done by humankind in the environment. One of these ideas is that people have dominion over nature (Boersema, 1994:23). The philosophical positions that assigns people to a 'higher' position than nature, rather than being a part of it, gives humans an 'authority' to use it for their own ends.

Another important source for my research into the development of understandings about the ways that humans are responsible for changes to nature has been work by Andrew Goudie, Professor of Geography at the University of Oxford. In *The Human Impact on the Natural Environment* (2000) he writes about the role humankind has in major environmental issues such as pollution, species decline, and climate change. The text begins by mapping out consideration of human impact starting in the 17th century with John Ray's *The Wisdom of God manifested in the works of the Creation* (1691), through to contemporary science about major issues. This historical survey helps to place the understandings of environmental issues that were developing alongside the development of photography itself in the mid to late 19th century.

These texts provide a backdrop to more recent thinking about the relationship between humankind and nature, and prefigure the most important new concept addressing it: the Anthropocene, a term now generally agreed on to represent the unprecedented effects of human activity on the global environment in recent years. The historical date from which human action began to significantly impact on nature is still being considered. Simon Lewis and Mark Maslin discuss in *Defining the Anthropocene* two possible times for this: either 1610, when carbon dioxide in the atmosphere reached a historic low, or 1964, when radioactive markers were measured throughout the world (Lewis and Maslin, 2015). They establish how both of these potential markers have a direct connection to human activity. Theirs is a mainly scientific essay establishing what evidence it is necessary to consider in adopting formal recognition of the ability humans have to influence earth systems, and when this started. They recognise that the determination of when the Anthropocene began is likely to affect our perception of what impact humans have had, and is important to understanding what is happening to the earth. This could have an influence on future directions in historical discourse, design and art.

Though it has not been formally designated, use of the term is so common that J R McNeill, environmental historian and Professor at Georgetown University has pointed out in *Introductory Remarks: The Anthropocene and the Eighteenth Century*, 'The term Anthropocene now increasingly serves as a shorthand way to signal that times have changed. Humankind now exerts—clumsily—great power over some of Earth's basic biogeochemical systems, over life on Earth, and upon the surface of Earth itself' (McNeill, 2016:118). However, the very commonality of its use as 'shorthand' for human ecological dominance can function to hide the complexity of the issues represented by the term. Many further questions and issues arise if the current geological age were to be formally designated the 'Anthropocene.' In *Enlightenment Anthropocene* Professor of History at Yale University Alan Mikhail has expanded on its definition in an extensive history of the ideas involved. This work includes outlining the idea as understood by scientists, and examining precedents for this notion since the mid-19th century, discussing further the political and philosophical implication of what the term references from the perspectives of the Enlightenment.

> The narrative of the Anthropocene as an age in which humans are at the center not just of history, but also geology, chemistry, and the atmosphere, is both too general and too specific. It is too general in that it does not distinguish between those humans most responsible for putting carbon in the atmosphere and those most negatively affected by these actions through no fault of their own. And it is too specific in that it limits the political and historical fields engaged by climate change solely to the human. (Mikhail, 2016:223)

Mikhail goes on to conclude that the concept of the Anthropocene understood from the perspective of an Enlightenment narrative implies that there is a divide between modern humans and those in the past, and between nature and humans. He further argues that the generality of the concept obscures a clear understanding of the groups responsible for the effects it refers to.

Timothy Morton in *Dark Ecology: For a Logic of Future Coexistence* takes a very different perspective, discussing the complexity of human ecological awareness in the Anthropocene in terms of a 'loop' (Morton, 2016:160). This is a term he uses to describe a process by which humans are becoming aware of themselves and their inherent connections to nature. A key type of loop that he focuses on is what he calls 'positive feedback loops', which result from actions to control or manipulate the environment resulting in progressively more extreme outcomes. Examples given include

farmers creating the Dust Bowl in the United States in the 1930s, and the reduction of bee populations as a result of the use of pesticides. The loop comes from what are often unintended consequences from humans addressing the wants and needs of people. The issues that the Anthropocene as a term imposes on our perception are addressed both at the individual level, and for the species as a whole, or what he refers to as 'Earth magnitude'. Ecological awareness of the individual and the species as a whole is likened to a detective finding out he is the criminal. Morton illustrates this idea through the mundane task of starting a car. On its own, this task performed by a single person does little in terms of pollution, but when it is considered that billions of keys are being turned and starting billions of engines, then the individual can begin to understand that harm is being done to Earth (Morton, 2016:8). He acknowledges that not all individuals of the species are ready to perceive their role in what is happening, nor that all are equally responsible, although the Anthropocene as a term implies that all humans are responsible. However, he suggests that although there are certain countries more responsible than others, even early humans would have loved the products and lifestyle of modern living (Morton, 2016:15). It is acknowledged that humans are causing major harm but the actual time frame of when it began happening is not a specific concern because what humans are doing is essentially a product of all that has come over the past 12,000 years in what he calls 'Agrilogistics'.

> The ecological era we find ourselves in - whether we like it or not and whether we recognize it or not - makes necessary a searching revaluation of philosophy, politics, and art. The very idea of being 'in' an era is in question. We are 'in' the Anthropocene, but that era is also 'in' a moment of far longer duration. (Morton, 2016:159)

Taken in combination, the above texts suggest that thinking about human actions and their ecological effects requires considering far more than the scientific information that points out what humans have done and guessing what it will result in overall. The need for a more complex understanding is reflected in the current revaluation within the fields of philosophy, politics and art that is taking into account both historical actions and contemporary circumstances.

In *Finite Media: Environmental Implications of Digital Technologies* Sean Cubitt does not directly address the term 'Anthropocene', but he produces a focused and detailed study of how human activity in the ongoing development and production of digital media and technology is perpetuating a depletion of finite resources, and an increasing

demand for energy for the production and use of consumer products. These culminate in ever growing ecological abuse, pollution and long-term consequences for humans and nature. The impact is discussed not solely in terms of what has happened to nature, but with an emphasis on the suffering by people who are affected by the mining, production and waste that comes from ever growing consumerism (Cubitt, 2017:10). In this way Cubitt addresses those most responsible for environmental issues by emphasising those it is harming. This focus on people keeps the discussion centred on showing that environmental harm is not restricted to nature, as separate from humans, and looks at the direct current impacts happening to less economically developed nations. Waste itself is addressed as something that has not 'just happened' but is necessary to continuing consumer practices. He states that it is 'integral' not only because there is obsolescence built into products, but because even energy produced is wasted (Cubitt, 2017:116). A key point he makes is that due to the ineffectiveness of economic, social and political actions to produce change so far, there is a major need for strengthening ecological communication.

> This is the point where ecological communications become much more than alerting the human public to environmental issues; become indeed the crucial medium of the postenvironmental world, when the distinction between human and environment is overcome. (Cubitt, 2017:180)

Although it is not yet formalised as the geological term for our era (and, as the above discussion shows, its use has complex implications that affect the understanding of human impact on nature) the Anthropocene is starting to be used as a term in some contemporary writing about art and photography. The concept is used as a general guide to understanding the type of work being made which communicates about the negative impacts humans are causing to the environment. In 2015 Nicholas Mirzoeff, professor in the Department of Media, Culture and Communication at New York University, wrote *How to See the World*. The book covers different methods, technologies and critical thinking that have developed in art and photography that engages with topics such as self-representation, visual activism and the changing world. As part of this, the understanding of how human impact on nature is being seen and communicated about in art is addressed and referenced in terms of the Anthropocene. In a rather broad overview the text covers how visual culture is revealing environmental issues through comparative formats such as time-lapse photography and re-photographing landscapes from the 20th century. Mirzoeff discusses issues such as making environmental destruction look beautiful by looking at the paintings of Claude Monet in which the

glorious colours of the sky are produced by the smog from coal smoke. He then suggests that new visual ways of thinking are needed to understand the Anthropocene, and discusses landscape photography made by Edward Burtynsky before pointing out that it is necessary to show how colonial histories are still influencing the production of energy (Mirzoeff, 2015:244-245). This could be a way of addressing the concern that the Anthropocene does not distinguish who is most responsible, as discussed by Mikhail.

In summary, the concept of the Anthropocene is widely accepted but is also under debate from many angles. Whether or not critical writings employ the term directly, the Anthropocene and the discussions around it provide the context for any contemporary attempt to address ecological concerns in visual arts.

(2) Photography and environmental issues

The ways in which different genres of photography have been used to address environmental concerns has been written about by cultural theorists, curators and art historians including Meaghan Lowe's *Dreamworld and Reality: An Exploration of Environmental Aesthetics in Contemporary Photography* (2009), Amanda Boetzkes's *Waste and the Sublime Landscape* (2010), and Joanna Zylinska's *Photography After the Human* (2016). Each has looked at landscape and documentary practices as well as constructed images.

Amanda Boetzkes, Assistant Professor for the School of Fine Art and Music at the University of Guelph, briefly examined aesthetic traditions used in photography that comments on environmental issues in her essay *Waste and the Sublime Landscape* in 2010.

> From an ecological perspective, it is important to consider not only how nature is constructed and represented, but also how nature exceeds our systems of representation…In this respect, it behooves us to investigate the aesthetic tradition that best expresses the dilemmas at play when confronting nature at these points of excess. (Boetzkes, 2010:22)

In her examination she looked at the use of the sublime in the context of the large-scale environmental issues that Edward Burtynsky has photographed. She suggests that the

sublime is the aesthetic tradition that best represents points of excess. This could be problematic in attempting to represent situations in which the element of environmental concern, which may be a major issue, does not physically exist in large quantities all at once, or in one location. This is the case with items such as ocean plastic and electronic waste, which were subjects in projects by Jordan and Barker respectively. Boetzkes's reference to the sublime in Burtynsky's work as the best aesthetic tradition for representing environmental issues does not take into account other methods used by contemporary photographers. An important shift in representing concern for nature in photography has been from documenting environmental impacts to representing through a conceptual approach the impact of humans on nature.

Previous to Boetzkes's analysis of representing environmental degradation, Meaghan Lowe had compared Burtynsky's documentary images to the constructed photographic work made by Shana and Robert ParkeHarrison, a husband wife artistic duo who construct, through photographic montage, scenes of environmental degradation.

> Photography is employed as a medium to realize the actuality of a concept, not to record a fact. Through creating participatory moral messages that engage viewers and operate as myths, these performative environmental photographs resonate with a force akin to fact. (Lowe, 2009:117)

Lowe suggested that Burtynsky followed an aesthetic tradition of presenting a disinterested vision of the actual landscape and what was happening on it. She surmises that constructed photography is capable of creating a participatory moral message about environmental issues. The idea is that it creates an image in which engagement with nature translates to engagement with the subject by the viewer. Constructed imagery is a way in which photographers are able to break from traditional forms of representing environmental issues. Lowe's concept that images that are constructed can have a force akin to fact has led my research in examining work about environmental issues in which constructed photography has been used. My thesis will explore how the photographers in my case studies, Chris Jordan, Mandy Barker, Sara Goldschmied and Eleonora Chiari have utilised constructed photography methods to provide an alternative and effective way to represent environmental concerns.

As the use of the term Anthropocene to delineate the current geological epoch of time has become increasingly accepted, Joanna Zylinska, Professor of New Media and Communications at Goldsmiths, University of London, has been discussing the

visualisation and reimagining of the extinction of the human species. She examines photographic work by many photographers such as Edward Burtynsky and Andreas Gursky, among others, under the context of 'ruin porn', which has historical links to the sublime and romantic landscapes. 'The visualization of ruins has gained a new inflection in the Anthropocene, a period that is said to be suffering from a dual eco-eco crisis: the current global economic crisis and the impending – and irreversible – environmental crisis' (Zylinska, 2016:167). After discussing the use of literature and paintings to imagine nature after humans, she focuses on photography's unique position to freeze deep time and make it possible to sense, not just represent, by looking at Edward Burtynsky, Andreas Gursky, Nadav Kander and Tong Lam. Some of the work she discusses reads as landscapes after humans have disappeared, whereas others engage with current conditions and what they may be leading to. Zylinska points out that there is a danger with some images, which, although they have potential to move people to make changes, could possibly impede how we understand environmental crisis by limiting it to photographic tropes such as 'emptiness', 'abandonment' or 'ruin'. She moves onto examine 'interventionist attempts' for dealing with climate change, which do not just imagine the Anthropocene but seek to halt it (Zylinska, 2016:181). Her suggestion is that photography in this context has an important ethical task to help create a representation of a world that is not solely focused on the needs and wants of humans.

(3) Cultural texts and awareness of environmental issues

Key texts and photography, both commenting on the relationship humans have with nature, have developed at similar times in history. According to Clarence J. Glacken, former Chair of the Geography department at the University of California, Berkeley, the full implications of human impacts on nature were not explored in detail until 1864 when George Perkins Marsh published *Man and Nature: or, Physical Geography as Modified by Human Action* (Glacken, 1967). Marsh understood that evidence of human impact on climate needed observation and data in order to be analysed. Rather than pure conservation, Marsh advocated a responsible use of resources by humankind as it moved forward, especially in the United States, which was expanding into new territory at that time. In order to avoid the dangers of 'imprudence' (using the natural resources without caution, discretion or wise judgment) the publication attempted to call for caution in the use of natural resources by the United States. At nearly the same time,

early landscape photographers of the 1860s, Carleton Watkins, Timothy O'Sullivan and William Henry Jackson, were commissioned (by agencies ranging from the US government to railroad and mining corporations) to show that humans and nature could exist in harmony. The aim was to show that industry, continental expansion and wilderness could work without major disruption to nature. Their images, made as part of geographical expeditions of the time, were also effective in the preservation of wilderness.

Since Marsh wrote *Man and Nature* there has been an increase in both the type and scale of environmental issues posing threats to the natural world, which he could not have predicted. David Lowenthal, Professor Emeritus of Geography at UCL, addressed the difference between present-day issues and those of 1864 when he stated, 'Marsh's cautions have been overtaken by time, superseded by other issues, other intuitions, other modes of coping with still graver perplexities' (Lowenthal, 2000:5).

In 1962, over a hundred years after Marsh's writing, the American marine biologist and conservationist Rachel Carson helped advance global environmental concern with her seminal book *Silent Spring*. In it she warned against the use of synthetic chemical pesticides and the chain of adverse effects it has to animal life (Carson, 1962). Her writing stands as a type of echo of Mary Somerville, an early 19th century Scottish scientist who commented in 1858 on the detrimental results of farmers poisoning the rook found eating their grain. The action had unforeseen consequences, resulting in the poisoning of other animals and the crops being ruined by insects because their natural predators had been killed (Somerville in Goudie, 2000:3-4). In the same decade that *Silent Spring* was published, changes in landscape photography took place. Work made by photographers Robert Adams and Lewis Baltz showed the landscape being transformed and urbanised as people developed new land for housing and industry. The *New Topographics* exhibition (op.cit.) was instrumental in demonstrating the changes taking place in landscape traditions and environmental thinking.

The impacts of human action on the environment, such as global climate change, habitat loss, pollution and waste, have been increasingly studied in detail since this period and reported on by researchers worldwide. Often these are large-scale issues that are comprised of many smaller areas of research. The studies are focused on key indicators of environmental issues. A few of the indicators of climate change that are a part of

ongoing study by scientists include carbon dioxide levels in the atmosphere, global temperature, arctic sea ice, land ice and sea level (NASA, n.d.). Since the early 1980s NASA has been involved in research gathering data about the earth and changes in the climate. Among their research is information about air pollution, temperature of the oceans and atmosphere, changes in sea and land ice, as well as sea level rise. NASA's 'Global Climate Change' website includes up to date reports, articles, and statistics being recorded about global climate change indicators (NASA, n.d.) The United Nations Environment Programme, established in 1972, has become a voice for the environment within the United Nations system. Today the UNEP acts as a catalyst, advocate, educator and facilitator to promote the wise use and sustainable development of the global environment. It is doing this by gathering and disseminating environmental information recorded in monitoring the status of the global environment (UNEP, n.d.). In addition to the UNEP other environmental activist organisations exist which operate to disseminate information about the earth and the harm being done to it. These include, but are not limited to, The Sierra Club, founded in 1892 by conservationist John Muir, and Greenpeace, first organised in 1971 by a small group of environmental activists. Both of these organisations and others are constantly speaking out for better management and changes regarding issues that affect the environment.

Studies of the environment such as these were already producing a large amount of data by 1984 when David Pepper, who was Principal Lecturer in Geography at Oxford Brookes University, wrote *The Roots of Modern Environmentalism*. He proposed that there was a need to understand how environmental debates are viewed, in order for change to take place. Much of the book is used to distinguish two different viewpoints in both seeing how humans affect nature and how humans can manage their impact on nature. These viewpoints are classified as 'ecocentric' or 'technocentric', each of which creates a type of filter in the mind of how to see and deal with environmental issues (Pepper, 1984). The former indicates a closer connection to natural systems, while the latter is suited to finding answers in science. Both of these viewpoints are shaped by the wider culture.

Pepper's basic premise is that data alone, no matter how accurate it is in showing that environmental harm is caused by human action, is not enough to produce changes in behaviour. This is because people have presuppositions and vested-interest positions that shape their perception of the facts, which in this case is the data about environmental issues. In order to make changes and deal with these presuppositions

Pepper states,

> Anyone who wants to influence us or change our minds will have to understand and take account of these presuppositions and vested interest. It will be no good bombarding us with 'facts' which we are anyway predisposed to dismiss. A wiser strategy would be to shake the foundations of our beliefs by undermining the assumptions on which they are based. (Pepper, 1984:2)

For Pepper finding a wiser strategy to change beliefs and bring about change would be found in understanding the different viewpoints in seeing and dealing with environmental issues. It is important to consider that the viewers of photographic work will be bringing these viewpoints into the reading and interpretation of contemporary images. Knowing about them can help in considering the elements to include in photographs. Pepper's perceptions therefore offer valuable insights for environmentally concerned photographers.

Stewart Brand, an environmental activist since the 1960s, has described his path as being inspired by photography and literature. Photography in particular was instrumental in his first getting involved with environmental issues. He describes the effect on him of the publication of the Sierra Club's Exhibit Format series of nature photography books, launched by David Brower in 1960. 'His first one, *This is the American Earth* (1960), made with photographer Ansel Adams, set me on a path I'm still on' (Brand, 2009:210). Adams' photographs followed visual traditions from painting and early photography, including aesthetics of the sublime and romanticism. Brand connects this visual romanticism to the works of environmental writers and campaigners such as Henry Thoreau, John Muir, David Brower, Ed Abbey, Dave Foreman, and Julia Butterfly Hill, and their invocations of a deep connection to nature. Their work, alongside photography by Adams and others, set him on the path to becoming an activist and writer.

Interestingly, Brand has cautioned against purely romantic viewpoints in his more recent work. He was against nuclear technologies being developed in the 1970s and saw them as the worst possible scenario for nature. However, he updated his view of science and its role in environmental issues in *Whole Earth Discipline: An Ecopragmatist Manifesto* (2009). This outlines his exploration of nuclear technologies and their capacity to cut carbon emissions, which led him to argue that at the present time, nuclear is the only way to meet energy needs and cut the amount of carbon going into the atmosphere from

the burning of coal. Looking at the science and engineering involved, he concludes that it is safer than he previously thought, and suggests that new technology could also be developed to improve it further. In this book he apologises for having been a part of the movement that stopped nuclear power in the 1970s and 1980s.

> Unfortunately, for the atmosphere, environmentalists helped stop carbon-free nuclear power cold in the 1970s and 1980s in the United States and Europe. (Except for France which fortunately responded to the '73 oil crises by building a power grid that was quickly 80 percent nuclear.) Greens caused gigatons of carbon dioxide to enter the atmosphere from the coal and gas burning that went ahead instead of nuclear. I was a part of that too, and I apologize. (Brand, 2009:18)

The main premise of his later writing is that environmentalists need to change and accept that science is needed to overcome environmental changes that humans are causing. Brand has come to the theory that the success of the environmental movement comes from a combination of romanticism, science and engineering. The description he gives of how they affect it is simple.

> The romantics identify with natural systems; the scientist study natural systems. The romantics are moralistic, rebellious against the perceived dominant power, and dismissive of any who appear to stray from the true path. They hate to admit mistakes or change direction. The scientists are ethical rather than moralistic, rebellious against any perceived dominant paradigm, and combative against one another. For them, identifying mistakes is what science is, and direction change is the goal. It's fortunate that there are so many romantics in the movement, because they are the ones who inspire the majority in most developed societies to see themselves as environmentalist. But that also means that scientist and their perceptions are always in the minority; they are easily ignored, suppressed, or demonized when their views don't fit the consensus story line…Engineers are arriving who see any environmental problem neither as a romantic tragedy nor as a scientific puzzle but simply as something to fix. (Brand, 2009:208)

Brand's shift in thinking helps demonstrate that perspectives on how to deal with environmental problems can change. There may be answers found through scientific study and engineering that could achieve the aims of what he described as romantic viewpoints. This understanding informs an aim of my work – to compose images about electronic waste that are open to viewing from multiple environmental perspectives and may aid consideration of innovative solutions.

Methodology

My project consists of several closely interlinked strands of research: an exploration of key historical, critical and aesthetic aspects of existing environmental photography, and a practical experimentation to produce photographs of my own which address contemporary environmental concerns. This in turn has involved some research into contemporary issues of waste and pollution, which has been necessary to define my focus and inform the content of my work. Although they are closely related, these different strands of the project involve different methods of approach.

The literature review above gives an indication of the different perspectives that I have found useful in approaching the photographic material briefly outlined in the environmental photography review. The first three chapters of this thesis involve applying those perspectives to that material in order to ask key questions about how photography can successfully raise awareness of environmental concerns.

A historical perspective is crucial in discussing what and how a photograph meant in its original context and, as I have suggested, the development of photography and an increasing environmental concern have, historically, gone hand in hand. An understanding of ecological issues is also a key part of interpreting and analysing environmentally-focused photography, and the knowledge produced by environmental studies, writers and organisations, as outlined above, is essential if the issues are to be understood. However, as well as the historical and the environmental, the aesthetic and compositional approaches in photography are as important as the fact of making work about environmental issues. Photographers create an object to be looked at and that object itself is considered for both the content it contains and the quality of the finished photograph. In my critical and historical research, I investigate different aesthetic approaches within and to photography, and apply what I have learned from these approaches to my own work.

This process has involved tracing some key photographers' use of the aesthetic of the sublime, from early nature photography to contemporary imagery on waste, while showing that it is not the only aesthetic capable of drawing attention to questions of nature and waste. I have also explored how various photographers have used an

aesthetic of beauty to attract viewers to focus on objects or issues that are problematic, creating beautiful images of waste or damage. My historical research has provided an understanding and definition of the sublime as a concept strongly associated with key 18th-century philosophers, discussed in Chapter 1. However, although I also discuss the concept of beauty in this context, it is a term that I engage with more directly in discussion of photography and in relation to my own practice. Unlike 'the sublime' it is a term in general use, and within this thesis it is used according to the definition given in the Oxford Dictionary: 'A combination of qualities, such as shape, colour, or form, that pleases the aesthetic senses, especially the sight'.[3] The historical discussion in Chapter 1 makes clear that any idea of beauty is culturally specific, and this is taken as given in my use of the term: in discussing 'beauty' in the work of contemporary European and US photographers, we are talking about what may be perceived as beautiful in these societies in the present day.

In my practice research, I apply the aesthetic understandings from my historical studies to explore new ways of seeing, considering, and understanding the current issue of electronic waste. I have experimented with constructed photography to develop a body of images that represent the relationship between humans and nature and that create a space in which the context of that relationship can be observed and questioned. My constructed imagery is produced by photographing individual pieces of electronic waste and plants, a process discussed in detail in Chapter 4. This involves a different kind of method from the critical and aesthetic analysis of the earlier chapters, as I am trying out materials, placing and lighting, backdrops, and many practical aspects of each photograph. However, this practice and the choices I make within it are informed by the concerns and understandings arising from my critical analysis of other works. The concept of landscape is central to my practice project. Through image-making experiments I have constructed notions about a landscape that is not natural through the use of electronic components that no longer function. However, rather than making images through a documentary or landscape approach in the environment, my exploration was conducted in the studio. On a Perspex light table, I used the detritus of technology as a type of 'land' on which 'nature' was forced to grow. In other words, I grew plants on top of electronic items that had been discarded. Through this approach I have made images of constructed landscapes by restricting the symbols of nature to the

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[3] Oxford Dictionaries. (2018) At: https://en.oxforddictionaries.com/definition/beauty

plants that were grown on the waste. A natural element, a seed, is placed on a discarded electronic item, which is a multitude of elements and chemicals that have been engineered and manufactured. The seed is then expected to begin growing on this technological detritus, a product of human action. Placed in an artificial environment, the seed receives only light and water with no other nutrients needed to mature. The process was photographed and documented regularly throughout the growth from the seed. I have experimented with different plants to create different visual outcomes in the compositions. The plants each have rich histories that add layers of meaning to the images.

There have been a variety of challenges that have had to be overcome in making the work, including growing the plants, arranging the electronic waste, and creating appropriate lighting. An understanding of the aesthetics of landscape photography about environmental issues has informed the process: I have experimented with techniques used in landscape photography, drawing on its methods of composition through point of view, distance from the subject, and focal depth. In this way the methodology of my historical, aesthetic and ecological research has informed the methodology of my practice.

Aims and Anticipated Contribution

My aim is to explore how the relationship between humans and nature has been represented in photography and to experiment in my practice with constructed photography to make imagery about electronic waste in a new way. I hope that this will have a positive effect ecologically by raising awareness of the issue of electronic waste, and also that it will contribute to the field of photography by showing that constructed imagery can be an increasingly useful method for approaching an environmental issue.

In order to experiment in using electronic waste to make imagery that comments on the relationship between humans and nature, my research has focused on a critical analysis of how environmental issues have been approached in historical and contemporary genres of landscape, documentary and constructed photography. As discussed in the previous section, this research includes an understanding of the variety of methods that have been used by photographers to represent the effects of human activity on nature, and the ongoing developments in environmentally aware photographic practices. The

photographs examined in this thesis show not only how photography has been used to represent how humans affect nature but also how the character of humans can be seen in marks left on the landscape from industry, consumption and pollution associated with an ever-increasing use of natural resources.

Electronic waste has only in the last 30 years become an increasing concern. Today it is common for a person to own a computer, a mobile phone and other personal electronic devices. A description of all possible electrical items would be too lengthy here, however it is practical to list a few such as children's toys, large and small household appliances, televisions, and more. Essentially, as electrical items are discarded they become e-waste. This is now a pressing ecological issue. Appendix 1 presents a brief summary of research into electronic waste and provides the technical backdrop for the ecological dimension of my work.

I hope to make an original contribution to the field of photographic imagery concerning waste by juxtaposing e-waste with nature in the form of living plants and so constructing combinations of the human and the natural in such a way as to provoke thought. Through this practice my wider aim is to visually illuminate, question, and challenge how the current relationship between humans and nature is observed, understood, and communicated.

Chapter Overviews

In Chapter 1 of this thesis I have explored how landscape photography has been used to comment on environmental issues. The chapter begins with an examination of the subject of landscape photography in the Western United States in the 19th century, when Marsh wrote *Man and Nature*. I discuss the development of the use of landscape photography to highlight environmental issues, and outline aspects of the aesthetic concepts of 'the sublime' and 'beauty' which have been applied both to 19th-century and contemporary work in this genre. I trace how the subjects and consequently the aesthetics that inform this genre of photography have changed. Landscape photography began as studies of the land, showing harmony between human development of resources and nature. However, the photographs became an important instrument in implementing the protection of nature. The aesthetics in the work changed from showing images of a supposedly pristine 'wilderness' to showing the effect that humans

have on the landscape. I have outlined this radical change in the aesthetics and subjects of photography that deals with environmental concerns. I found that the experiences of the photographers with nature had a major influence on how they saw the situation and how they wanted others to see it in their work.

In Chapter 2 I have explored the genre of constructed photography and its use to comment on environmental issues. I begin by examining what constructed photography is with a brief look at its history. I reflect on how it has been used as a method for representing complex social issues. I then focus on it to comment on the harm that humans are doing to nature. Although concern for nature has existed in landscape photography since nearly the invention of the medium, using constructed photography to explore environmental issues did not begin to be practised until about 1980. My examination has focused on photographers who have utilised this genre and how they have done so.

In Chapter 3 the work of three contemporary photographers who use constructed photography to comment on environmental issues is examined more closely. The images made by Chris Jordan, Mandy Barker, and the artistic duo Goldschmied & Chiari all make visual commentary on the relationship between humans and nature. These artists represent new ways that constructed photography is being used. They show the broad range of work and artistic practices being used to represent statistics, engage the public, and construct new views of nature. Through interviews with the artists I have been able to understand how and why they have used constructed images, instead of documenting the waste in landscape photography. They discussed the experiences that led them to making the work and explained how their work has developed.

The American photographer Chris Jordan has produced many photographic based works that visually communicate the vast amounts of waste being produced by modern society. In *Running the Numbers: An American Self-Portrait* (2006 to the present) he has represented statistical data from a variety of materials that are of environmental concern to address massive amounts of consumption of oil, plastics, metals, and other everyday items.

Mandy Barker is a British photographer who uses plastic recovered from the oceans and washed up on beaches to construct imagery. Her work uses still life imagery of the

plastics and digital technology to both photograph and arrange the plastic waste into larger photographic images. Her finished photographs often resemble plastics still floating, as if in water, but with the actual ocean water they pollute removed.

Sara Goldschmied and Eleonora Chiari have been working as an artistic duo in Italy since 1997. The relationship between humans and nature through constructed images concerned with waste has been the subject of several works made by the duo since 2002. Their photographs question how the relationship between humans and nature is represented and understood. Their images are made through both tableau reinterpretations of impressionist paintings and interventions in the landscape. Together they have constructed images by staging scenes of human waste in nature. They have done this by subverting the look of nature through interventions in the landscape.

In Chapter 4, I demonstrate my own experiments in constructed photography. I discuss both the process of creating my photographic subjects, through growing plants from seed in various kinds of electronic waste, and the photographic process whereby I have experimented with different compositions, angles and lighting in creating images about the relationship between humans and nature.

In the Conclusion I discuss what I have learned through the research project as a whole, and outline what I hope will be its contribution towards developments both in constructed photography and in ecological awareness.

Chapter 1

Environmental Concern in Landscape and Documentary Photography

In this chapter, I will look closely at landscape photography and its aesthetics, and at changes in how environmental concern has been presented. It is my premise that the aesthetics of the sublime, and of the banal or mundane, are both relevant to the representation of environmental concern. When these are viewed in connection with the eras in which different photographers worked, it can be seen how particular aesthetic choices convey meaning in images at different times. According to writer and professor of photography Liz Wells, 'Representation of land as landscape, whether in romantic or in more topographic modes, reflects and reinforces contemporary political, social and environmental attitudes' (Wells, 2011:1). The subject, composition, and aesthetic choices made by landscape photographers in their works evolve with society's understanding of the environment.

The use of the terms *human* and *nature* in the context of a relationship between the two has the effect of establishing the notion of nature being separate from humans. The construct of 'landscape' has been influential in making this distinction possible. According to Wells, landscape is constructed by people: 'Landscape results from human action, whether from direct intervention to make changes on the land (town planning, landscape architecture, gardening…), or from exploring how land might be represented (in writing, art, film, photography, or everyday journalism and casual conversation)' (Wells, 2011:2). The construct of landscape and seeing human action separately from nature is the result of significant historical developments since the first humans and the hunter/gatherer society in which they lived. The photographer Lewis Baltz called attention to these developments. He recalled an experience of showing images that he had made of land development in Park City, Utah, (1978–1979) to an old friend whose opinion he was seeking. He took from the discussion the following,

> Only in the last four centuries has the landscape, other than as a setting for figures, come into its own in art. Specifically, only after certain historical developments occurred could the land be thought of as a suitable object for esthetic contemplation. Among these, the shift from agrarian to industrial modes of production and social organization, the decline of the religio-mystical world view, the ascendance of empiricism and, from that, a reawakened interest in the secular and material world. Out of this emerged a society sufficiently removed from the land that it could allow esthetics to influence its view of nature. (Baltz, 1980:28)

These major changes in society have taken place historically. Though there is no space to explore this development here, Wells briefly describes two of these points and the representation of landscape. The first is alternative economic systems, feudal systems

in the mediaeval era and hunter/gather nomadism. In these, she observes, 'people live directly off the land; they are not estranged from basic sources of sustenance. In such circumstances there is no need to represent land pictorially, as it can be seen and experienced every day' (Wells, 2011:22). Societies have grown, though. Fewer and fewer people are able to live in a manner in which they experience nature in the way just described. Transformation into urban societies has resulted in a loss of direct connection with the earth and reliance on nature in a day-to-day type of survival setting. 'Urbanisation induced a gradual distancing from land (over many centuries). This surely contributed to the development of desire to represent land *in itself* in pictures or words' (Wells, 2011:22).

Meghan Lowe further traced through photography this distancing and the return to nature. She looked at Raymond Williams and J. Douglas Porteous' descriptions of how landscape became a cultural medium. Porteous described the 18th century and how people composed views with the aid of a Claude Glass, which was able to reflect the surrounding scenery and give it a painterly effect so that travellers could frame the views they encountered as they travelled (Lowe, 2009:108). She points out that Williams described what people were looking for in nature that could not be found in cities.

> Williams describes how in the late 18th-century, urban naturalists retreated from the chaos of the industrial city in search of restorative experiences with unaltered, beautiful and picturesque landscapes... Such travelers consciously composed views of the landscape according to picturesque landscape aesthetics. (Lowe, 2009:108)

This came about as a result of a shift in the demographics of population centres. Robin Lenman pointed out that the 1851 census revealed that more people lived in cities than rural spaces and perceptions were changing (Lenman, 2005:348). It is because of a separation from nature that the people Williams was describing were able to see the countryside and nature differently. What they were seeking was an experience that can only be found in nature. Although more people lived in cities, they sought restorative power outside it, in nature.

Major societal developments, outlined by Baltz, and urbanisation, briefly described by Wells, establish that society became removed or distanced from the land. It is a distance from the land both physically as well as mentally. People spend time in built

environments and physically interacting with machines rather than nature in its unaltered state. Though this *distance* exists, humans are still dependent on nature for existence. If people were not still connected to the land, then concern for the environment would not need to exist, as we would be able to consume resources and pollute without worry about the consequences to nature or our own species.

The separation, then, is more than physical; it is also cognitive. The less that the people of a society interact directly with nature, the idea that human activity is separate from nature strengthens. A cognitive separation of human items from nature would then make it possible to examine and make representations of the relationship between the two. This cognitive separation of humans from nature is aided by landscape photography. The sociologist Georg Simmel, in *The Philosophy of Landscape* in the 19th century, discussed this cognitive separation at length. In discussing that landscape exists when a person conceives of a segment of nature as a separate unity, he explained,

> To talk of 'a piece of nature' is in fact a self-contradiction. Nature is not composed of pieces. It is the unity of a whole. The instant anything is parcelled out from this wholeness, it is no longer nature pure and simple since this whole can be 'nature' only within that unbounded unity, only as a wave within that total flux. As far as landscape is concerned, however, a boundary, a way of being encompassed by a momentary or permanent field of vision, is quite essential. (Simmel, 2007:21)

It is a boundary that Simmel suggests is essential to creating landscape. Wells' suggestion that shaping the land makes a landscape constitutes a physical act. Simmel suggests that a boundary could be physical, a fence or some other demarcating line, but it could also be cognitive, creating the boundary in the mind. Photography is a mechanical device that produces an image that creates a boundary of what is visible within the image space of a physical photographic print: 'The edges of the image constitute a "slice" of the environment as "landscape", using the geometry of perspective to determine focal emphasis (usually central)' (Wells, 2011:43). The edge of the print then creates a type of boundary, both physically but also mentally. The image then shows a segment of nature through which nature as an entity separate from humans can be perceived. Rod Giblett, director of the Centre for Research in Entertainment, Arts, Technology Education, and Communications at Edith Cowan University in Australia, observes that 'landscape is a phenomenological and psychological category of the distinction between subject and object' (Giblett, 2012:55) – a distinction between the viewer and the land. The self is able to see the space and the

objects of the landscape as a separate entity. It becomes an object because of a cultural process of viewing nature in a separated state. 'Landscape is not a category of the object itself; landscape is not a category of the land, but a category of human visual land perception' (Giblett, 2012:55). This will be seen in Ansel Adams' images in which nature is presented without people or objects made by humans. As such, the images suggest nature to be an object separate from humans. In his images, nature is seen as something that should be preserved.

However, the landscape images made by Robert Adams and Lewis Baltz and Edward Burtynsky do not separate humans from nature. In their images, both nature and human-made objects are pictured together. This returns to the concept that humans are still a part of the image of nature, and as such, a part of nature and what is happening. The ability to perceive the separation, or a distance, between 'human' and 'nature' is important to being able to perceive and understand the harmful impact humankind has/is having on nature. This perception can then be used to compose images of the physical changes that are happening to nature as a result of human action. In order to establish how the separation can be made, even though both are present in an image, we can reflect on Simmel, who observed, 'To begin with, that the visual objects on a spot of earth are part of 'nature', and they may even include human creations (which, however, would need to integrate themselves into it, as opposed to city streets with their department stores and automobiles)' (Simmel, 2007:21). This seems to suggest that within the frame of a photograph the objects of human creation that do not integrate themselves into nature can be reflected on as separate from nature. Simmel's examples are things that are made by humans. This should extend to more than examples of city streets, department stores and automobiles. Other things that do not integrate themselves into nature could also include the scars left on nature by human action: urban sprawl, growing cities, and pollution of air, water, and land. These impacts are produced by humans rather than developing from nature. A landscape image of an environmental issue then becomes a space in which the relationship between humans and nature can be viewed. Decisions about what is included in the composition and the position of those elements create visual relationships, possible connections, and perceptions. In being able to do this, landscape photography provides examples that fit two of George P. Marsh's purposes in publishing *Man and Nature* in 1864. These include; 'to indicate the character and, approximately, the extent of the changes produced by human action in the physical conditions of the globe we inhabit; to point out the dangers of imprudence and the necessity of caution in all operations

which, on a large scale, interfere with the spontaneous arrangements of the organic or the inorganic world' (Marsh, 1864:III). Landscape photography provides a visual understanding of the ability of humans to change the physical environment in ways that better suit human habitation and endeavours; the ways human action harms the environment can also be understood.

Pristine Nature: Early Landscape Photography

The condition of nature as a photographic subject had its beginnings early in the history of photography through Carleton Watkins (see Fig. 1.1), William Henry Jackson, and Timothy O'Sullivan, all of whom lived and worked during a time of westward expansion within the United States. Sullivan and Jackson individually accompanied geographical expeditions made of the Western United States in the 1860 and 1870s to photograph the land. Watkins photographed the landscape independently. They are still prominently spoken about in regards to early landscape photography and the aesthetics within it. They produced images that, although not made to conserve nature, were influential in protecting large areas of land in the United States. It was a time of expansion for the United States, when the land was seen as a resource to be used, a notion that was a part of the belief in 'Manifest Destiny'. In its simplest form, this belief held that inherent in America's special virtue was the divine ordination to dominate and control the entire continent and its native peoples (Miller, 2006:120). Though not a defined set of standards to follow at the time, the idea encompassed aspects of claiming the land and its resources. The current senior curator of photography at the San Francisco Museum of Modern of Art, Sandra S Phillips, wrote extensively on the photography of this period: 'William Gilpin, one of the original authors of the philosophy of the appropriation and settlement of land that we call Manifest Destiny, espoused a faith in corporate

Fig. 1.1 Carleton Watkins, *Washington Column, 2082 ft., Yosemite 1865-1866* (1865-1866)

enterprise and shared mission that saw America's fate as preordained, a matter of God's will' (Phillips, 1996:13). There was a perceived sense of authority over the land, the resources and right to its use. At that time, vast amounts of land did not belong to the United States or its people. It was something that they endeavoured to claim in order to spread the ideals of the nation and to grow as a country. Wells defines the time: 'In the mid-nineteenth century, the wilderness of the American West was viewed as 'virgin territory,' ripe for conquest and exploitation' (Wells, 2011:107). It was a time of discovery. Rich amounts of resources were being found. The people of the 19th century desired to use the natural resources of the land and had a desire to connect with nature. According to Mary Warner Marien, Emeritus Professor at Syracuse University, 'Westward expansion and development in the United States were driven by political and economic motives, as well as spiritual yearnings for unity' (Marien, 2013:134). Even though both reasons are thought to exist, political and economic motives may have had the greatest impact on westward expansion. The western lands of the North American continent were described as being so vast that a perception of inviting the people of the 19th century to come and use it has been described by Stevie Bezencenet: 'Wilderness called for explorers, for settlers, for industrialists—for action.… Wilderness also called to artists, writers, and philosophers, beckoning to those who wished to create signs to represent it in their attempts to recognize its qualities, or 'subdue' it in the process' (Bezencenet, 2000:56). Society was developing, and the use of the land was moving forward. However, initially there were no established parameters for the protection of nature.

The belief in Manifest Destiny may have been a driving force behind the appropriation of what is now the Western lands of the United States, the results of which had a major impact on nature. As development of the land and use of resources took place, sections began to be protected. In 1861, Carleton Watkins, credited as being 'the first successful landscape photographer in the American West', travelled to the Yosemite Valley, taking along a large camera to photograph the landscape (Phillips, 1996:18). It is thought that his initial trip was in connection with a commission to photograph mining activities on the Mariposas estate (Marien, 2013:136). The remit for the work was that it was 'to show everything that contributed to possible future income from the Las Mariposas estate' (Phillips, 1996:20). Watkins is given credit for showing that human endeavours did not harm nature (Marien, 2013:136), a connection made to encourage investment in mining activities. He returned again to Yosemite in 1865 and 1866. 'Although more

tourists were arriving in Yosemite by the mid-1860s, Watkins still took his photograph from a vantage point that eliminated all traces of the human presence, and dislocated the view from contemporary life' (Marien, 2013:137). He seems to have been looking for an image of nature that could be described as unpolluted by human presence. He was familiar with the notion of the sublime, and a sense of detachment showed in his images: both results are thought to ensure his work as valid artistic expression (Phillips, 1996:19). Philips asserts that 'this intellectual detachment, even contemplation, separated Watkins' photographs from the theatrics encountered in the work of many nineteenth-century photographers and painters' (Phillips, 1996:19). Despite not showing direct human impact on Yosemite, his photographs evoked such a sense of beauty in its pristine landscapes that they were influential in the creation of the Yosemite Grant in 1864, which protected the Yosemite Valley from development. Sullivan and Jackson's images of the Western United States came about as they travelled and photographed with geographical expeditions that were surveying and exploring the natural landscape between 1860 and 1880. From 1867 to 1869, O'Sullivan became the photographer for Clarence King's geological survey of the 40th parallel in the United States. His work for the survey is described as 'both objective scientific documentation and a personal evocation of the fantastic and beautiful qualities of the western landscape' (Foresta, 1996:141). The images he made were aesthetically striking examples of landscapes from which a better understanding of the textures and details of the land could be studied.

In 1870, a geographical survey of the north western United States including parts of Wyoming and Yellowstone Lake areas was led by geologist Ferdinand Vandeveer. Photographer William Henry Jackson was among those that went with him, to make photographs of the land during the expedition. His photographs of the area were the first to ever be published (Getty, n.d.). These artists and others had been commissioned to document socio-economic change resulting from industrial pursuits (Wells, 2011:266). Also on the trip was painter Thomas Moran, from whom Jackson learned how to compose images informed by aesthetics of the sublime and the picturesque (Phillips, 1996:26). These aesthetics are an important aspect of his work and its eventual influence. Regarding the photographs produced it is understood that, 'Jackson was transformed from a very good topographic photographer to one who learned and adapted the aesthetic lessons of landscape painting' (Phillips, 1996:26). A contradictory statement exists between the purpose of the work and what was visually captured.

Although the images were made in connection with topographic surveys of the American West, they communicated more than economic purposes. They pictured the landscapes of Yosemite and Yellowstone in ways that inspired awe, wonder, and even terror. Also present in the images were the things humans were doing to the land. These images were influential in the protection of some of the lands from corporate endeavours. The decision in 1872 to pass legislation creating Yellowstone National Park, the first national park in the United States, was due in part to the landscape images of the Yellowstone area made by William Henry Jackson (Naef, 1975:73).

During the 1920s, Ansel Adams, whose purpose in photographing landscape was the preservation of nature, produced images of the Yosemite Valley in California, images that represented nature as untouched and pristine (see Fig. 1.2). In 1932, Adams and seven other photographers formed Group f/64.[4] These photographers are said to have been moving away from pictorialism, a dominant aesthetic of photography since the late 19th century. Interest was shifting from soft focus and painterly effects, seen in work of Frederick H. Evans, Gertrude Käsebier and even Edward Weston and Imogen Cunningham, to modernist abstraction.

> This interest, along with their respect for the particular properties of the medium—sharpness, close-up, and the glossy, industrial-looking print—were formulated in f/64 exhibitions and became characteristic of what they called 'straight' photography. (Phillips, 1996:35)

The mechanical reproduction of the image in 'straight' photography became a huge movement in influencing compositions and the practice of photography. Those who practised it considered that the detail produced by the camera was essential. Straight photography did not produce the study of environmental issues in photography. However, nature was a regular subject of the f/64 photographers (Phillips, 1996:35). The straight-photography approach rendered every element of nature crisply beautiful through the technical capacities of the photograph. The focus was sharp, with a great depth of field throughout the image. In Edward Weston and Ansel Adams images, the foreground objects appear in focus, while objects in the distance are also in focus. The method renders the sand of the dunes in Weston's image as sharp as possible, creating a sharper view of the harsh desert landscape (see Fig. 1.3).

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[4] Ansel Adams, Willard Van Dyke, Edward Weston, Imogen Cunningham, John Paul Edwards, Sonya Noskowiak and Henry Swift

Fig. 1.2 Ansel Adams, *Clearing Winter Storm, Yosemite National Park, California* (1944)
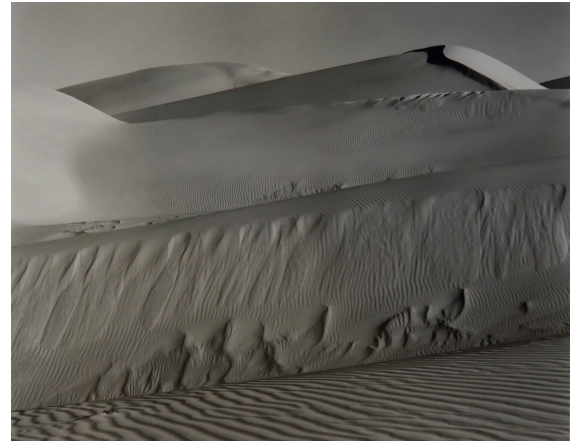
Fig. 1.3 Edward Weston, *Dunes, Oceano* (1936)

In *Jackson Lake and Grand Teton* (1942) (see Fig. 1.4), Adams rendered the qualities of both the driftwood and the mountains as sharply focused as possible, thus revealing their precise texture. Adams' desire to show pristine nature was informed by the straight photography movement. The techniques of sharp focus and small aperture by the 'straight' photographers were used to render the details in their images as absolutely clear and constant, highlighting the essential qualities of subjects (Hostetler, 2004), an aspect for which Adams became known in his work. Another aspect was his technical expertise in capturing and printing photographs by using his formulation of a zone system to render a complete tonal range of highlights and shadows. The Sierra Club describes Adams as 'a visionary figure in nature photography and wilderness preservation.... His signature black- and-white photographs inspire an inspiration for natural beauty and a strong conservation ethic' (Sierra Club, n.d.) (see Fig. 1.2). Though Adams may have subscribed to the ideas of 'straight' photography, his images often appear as more than documentary records of their subject. The images are also known for compositional choices and aesthetics. Prominent in discussions about his images and those of his predecessors is the aesthetic of the sublime, an aesthetic that appears

Fig. 1.4 Ansel Adams, *Jackson Lake and Grand Teton*, Wyoming (1942)

most powerfully in his images of nature[5]. Rod Giblett argues that 'Ansel Adams' photographs of towering mountains and plunging canyons are major expressions, exemplars and evokers of the sublime in photography' (Giblett, 2012:69).

The images do not simply record the details of the landscape, Adams uses the aesthetic to create a feeling and a sense of nature, an attempt to encourage the preservation of nature. 'Adams' vision of the western wilderness as the untouched sublime—the primal, God-given American landscape—was formed as the land was developed by the federal government during the Depression' (Phillips, 1996:36).

This evocation of the sublime in his photography was influenced by painters, an interesting connection, since Adams was also a member of the f/64 group. Knowledge of painting and the aesthetic played a part in how he developed his art work.

> Adams understood that the painters of the western sublime—[Albert] Bierstadt, [Thomas] Moran, William Keith, Thomas Hill—were imbued with a reverential sense of the spiritual power of the western landscape. He appropriated this view as both justification and warning for the spiritual condition of his countrymen. (Phillips, 1996:37)

The continued distancing from nature and the impact of development and industry on nature were what Ansel Adams worked to caution against. His photographs emphasised his belief in the might of nature, the awe it produces and its power. This 'raw nature' was something he did not want to see lost to human activity. Although the images showed dominating mountains, great storms, and the vastness of the landscape, they were still inviting. 'He made the scenes appear welcoming, as the landscape beckons the visitor to enter the sacred surround' (Dunaway, 2013: 24). Adams had a deep connection with the landscape of Yosemite, having actually lived there (Wells, 2011:136). His commitment as an environmentalist is well known, having begun as early as 1936 to lobby for the Sierra Club in preservation of wilderness space (Phillips, 1996:37). The photographs he produced in connection with his activist efforts have also left a legacy that is still influential: 'It might be added that his vision of landscape remains influential internationally, as a starting point for students and, more generally, as a continuing eulogisation of the sublime' (Wells, 2011: 138-140).

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[5] See for example discussions of the sublime in Adams' work by Sandra Phillips (1996), Liz Wells (2011) and Rod Giblett (2012)

The sublime has been written about and discussed extensively. Its use in photography, as described in Ansel Adams' work, is linked to nature, a change that had already occurred in painting and was carried on in photography. According to David Nye, 'Before the eighteenth century it was not yet common to raise as sublime an object of natural grandeur, such as a vast forest seen from a mountaintop or a tempest raging over the sea' (Nye, 1994:4). The sublime in the work of Ansel Adams is directly linked to painting. As already mentioned, Watkins' images displayed this aesthetic. Jackson, while developing his compositions with help from the painter Thomas Moran, learned to apply this aesthetic in his landscape imagery as well. Nye explains that 'in art history the concept of the sublime is often applied to paintings that are unreal, monstrous, nightmarish, or imaginary' (Nye, 1994:1). This aspect of what evokes the sublime is often exemplified in work of the strength and power in nature. The history of the use of the sublime in art can be seen in paintings made by Joseph Mallord William Turner, Thomas Moran, Thomas Hill, and William Keith. 'In many ways, Joseph Mallord William Turner's paintings epitomize the scenario of the Burkean sublime, in which nature is a malevolent atmosphere that threatens to obscure sight and overwhelm thought' (Boetzke, 2010:26) (see Fig. 1.5). Turner's landscape paintings did show the magnitude of nature and evoked a sense of the fear and awe in viewing it.

Fig. 1.5 Joseph Mallord William Turner, *Snow Storm – Steam-Boat off a Harbour's Mouth making Signals in Shallow Water, and going by the Lead. The Author was in this Storm on the Night the 'Ariel' left Harwich* (1842)

The two most notable historical figures who have written about the sublime are Edmund Burke and Immanuel Kant, both of whom lived before the invention of photography. Their theories on the sublime and beauty have been reflected on and discussed in relation to many different forms of art. In the eighteenth century, Edmund Burke wrote about the sublime, 'Whatever is fitted in any sort to excite the ideas of pain, and danger, that is to say, whatever is in any sort terrible, or is conversant about terrible objects, or operates in a manner analogous to terror, is a source of the *sublime*' (Burke, 1764:58). David Nye points out that Burke created a list of the attributes in objects that could arouse this passion: 'obscurity, power, darkness, vacuity, silence, vastness, magnitude, infinity, difficulty, and magnificence' (Nye, 1994:6). They are qualities the object possesses and pronounces on the person. This can be compared to the German philosopher Immanuel Kant's distinguishing of two types of sublime: 'mathematical sublime (the encounter with extreme magnitude or vastness, such as the view from a mountain) and the dynamic sublime (the contemplation of scenes that arouse terror)' (Nye, 1994:7). Many different types of scenes could be created that arouse terror. However, Kant referred to the aesthetic in nature. Phillip Shaw explains that Kant 'associates the dynamical sublime with fear in the face of the overwhelming forces of nature' (Shaw, 2006:81). This description locates it as an emotion which is felt and at times acted on from experiences with the attributes associated to the sublime, in nature, specifically. 'Bold, overhanging, and as it were threatening rocks, clouds piled up in the sky, moving with lightning flashes and thunder peal; volcanoes in all their violence of destruction' (Kant, 1951:100). It is important to note that in reference to these and other scenes, Kant explains, 'The sight of them is the more attractive, the more fearful it is, provided only that we are in security' (Kant, 1951:100). It is interesting that he included 'security' being necessary as there is a sense of physical security which exists when viewing an image of a landscape or environmental issue.

It is also important to note that the sublime was a quality not solely attributed to nature but also to human character; and in contemporary photography to human-made objects. In his book, David Nye referred to great architecture and terrible weapons that humans had created, referencing them in connection with the sublime for the terrible scenes and great magnitude they exhibited: 'Sublimity, therefore, does not reside in anything of nature, but only in our mind, insofar as we can become conscious that we are superior to nature within, and therefore also to nature without us' (Kant, 1951:104). This statement makes it possible to consider the sublime in relation to objects other than nature, a relationship investigated later in this chapter in a discussion of contemporary

photography that evokes the sublime in a new context. In order to point out how notions of the sublime can be applied to objects other than those of nature, Nye explains, 'For Kant both the mathematical and the dynamic forms of the sublime are not attributes of objects; they are the results of a dialogue between the individual and the object, a dialogue in which the distinction between the senses and the ego is forcibly manifested' (Nye, 1994:8).

Kant's theory that aesthetic qualities result from a 'dialogue' between the individual and an object is also relevant to his concept of beauty. The images presented in this chapter so far have been discussed in terms of the way they create not only a sense of the sublime, but also of beauty, in the natural landscapes they portray. Notions regarding the experience of the 'sublime' are seen as noticeably distinct from those of 'beauty' by both Burke and Kant. The term 'beauty' is often used in connection with things of nature thought to elicit sensations that are pleasant rather than linked to terror or awe.

> They are indeed ideas of a very different nature, one being founded on pain, the other on pleasure: and however they may vary afterwards from the direct nature of their causes, yet these causes keep up an eternal distinction between them. (Burke, 1764:238)

> The stirring of each is pleasant, but in different ways. The sight of a mountain whose snow-covered peak rises above the clouds, the description of a raging storm, or Milton's portrayal of the infernal kingdom, arouse enjoyment but with horror: on the other hand, the sight of flower-strewn meadows, valleys with winding brooks and covered with grazing flocks, the description of Elysium, or Homer's portrayal of the girdle of Venus, also occasion a pleasant sensation but one that is joyous and smiling. In order that the former impression could occur to us in due strength, we must have a feeling of the sublime, and, in order to enjoy the latter well, a feeling of the beautiful. Tall oaks and lonely shadows in a sacred grove are sublime; flower beds, low hedges and trees trimmed in figures are beautiful. (Kant, 1991:46-47)

Interestingly in many of the photographs that have been spoken of already (and in those yet to be discussed) both the 'sublime' and 'beauty' are being addressed. The possibility of both these qualities being combined was addressed by Burke:

> If the qualities of the sublime and beautiful are sometimes found united, does this prove, that they are the same, does it prove, that they are any way allied, does it prove even that they are not opposite and contradictory? Black and white may soften, may blend, but they are not therefore the same. (Burke, 1764:239)

Burke believes that 'beauty' does not belong to proportion or utility. He argues that these are not qualities that can be used to ascertain what is beautiful. He suggests,

'beauty is, for the greater part, some quality in bodies, acting mechanically upon the human mind by the intervention of the senses' (Burke, 1764:210). This is a rather problematic explanation, which he follows by laying out the qualities of 'beauty' which include being small, smooth, having a delicacy and clear mild colours (Burke, 1764:222). Ideas about what is beautiful and which objects or scenes are deemed beautiful have clearly changed over time. Looking at the changes in aesthetics over long periods of history makes it impossible to achieve a definition of beauty by listing particular attributes as Burke does here.

Kant on the other hand sees the question of beauty as more relational. He establishes four elements in making a judgment on 'beauty'. The first is that the judgement is void of interest: in other words, it is one that we make without any ulterior motive (Kant, 1987:211). The second is that what is beautiful is liked universally (Kant, 1987:220). The third is the perception of a form's 'purposiveness', the sense that it achieves a purpose, even though it may not actually have one (Kant, 1987:236). The fourth is that of a 'necessary' liking, the sense that it ought to be liked by all (Kant, 1987:240).

In Kant's analysis, it is acknowledged that although 'beauty' feels as if it were the property of an object, along with its shape or size, in fact it is not an inherent quality but a quality evoked as the result of human interaction with the object. It is also important to note that the individual who is looking at an object, whether that is an element of nature or a work or art, is seen as part of a society: Kant uses universality and necessity as criteria for 'beauty' and these involve more than one person. The shared aspects of understanding that make an object be perceived as beautiful are termed 'common sense' by Kant.

The question of beauty is relevant to the argument in this chapter on two levels, because in Kantian terms it is possible to judge nature as beautiful, and also to judge photographs themselves as beautiful without having to suggest that it is because of the content or purpose for such images. As already established, what elicits pleasure associated with concepts of beauty is constantly changing. However, it is not just nature that beauty is associated with, and about which our perceptions change over time. Beauty is attributed both to photographs, and to the forms that are captured and represented in them. Within the photographs addressed in this thesis, 'beauty' may be judged as a quality of things made by humans, and may include those that we know are environmentally damaging. While the thought of the damage does not elicit pleasure,

this does not mean that the image made from these cannot evoke pleasant feelings or pleasure. A suggestion by Kant helps to explain how this could be possible: 'The various feelings of enjoyment or of displeasure rest not so much upon the nature of the external things that arouse them as upon each person's own disposition to be moved by these to pleasure or pain' (Kant, 1991:45). Beauty in photography, then, can be understood in relation to the feeling of pleasure that arises from looking at the images which have been created. This pleasure is what will later be discussed as a quality that draws a viewer's attention (see Chapters 3 and 4). Kant's focus on the experience of the viewer is not incompatible with the basic definition of beauty already given: 'a combination of qualities, such as shape, colour, or form, that pleases the aesthetic senses, especially the sight'.[6]

Burke's and Kant's distinction between the 'sublime' and 'beauty' provides a way to explore changes in images that engage with environmental issues over time. Adams employed both of these aesthetics in his work at different moments. His images of nature generate an appeal to our sense of beauty through the composition of objects in the frame of view, which also draws on the sense that nature itself produces a feeling of beauty. The image is not nature, but an image of nature, and as such the image also becomes a thing to be judged as beautiful: the composition, the tones represented, the printing, the paper, the presentation and the idea that nature is good.

His evocation of the sublime is, similarly, produced through use of his particular medium in particular ways. The 'sublime' in Adams' images is very different from that seen in Turner's. In *Snow Storm – Steam-Boat off a Harbour's Mouth* [7] (1842), a storm appears to be overpowering a vessel at sea. The scene exemplifies the description given previously of the Dynamic Sublime. It is done with an image that renders the subject in a softly obscured vision of terrible danger. The discussion of the aesthetic in Adams' landscape photographs of Yosemite is very different because of his straight-photography approach and subject matter. The photograph records nature as it appeared at a particular moment. It could also be argued that Turner's did as well; he is alleged to have had himself tied to a mast during a storm in order to appreciate the full force of nature and to accurately paint *Snow Storm*. This was not possible, as clarified by Alexandra Wettlaufer, 'no ship called 'Ariel' existed during this period in Harwich and that Turner had not even visited the east coast for the preceding two decades'

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[6] Oxford Dictionaries, op.cit.
[7] For full title see caption on p. 49

(Wettlaufer, 2003:279). Still, the approaches were different. Turner had reinterpreted the scene through his brush strokes and choice of colours.

In the darkroom, Adams adjusted contrast and tonality throughout the image to create a clear picture, giving a strong impression of the 'might' of nature. The sublime in the landscape is created by the remnants of the storm clouds, piling up around the mountain tops. It is achieved in the towering rock face of *Half Dome* and the darkness of the shadows in the trees and cliffs. The entire image is in sharp focus, rendering the details precisely. Though the sublime is discussed as an aesthetic of both images, Adams and Turner achieve it with completely different methods and for different purposes. In Turner's painting, the storm is depicted as if it is happening. In Adams' image, the storm is clearing; the danger is passing rather than harming humankind. It resembles the picturesque landscapes painted most notably in this instance by Thomas Hill, who also visited Yosemite and painted the same valley. Adams has presented the landscape as powerful and awe inspiring; however, the message is to preserve references to the fragility of nature despite its power. Perhaps the use of the sublime in the photograph then demonstrates a step in which human thought and perceptions changed from seeing nature as something to be tamed, to considering it as something to preserve.

Ansel Adams' concern focused on the idea of pristine nature. He understood the need to preserve nature from the economic boom and growth that came with it. Though he may have captured the sublime in nature with his photography, perhaps he understood the fragility of nature's loss of the aesthetic as humans took over the land. His photographs and writings were first published in the *Sierra Club Bulletin* in 1928 (Sierra Club, n.d.). The involvement he had in the club, which was originally founded by John Muir, grew, as did his role in bringing an environmental consciousness to the U.S. (Sierra Club, n.d.). 'To his last picture, Ansel Adams never stopped fighting to preserve the illusion of a natural landscape safe from the harsh environmental changes it suffered in the wake of the post-war economic boom' (Mora, 2007:143). His application of the sublime aesthetic in his imagery could be due to the power which the sublime is thought to have in moving a viewer to action. It is an idea that has been considered since Longinus and is still relevant today: 'For the sublime not only persuades, but even throws an audience into transport' (Longinus, 1819:46). It is for this same reason that the sublime may be beneficial to work being done by contemporary photographers who are making comments on the environment through images of pristine nature. They want their work to persuade viewers to make corrective

actions to limit, if not eliminate, the impacts made by humans through environmental waste.

It is difficult to find any direct criticism of human action within the imagery of the early photographers I have discussed previously. This may in part be due to the time at which they were photographing. For Watkins, O'Sullivan and Jackson, it was a time of expansion for the United States. Though the images show that humans were having an impact on nature, there was no consensus to preserve nature at the time. Human thought and perception about their place in nature were still only beginning to be seen differently. Ansel Adams' imagery was being used to preserve wilderness space that had not yet been built on. Rather than showing destructive forces or consequences of human action, he produced images that pictured nature as inherently beautiful, presenting the intrinsic value of nature as the purpose for protecting it. The images were close to how humans would love to see nature: untouched, protected, and in a natural state for humans to enjoy. The limit in this type of photography is the inability of the image to show the reality of the condition of nature. Images of 'pristine' nature show areas of the environment to protect and express the intrinsic value as a reason to protect it. However, they are limited in that they do not show all the ways in which the rest of nature is being harmed.

Changing Landscapes: Postmodern Landscape Photography

With the spread of human populations and the increasing exploitation of natural resources, landscape imagery underwent dramatic changes. The subjects, compositions, and aesthetic choices shifted from nature itself to the things made by humans which did not integrate themselves into the landscape. Increasingly, photographers focused on the effects of developing land and natural resources for human use and consumption. Historian and photography critic Gilles Mora comments that 'until the 1960s, photography rarely displayed signs of a critical conscience capable of provoking a deliberately distanced view of the environment in order to observe its evolution and changes' (Mora, 2007:143). It is not that observation of what humans were doing to nature was invisible, but that critical conscience of such was inhibited by the notion of Manifest Destiny already discussed. 'Where photographers previously might have pictured the silence of the space of the West they are now more likely to document the consequences of human invasion' (Wells, 2011:142). Experience and new

understanding guided photographers to make new images of the landscape, showing what humans were doing with it. In the 1960s and 1970s, several photographers began doing this. Most notable were Robert Adams and Lewis Baltz. Their images were among those presented in the *New Topographics: Photographs of a Man-Altered Landscape* exhibition at the International Museum of Photography at the George Eastman House in January 1975. The exhibition, curated by William Jenkins, included the work of eight other photographers. According to John Rohrbach, after the initial exhibition, it was shown in just two other venues and received limited attention from the press (Rohrbach, 2013:XIII). Though it was a relatively small exhibition, it has become an example of major compositional and aesthetic shifts in landscape photography. Meghan Lowe, Liz Wells, Sandra Phillips, Toby Jurovics and numerous others have reflected on the exhibition and the photographs in their examinations of landscape photography.

> When the photographs of Robert Adams, Lewis Baltz and Joe Deal were first shown together with other American photographic artists [in the New Topographics exhibition], a new sensibility was detected amongst the emergent generation of American photographers. This sensibility resided in the appearance of the photographs that, to many critics, belied a lack of emotional commitment on behalf of the photographers toward their subject matter. (Highnam, 1981:3)

The lack of emotional commitment in the imagery is a major point of discussion for those who study and write about the exhibition. 'By attending to the mundane in so apparently straightforward a fashion, drained of emotion and judgment, the *New Topographics* images seemed to ridicule long established definitions of what made photographs artful' (Rohrbach, 2013:XX). The images are an example of how commentary about environmental concern in photography was being approached differently. The photographs were still made using a straight photographic approach, but the aesthetic in the work changed dramatically (see Figs. 1.6 and 1.7). Many of the lines in the imagery are composed to create a level horizon, which visually creates a calm effect. Images in which there are diagonal or curved lines still keep the horizon level. They do not create a dramatic effect, as was achieved by Ansel Adams. Many of the views presented are set quite far back from their subject, resulting in distance between the viewer and the issue that is the subject of the photograph. Those that do approach human-made objects closely, obscure the view of nature even more. This may assist the mind in interpreting a distance from nature as it has been traditionally represented. There is no sense of urgency within the images to stop what is taking place

as humans grow and develop across the face of the land. In a sense they are boring images of everyday life as it filled the landscape. The images could fall within Kant's description of 'boring.' 'He whose words or deeds neither entertain nor move one is *boring*' (Kant, 1991:55). They show in a plain manner the impact of human activity on nature, and this could be described as a *disinterested aesthetic*. 'Further, since the photographs appeared to encompass both traditional landscape and man-made constructions, though nearly always excluding people, it was difficult to locate the work within the existing categories' (Highnam, 1981:3).

Fig. 1.6 Robert Adams, *Tract Housing, North Glenn and Thornton, Colorado* (1973)

The images included in the *New Topographics* exhibition did not represent nature as pristine or sublime. Their work explored the impact on nature from human activity. Humans were changing the landscape by developing it. The images showed tract housing of suburban developments and industrial buildings in what appear to be emotionally removed compositions. The images were not met with high acclaim at the time. However, the exhibition has been presented numerous times since 1975.

> The curator, William Jenkins, realized a sea [of] change in the approach to landscape photography—an approach that was descriptive and, it seemed, emotionally removed. It lacked wholly the self-consciousness and inflection of the mature, developed work of Ansel Adams and those who took aesthetic direction from him. (Phillips, 1996:40)

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This emotional removal that Phillips mentions has been a major point of discussion. Lowe pointed out how the landscape imagery of the *New Topographics* remained focused on form even though it was inspired by social and environmental issues (Lowe, 2009:109–110). Her writing then focuses on the failure of their images to make a distinct critique about what humans were doing to the landscape. Considering that the photographs have since been a major influence on contemporary photography concerned with environmental issues, Lowe points out the concern with this type of work: 'Such a mode of representation ultimately replicates the traditional paradigm of landscape aesthetics as distanced and objectified contemplation that serves to legitimize and naturalize our commodified relationship to nature' (Lowe, 2009:118). In her examination of landscape photography, Liz Wells also draws attention to the neutrality in the imagery that was included. The focus remains on form, objectivity, and that the series was meant to be anti-metaphoric. She suggests that any consideration of environmental harm comes from contemporary re-reading of the work not the images themselves.

> With hindsight, the new topographic interest in urban sprawl and environmental degradation, as settlement further expanded in the West, appears as social critique, but this reading emerges more from late twentieth-century re-evaluation of earlier planning priorities than from photographic intention. (Wells, 2011:129)

However, Adams and Baltz made photographs at a time when recognition of how the landscape was changing was in full movement. They could see the places they loved being developed and were adjusting their practices based on it. 'The photographers in the *New Topographics* exhibition were not attempting to isolate and distance themselves from the landscape but to re-engage in a way that would be meaningful to contemporary experience' (Jurovics, 2013:5).

A close look at the context of the imagery, including the experiences of Robert Adams and Lewis Baltz, should show that their work is both a response to the changing landscape and that the aesthetic choices reflect quite clearly a concern for nature. Toby Jurovics, the senior curator at the Joslyn Art Museum, claims there is emotional depth and moral position in the photographs, despite the exchange of the sublime for the mundane. This was generally missed by viewers at the time because even though Jenkins mentioned the richness of meaning and scope in the work, he had stressed that 'the stylistic context within which all of the work in the exhibition has been made is so

coherent and so apparent that it appears to be the most significant aspect of the photographs' (Jenkins in Jurovics, 2013:2). Critical commentary such as this led to the style of the images rather than the subject becoming a focus in contemporary reflections on the images. However, these photographers' visual approach was completely appropriate for the underlying message of environmental concern that existed in their photographs.

In 1981 the exhibition was displayed again in Bristol, and this revival both reflected and perpetuated its influence on contemporary landscape photography. As well as having an effect on photographic practices, the work in the exhibition helped to further the development of a critical understanding of human impact on nature. 'The photographs, in their restraint and economy, both moral and visual, allow for the formation of an understanding of man's appropriation and interaction with the land, whilst collectively, they evoke a sense of the American West' (Highnam, 1981:10). In this statement, Highnam touches on the lack of emotional response the imagery solicits. This apparent lack of emotion could be attributed to the fact that the photographers have avoided creating 'sublime' images of 'pristine' or 'wild' nature. The 'restraint' Highnam alludes to is what makes it possible for viewers to form an understanding of human impact on nature. Rather than showing nature as pristine and untouched by humans it shows urban growth on the land. The images exhibit the American West as dry arid landscape, picturing the results of the idea of Manifest Destiny. They do not point out what needs to be done but allow for judgment to be made by the viewer. This work was completely different from Ansel Adams'; it included both nature and humans in images of environmental concern. It showed what was happening because of human action. The landscape was not romanticised as a space for renewal or a place to be protected. It was already being developed and changed as such; it appeared differently. The image of the landscape elicited a different experience than Ansel Adams' pristine wilderness, in which the might and awe of nature were the aesthetic focus. They did not show human action at its worst, but rather recorded what was happening. In a sense the images appeared neutral and objective because the photographers were not promoting the preservation of the space.

In the introduction to *Reframing the New Topographics* Rohrbach reflects on the outcome of the nondescript view generated by the images on three types of viewers. Those who were concerned with environmental issues saw and understood the 'symbols of visual and environmental blight'; viewers who did not think

environmentalism was a pressing issue were 'unimpressed' and 'puzzled' from depictions of everyday life; the sharpest critique came from 'artist-photographers', because they believed that landscape images should present the qualities of nature that produce 'uplift, redemption and beauty' (Rohrbach, 2013:XIX). This insight comes long after the exhibition; how viewers would react may not have been fully comprehended during the process of composing the images. However, those considering how to make work that comments on environmental issues today can look at this and consider how their images may be viewed.

Adams and Baltz's images may have appeared detached from the subject of environmental issues, but it is this detachment, or lack of drama, combined with the subject matter, that allowed the viewer to see the strangeness of this suburban sprawl creeping into the desert landscape. The photographers were deeply concerned with changes in the environment, and they were also concerned with radically changing the stylistic approach to landscape photography that had dominated for so many years. They were not aiming to present landscapes that had been harmed by human action in a way that carried the emotional impact of the sublime. However, the reasons for their work being made were directly related to emotions, in particular those associated with the loss of place and nature. As a teenager, Robert Adams moved with his family to Colorado, which then was a part of the American West that was starting to be developed (Adams, 1980:8). Initially he was influenced by the work of Ansel Adams and Edward Weston. Though he was influenced by work that came before him; it was experience that led his work in a different direction. He left Colorado to attend school in California; upon returning, he found that places where he had grown up were being developed as California had been (Adams, 1980:8). It affected him to see nature being built on and disappearing due to human activity. He acknowledged, 'My initial impulse, then, was to work for traditional conservation, but I didn't follow it for long because I had to admit the fight looked over' (Adams, 1980:8). His images appear to reflect that the fight to conserve land was losing to development.

At the same time, another photographer, George Tice, observed, 'Today, there are fewer spots left in which to make the idyllic landscape. Perhaps in the future photographers will have to make an appointment in a national park in order to find a natural setting' (Tice, 1980:144). Not only does the remark point to the loss of natural lands but to those protected by government becoming crowded with visitors. The very act of making photographs that appear idyllic and natural was getting more difficult.

This should point to the growing scale and impact of humankind on nature. Adams' images did not try to cover up human objects in the landscape and show nature without them. Instead, he embraced the reality of his experience and composed images like *Tract Housing, North Glenn and Thornton, Colorado* (1973) (see Fig. 1.6). The work depicts the suburbs being built up with signs and waste collecting along roads (Phillips, 1996:39-40). Instead of distancing himself or his photographs from showing the impact of humans on nature, he photographed it, presenting a different view on nature and what was happening. 'He recognized the fiction of Ansel Adams' idealized, segregated wilderness' (Phillips, 1996:40). The images showed that in reality humankind was not creating or preserving the type of wilderness spaces shown in Ansel Adams' images. The opposite was taking place and wilderness was being turned into housing estates, strip malls, and other places. Though these things can be beautiful in their own way, the impact on nature is not ideal. Images that communicated this then, in this manner, were not easily received. According to Wells, 'He [Robert Adams] was among the first of the post-war generation to take what might be termed the 'messiness' of the environment as a starting point, documenting urban as well as rural places, particularly in Colorado' (Wells, 2011:142). The mundane view presented in such images, and the lack of concern for nature that is recorded in them, make a completely appropriate comment about nature being changed, and with it a feeling of dissatisfaction from what was being built. 'Such photographs offered a sharp contrast to traditional landscape images that had presented audiences with soothing, therapeutic visions of wild nature' (Dunaway, 2013:13). Rather than show nature as myth he used photography to clearly represent it the way it is, as a result of human action.

Though Adams' work may not be performative or engage the viewer the way the Parke Harrisons' work might (see Chapter 2), it presents a reality of the experience of what is taking place. The understanding that nature was being lost to human developments was growing, and his images represented it appropriately. The reality was that the 'sublime' and 'beautiful' aspects of nature were being obscured by tract houses, roads, and signs. So it fits that his photographs do not present the same qualities as wilderness had evoked —picturesque, romanticised, and sublime. They arise from a very different experience. Whereas Ansel Adams' experience in Yosemite led to images of its beauty and exaggerated its pristine quality, Robert Adams' experience was that of returning to find that the landscape he once knew had changed. It was becoming what California was: a developed space with less and less wilderness. Robert Adams' original sense of nature was being lost to development. The images could not elicit feelings of raw,

untouched nature because nature could no longer be what he saw or could experience. Rather than saying preserve it, he showed the impact of not preserving it.

Fig. 1.7 Lewis Baltz, *South Corner, Riccar America Company, 3184 Pullman, Costa Mesa* (1974)

Human development, though impressive, created the mundane spaces in the images. These spaces were no longer restorative, but mundane and banal. It was this transformed space which Robert Adams, Lewis Baltz and others were focusing on. Lewis Baltz wrote, 'The landscape, as we know it, is a consequence of the industrial revolution in two important respects. The first and most evident is that technology has physically altered the land' (Baltz, 1980:28). His landscape images, made in the Western United States, showed the physical state of the land as a consequence of the technology used to develop it. Like Robert Adams' work, they presented a new way of seeing the relationship between humans and nature as the action of humans overpowered the landscape (see Fig. 1.7). 'Baltz's attempts to serially classify chaos, his reflection on points of rupture and convergence between the human and the natural, set him apart as something of the moralist among the New Topographers' (Mora, 2007:162). While Robert Adams' images of the 1960s and 1970s consisted predominantly of tract housing, evidence of the growth of the suburbs in nature, Baltz depicted industrial parks in California. He later photographed the development of Park City in the mountains of Utah. His commentary on the view he sought clearly states his interest in conveying a message about how nature is viewed and what is happening to it. 'One of the most common views our society has of nature is among the most

rigorously secular and least appealing: landscape-as-real-estate. This is the view of nature presented to me in Park City and the view that I tried to show in the photographs' (Baltz in Jurovics, 2013:7). An anonymous piece written about Lewis Baltz and the New Topographic movement for Utata asserts that 'maybe we're not supposed to like it, though. Maybe we're just supposed to let it influence the way we see the world. If that's the case, then they've succeeded' (Utata, n.d.).

By bringing the work of the *New Topographics* photographers together in 1975, the curator William Jenkins began the establishment of what landscape photography was becoming. In retrospect it also aided in perpetuating new visual methods for commenting on the crisis nature faces. The *New Topographics* have been very influential on the compositional choices in contemporary work by Andreas Gursky, Paul Graham and Candida Höfer (O'Hagan, 2010). Though the influence on Gursky and Höfer is due in part to their being former Becher students (Lorch, 2009), the shift in environmental understanding and the aesthetic that was used to represent landscapes is significant.

> In 100 years, nature has shifted from something awesome and dangerous, which we need to be protected from, to something fragile, which we need to protect. Such a dramatic change in a concept so fundamental as nature undoubtedly has had a profound effect on a range of philosophical, moral, aesthetic, religious, and social ideas. (Dion, quoted in *Ecotopia*, 2006:17)

The change in how nature is considered has happened in a relatively short period of time in comparison to the time that modern humans have existed. This change is embodied in the *New Topographics*. Pictured in the imagery is the character of modern life as it encroaches on the wilderness. By photographing the everyday, the *New Topographics* photographers were making a direct commentary on suburban development and the overpowering of the natural environment.

Environmental Issues and Contemporary Photography

As I have discussed in the Introduction, the amount of photography that has focused on environmental concerns has grown dramatically since 1864 when Marsh published *Man and Nature*. In the landscape work that has followed the photography of the *New Topographics,* there have been further changes in subject and aesthetics. Photographers

Richard Misrach, Edward Burtynsky, Sophie Gerrard, Andreas Gursky, David T Hanson, An-My Lê, Pieter Hugo, Rena Effendi, and Nadav Kander are among many that have focused on the current relationship of humans with nature. The views being composed, and subsequently considered, are being shaped by the large-scale environmental problems imposed on nature. The picturing of landscape issues has become global. Mining, pollution, waste, and the effects of climate change are all subjects of contemporary landscape photography. In this context, the traditional notion of the sublime as being related to nature has changed. It is now associated with architecture, pollution, and waste as they appear to replace nature, covering it in the detritus of industry. It is considered to be an *industrial sublime*, the result of the changing landscape. This delineation can be discussed in images concerned with the condition of nature. It is the type of sublime which Amanda Boetzke suggests best represents ecological dilemmas (Boetzke, 2010:22). If Manifest Destiny drove the settlers of America to reshape the landscape, then capitalism is the system that has spurred globalisation, and the interconnection of people socially and most notably economically. Subsequent results are consumerism on a scale so large it cannot be comprehended. Pollution and climate change affect nearly every person and creature.

Photographers around the world continue to show a view that contrasts with the ideas of pristine nature; instead, the character of humans is evidenced in scars on the landscape. The work of contemporary Canadian photographer Edward Burtynsky is one of many that are often referenced in connection with the industrial sublime. He presents environmental concerns in visually beautiful compositions. His photography does not appear banal but bold and interesting. Burtynsky has created a large collection of photographs that show the effects of human activities on nature as a consequence of mining, manufacturing and waste (see Fig. 1.8). Through his landscape photography, how these things affect the environment and the humans that are a part of it can be examined. Unlike the photography in the *New Topographics*, his work has been referenced in connection with the sublime. This returns us to a discussion of this aesthetic in contemporary work. Within the frame of many of his photographs are views of excessive extraction, development and pollution. Yet the notion of the sublime is somewhat different in contemporary work. Even though it remains, the elements attributed to it are different— no longer attributed just to nature in the landscape images, but spoken of in connection with the subjects of environmental concern, including but not limited to extraction, development and pollution. It can also be traced to scars left on the land by human action in connection with human character. It is part

of notions of a new definition of the sublime as a technological or industrial sublime. Instead of a focus on nature, its focus is on human production.

Fig. 1.8 Edward Burtynsky, *Oil Spill #2, Discoverer Enterprise, Gulf of Mexico, May 11* (2010)

To begin this exploration of contemporary work, it is important to look at the idea of an industrial sublime. To help understand it in connection with photography of environmental concern, we can look at the things humans are building. In his book *American Technological Sublime*, David Nye does not talk about the sublime in literature and fine arts but considers its connection to things humans were making. These include 'new sources of popular wonder and amazement, from the railroad to the atomic bomb and the space program' (Nye, 1994:9). These are things that could be included in Baltz's statement about technology changing the landscape. They are part of the new notion of the sublime in photography—that is not focused on natural objects but rather on the things humans are making. 'Such a history requires a different definition of the sublime, one that treats it less as part of a self-conscious aesthetic theory than as the cultural practice of certain historical subjects' (Nye, 1994:9). Nye used the term *technological* because his focus was on the sublime in these new technologies. Environmental problems caused by humans are ongoing, a part of current history. They are a result of technology, mass consumerism, large-scale mining operations, and the burning of fossil fuels by contemporary societies. These result in

large-scale impacts on nature, such as climate change and pollution. They are the result of what have become large-scale industrial operations.

In 2007, the Tate began research on a project titled *The Sublime Object: Nature, Art and Language*. It was an extensive review of the aesthetic of the sublime in the arts. 'The project aimed to achieve a greater understanding of the ways in which perceptions of the sublime in the external landscape are shaped by cultural experiences ... to discover whether the sublime is a legitimate concept in the contemporary world' (Tate, 2007). It produced a number of insights on the sublime in modern and contemporary art. In Julian Bell's essay *Contemporary Art and the Sublime* (2013)*,* which emerged from the Tate project, he discusses the photographs produced by Edward Burtynsky and Andreas Gursky. His use of Burtynsky illustrates the global content of the sublime, particularly that of global catastrophe caused by human actions. He shows us Burtynsky's *Oil Spill #2, Discoverer Enterprise, Gulf of Mexico, May 11* (2010) (see Fig. 1.8) and refers to it as an 'Industrial Sublime,' the title of an exhibition of Burtynsky's photographs in 2011 at Weber State University in the United States. The term *industrial* is an accurate reference to the industrial enterprises and the results from them, rather than the term *technological*. The image is a clear indicator of damage human actions can have on the environment. Interestingly, Bell points out, ' "We", meaning media consumers, art gallery goers [...] aspire to an awareness of the trajectory to which global civilization seems to be committed. We want, at least lightly, to run our fingers along the blade that is wounding the planet' (Bell, 2013). His use of words makes it possible to view photography as a tool to bring terror to the viewer while maintaining the intent of criticising the results of contemporary society, in a visually pleasing manner. It could also be inferred from the quote that we only want to deal with these issues 'lightly.' By showing environmental catastrophe, the photograph allows the viewer to run his or her finger across the 'blade.' The viewer is not in immediate danger, because the photograph creates a distance from the issue. The terror then comes in the realisation of the consequences to nature and, to some degree, to humankind as well. The human consequences may be the lives that it affects or the effort that will be needed to clean something up; it may even be for some viewers a political or economic consequence. This terror likely helps in the forming of a self–awareness in the viewer and ultimately in society.

Burtynsky's images are visually stunning because of his use of colour and composition, their incredible detail, and the scale of the prints (which can be up to 60x80 inches). Despite our knowing the consequences of industry and waste, there is also a beauty in the images. As Kant wrote, 'The sight of them is the more attractive, the more fearful it is, provided only that we are in security' (Kant, 1951:100). However, it may be that his photographs are stunning because the viewer is not directly exposed to the danger in the photographs. Contemporary notions of the *industrial sublime* were first illustrated in painting. Mark Haworth-Booth, in writing about Edward Burtynsky's work, also spoke of aesthetic traditions and the sublime. He pointed out that Philippe Jacques de Loutherbourg (1740- 1812) 'invented the 'industrial sublime'' (Haworth-Booth, 2006:35), and used the painting *View of Coalbrookdale by Night* (1801) (see Fig. 1.9) as an example of the trend. In contemporary photography the notion of 'industrial sublime' has developed in images of extraction, development and pollution of nature (see Fig. 1.10). In describing his practice and intentions of his work, Burtynsky expressed his hope that his work would, 'engage the audiences and not be immediately rejected by the image, but to be challenged by it, to say this is beautiful on one level, but on the other I shouldn't be enjoying it, like a hidden pleasure. It gets people to look, and enter these things' (Burtynsky, 2005). He is doing

Fig. 1.9 Philip James De Loutherberg, *View of Coalbrookdale by Night* (1801)

what Bell described and created, that knife-edge which can be enjoyed but which viewers know represents something very real, big and dangerous. In Burtynsky's own mind there is an attraction and repulsion to this modern way of manufacturing and living. In his work he attempts to build on these contrasting responses. He states that he photographs these subjects 'out of great concern about the scale of our progress, of what we call progress' (Burtynsky, 2005). However, he acknowledges that he is a part of contemporary society and thus part of the reason for what is taking place.

Fig. 1.10 Edward Burtynsky, *China Recycling #9, Circuit Boards, Guiyu, Guangdong Province, China* (2004)

Contemporary photography does more than present images of great environmental issues that have a long-lasting impact on the environment. The detail in the work of the artists being discussed reveals more than the textures, lines and shapes of the subjects; it also presents a view of 'human character', another aspect of the sublime of which Kant spoke extensively. Kant suggested, 'Even depravities and moral failings often bear, for all that, some features of the sublime or beautiful, at least so far as they appear to our sensory feeling without being tested by reason' (Kant, 1991:53). The photographic record in general now shows among the mountains, great rivers, and storms evidence of moral failing to care for and protect nature. It can be seen at points of growth, pollution, and great destruction in the environment, all of which can be attributed to human activity.

Juliette Drouet, in her diary dated December 29, 1852, refers to one of the daguerreotype portraits of the great poet Victor Hugo: 'The sublime dominates to such an extent that one might say that we have here a portrait of his soul' (Drouet, as quoted in Heilbrun, 2009:18). This quote could be construed today in context of the sublime and the character of human beings, as Kant alleged. In images of environmental issues,

more is portrayed than the landscape; one may see a portrait of human character, of humankind's soul. On the one hand, we see the creativity that humankind is capable of achieving. The destructive, wasteful, and harmful actions of humankind are also evident. Images in which this harmful character surfaces, further exhibit the disconnected position of humankind toward nature. In 1997, Aperture published *Waste Land: Meditations on a Ravaged Landscape*, a book that contains four of the photographic projects undertaken by David T Hanson. Beginning in Colstrip, Montana, the projects cover the breadth of the United States, documenting sites of pollution and land abuse; and reflect on the nuclear power and waste that it represents. He tells readers that his photographic works 'have investigated the contemporary American landscape as it reflects our culture and its most constructive and destructive energies' (Hanson, 1997:5). The amount of coal that has been mined from Colstrip alone is all but incomprehensible. The capacity to retrieve and then burn it can be interpreted to show not just the capacity to complete such a task but the need and desire of humans that drive the continued efforts to pull from the earth ever more resources.

Being able to see the character of humans in photography is also a dominant theme in the photographic work of Richard Misrach. Having worked in the landscape for over 40 years, Misrach is known for his *Desert Cantos* series, which shows the complex relationship between humans and the landscape (Fraenkel, n.d.). Misrach's work also shows how culture is reflected in the landscape, or at least how the character of humans can be examined in the marks left by humans in the landscape. 'For over a decade, I have been searching the deserts of the American West for images that suggest the collision between 'civilization' and nature' (Misrach, 1992:83). In *Violent Legacies Three Cantos*, Misrach's landscape images reveal remnants of the secret training sites for the Hiroshima and Nagasaki bombings; carcasses of dead cattle in the proximity of a former nuclear testing site in Nevada; and the images of *Playboy* magazines, which, littering the ground, have been shot presumably for target practise. In his own words, they 'deal specifically with militarism and cultural violence' (Misrach, 1992:83). The evidence of violence can be attributed to those cultural items left in the desert landscapes he has photographed. The clash between civilisation and nature occurs through the contamination of the land by the destructive force of humankind (see Fig. 1.11). 'Every aspect of our society—gender, race, class, the environment, even language itself—was riddled with violence' (Misrach, 1992:83). The work suggests, sometimes graphically, that landscape is not only harmed but is a space to contemplate the violence and destruction that is happening.

Fig. 1.11 Richard Misrach, *Dead Animals #001* (1987)

Taking this inquiry further, we can view other images as evidence or reflections of human character. In 2003 at the beginning of the war in Iraq, An-My Lê was able to photograph training exercises in the high California desert. In her series, titled *29 Palms* (2003–4), are images of violent technologies being used in training exercises (see Fig. 1.12). Like Misrach's images, they show in the landscapes of the desert, evidence of violence that is a part of culture. The work was shortlisted for the fourth cycle of the Prix Pictet, titled *Power*. 'My engagement of the landscape and its scale is an attempt to give perspective to the military endeavour' (Lê, n.d.). The endeavour has a major impact on people, politics and the land. Though the work is concerned with war, it also appears to depict the relationship between humans and nature. In the image *Mechanised Assault* (2003), we see a military force lined up as if to strike, but we do not see their target; the eye is led to the mountains that dominate the scene. The tension between human and nature can be seen through this juxtaposition of subjects that has been composed. The notion of the sublime in this image is in question. The traditional notion may be read in the dark dry and vast desert mountains. The notion exists here in the power of the military lining up for battle. Then there is the notion of the sublime in human character, which shows in both the destructive power of the

military and the marks left behind from human movement over the land. The military units shown are training to battle an enemy. The absence of any human enemy, in the training and the imagery, leaves the land to absorb the impact of heavy machinery and artillery; as such this image is not just about military endeavours but also about the landscape. Also shortlisted

Fig. 1.12 An-My Lê, *Mechanised Assault* (2003)

for the fourth cycle of the Prix Pictet (on the theme of *Power*) was Rena Effendi, whose work examines the lives of some of the people affected by the Chernobyl nuclear accident (see Fig. 1.13), rendering the land an unsafe place for habitation. Nature and people were affected and continue to be affected by the long-term consequences of radiation in the area. In her work she focused on the objects in the surrounding area. Some were abandoned when the site was evacuated. Others belong to the people who have returned. 'I use the prism of nature morte to portray both the long-term effects of this nuclear catastrophe, and the power and persistence of the human spirit in the face of devastation' (Effendi 2012, cited in Prix Pictet, 2012:118). Not only does the work represent a space that has been harmed by radiation, it shows the character of humans who continue to live with the effects. In this case the hazard of radiation is invisible. The abandoned spaces and objects are needed to represent that something terrible took place.

Fig. 1.13 Rena Effendi, *Untitled* (2010)

In contrast, the harmful effects of pollution and waste are seen clearly in Pieter Hugo's 2010 documentary series *Permanent Error*. In Agbogbloshie, electronic waste is broken down by methods hazardous to human health and subsequently pollute nature. Pieter Hugo has documented the landscape where this is taking place and the people affected by this type of waste. An example of this can be seen in the image *David Akore, Agbogbloshie Market, Accra, Ghana*

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(2010) (see Fig. 1.14). The people are part of the landscape, which is covered by bits of electronic detritus. They burn the plastics to recover the metals for reuse in hazardous recycling situations. Their fires are seen polluting the air with the black, acrid smoke from the plastics and other melting elements (Hugo, 2011). The situation is created by illegal shipments of electronic waste and the lack of facilities to safely recycle it. Documentation of electronic waste in India has been undertaken by Sophie Gerrard. Her work examines the people and places where illegal dealing with electronic waste takes place (Gerrard, n.d.). The consequences of the waste, from common modern technology, constantly being replaced with new equipment and broken down by people

in hazardous conditions, are brought into context through the images. Many more photographers are approaching environmental issues through landscape photography. Each of these photographers has found points where the relationship between humans and nature is at its most vulnerable and has approached the documentation and reflection on them through landscape or documentary photography.

Fig. 1.14 Pieter Hugo, *David Akore, Agbogbloshie Market, Accra, Ghana* (2010)

As the example of the *New Topographics* exhibition demonstrated, there has been a change in landscape photography and a shift in how the landscape is viewed and the narrative being told. The photographers' work created a space in which the relationship between humans and nature can be examined. It is a step in photography that led the way for contemporary photographers to embrace scenes of negative environmental impacts in order to evoke awareness and make commentary about them. All of this work is shaping how humankind's relationship with the environment is visually defined. This work has already done as Pepper suggested and undermined many harmful assumptions about environmental issues. The images not only shake the foundations of the aesthetics and practices of earlier landscape photography but also our views of nature (Pepper, 1984:2). It is to be hoped that this growing bank of imagery may produce a future positive impact on human understanding and actions towards the natural environment.

<div align="right">**Chapter 2**</div>

Environmental Concern in Constructed Photography

The way environmental concerns were expressed in photography continued to change during the 1970s. Photographers began to experiment in new ways with the medium to examine and comment on the impact of humans on nature. This included photographic practices in which the techniques of constructed imagery were implemented and experimented with. As the shift in the approaches and aesthetics of landscape photography, and the new attention given through photography to environmental issues, as demonstrated by the *New Topographics*, were taking place, there was a change from the dominant approach of 'straight' photography as well. The development presented a shift from modernist photography[8], to the aesthetics of post-modernism[9], a context in which constructed photography began to be used more and more to comment on a variety of issues including environmental concerns. Whereas previously, landscape and documentary photography had been used to show the truth about what human activity was doing to nature or to show that nature was being disrupted by human activity, since the 1980s some photographers have been staging, fabricating, and manipulating images of environmental concerns. The photographers who have worked in this way have created images using techniques such as multiple exposures, photo-montage and combination printing in both analogue and digital photography. A few of these photographers who will be discussed in this chapter include Tim Head, Keith Arnatt, Boyd Webb, Richard Misrach, and Helen Sear. I also focus on a few key exhibitions that have included constructed imagery with environmental concerns to demonstrate how it is increasingly being used.

Constructed Photography

In an extensive cultural history of photography, Mary Warner Marien explained that staged images lack an overarching label. This type of work has been called 'fabricated-to-be-photographed', 'the constructed photograph', and even 'the directorial mode' (Marien, 2013:453). This is because there are many different techniques for fabricating

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[8] For the purposes of this essay modernism will be taken to mean 'A general term used to encompass trends in photography from roughly 1910-1950 when photographers began to produce works with a sharp focus and an emphasis on formal qualities, exploiting, rather than obscuring, the camera as an essentially mechanical and technological tool' (Artsy, n.d.). See *Photography: A Critical Introduction* by Liz Wells for more on modern and postmodern.

[9] Beginning around the 1970s the term post-modernism began to be used. It is said to not hinge on a particular style or theory. It is perhaps best defined by its main points. It is considered anti-authoritarian in nature. Postmodern art can include uses of earlier styles and conventions as well as a mix of contemporary media (Tate, n.d.).

photographs, which include collage, combining negatives, arranging objects to be photographed, and today's digital technology. For the purpose of this thesis the term 'constructed photography' will be used to discuss the work of the photographers who have used these methods to create their images. This is because staging images can be done in various ways. Marien explains that although it has not been practiced as an art movement, it opened up new ways of working with ideas and visual signs.

> What the fabricators had in common was not a philosophy, but a methodology, and perhaps a boredom with or anger over the limitations of Modernist idioms. Where Modernist photographers combed the visual field for delightful coincidence, poignant metaphors, or abstract patterns, none of which were (or should have been). contrived, the photographers working in the directorial mode conceived and fabricated subjects, disregarding photography's traditional assignment of finding meaning from the look of the world. (Marien, 2013:455)

It is important to note that Marien describes a wide range of photography that can be considered as constructed photography. She has described that the subjects are fabricated, which refers to the image seen in the photographic print; it has been fabricated and then photographed, or photographed and then fabricated. What the subject of the photograph represents, questions, or makes known could be about any subject the artist chooses. In the work I will discuss, it is important to understand that the compositions may be fabricated; however, the subjects and awareness of the reality of environmental issues the images refer to are real. The artists, having looked at the world, see what humans are doing to nature and are making meaning about it through constructed photography.

I have examined 'constructed' photography in order to understand the methods used, to discover when environmental concerns began to be commented on through this genre, and to know how it is currently being used to make commentary on environmental issues. The photographers working within this genre do not present environmental issues as they are found to appear in reality. Instead the images are staged scenes that draw attention to the issues. They do not document an issue per se but rather create a document about an issue. They explore the impact of humans on nature by engaging the vision and imagination of the viewer in very different ways than do the landscape photographers already discussed. Constructed photography has become another significant way to engage with contemporary concerns about the impact of humankind on nature.

The work of Robert and Shana ParkeHarrison, a husband and wife team from the United States, is one example of contemporary imagery that comments on humankind's responsibility to repair the harm humans have done to the landscape. Their images are constructed by staging scenes in which Robert performs as a person engaging directly with nature. In *Tree Stories* (1998) Robert appears seated at a desk in front of a typewriter, which is situated between two long rows of trees that have been cut down and stacked up (see Fig. 2.1). In it he wears a set of headphones, which are attached to several of the fallen trees.

Fig. 2.1 Shana and Robert ParkeHarrison, *Tree Stories* (1998)

The arrangement suggests that the person is typing something he is hearing from the trees. It appears that he is trying to record what the trees are telling him before they are gone completely. Within the image concern for excessive amounts of trees being cut down can be interpreted. It suggests that damage to nature has taken place and humans now need to correct it. However, there is also a possibility that it is too late. The image provides a sense of how humans are learning what their actions are doing to nature, but it is too late to stop the destruction pictured. This image as well as the rest of their work was created through the performance and merging of multiple photographs.[10]

It is this method of working that Meghan Lowe suggested is needed to engage viewers. Lowe had compared the constructed work of the ParkeHarrisons to the landscape work

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[10] The images in the series *The Architect's Brother* were created through collage of paper negatives and also painting on the finished image.

of Edward Burtynsky (see Chapter 1). She emphasised the aesthetic in their work as engaging both with environmental issues and with the viewer. It is her premise that the distanced aesthetic presented in images such as Edward Burtynsky's legitimatises the commodification of nature that is taking place. Regarding the constructed imagery of the Parke Harrisons, she explains, 'This is an aesthetic of commitment that aims to ethically engage viewers in the hope that such a relationship to art, environment and life will lead to care about the health, stability and beauty of the environment' (Lowe, 2009:118). The suggestion is that work that is performative will involve the viewer in determining a moral message. It gives the sense that this type of work will be more effective and more capable of bringing about better care of nature. In general, the ParkeHarrisons' photographic work utilises such techniques as photo-montage mixed with performance which have been used extensively in the genre of constructed photography. It is not my aim to discover if performative photography is capable of stopping environmental harm caused by humans. My aim is to understand more about the genre of constructed photography and to experiment within it to make work about the current relationship of humans with nature.

As the work of the ParkeHarrisons demonstrates, the approach to making images which are constructed is very different from 'straight' landscape photography, which was discussed in Chapter 1. Landscape and documentary photographers direct the viewer's gaze by using the camera to compose images. They position the camera to frame the subject, selecting what is to be seen. Then through exposure and printing they complete the process of creating the aesthetics and feelings they seek to express with the image. In comparison, the constructed photography image is composed by staging and positioning elements that will be photographed. Whether using analogue or digital technology, this approach starts in the same way, even though further manipulation may occur through methods already described. The subject is created through the physical arrangement of objects. This could be physically before taking the picture, as photographic prints, or even digitally on a computer. Although analogue and digital technologies present different ways of working, the staging, fabrication and manipulation of an image are what constitute constructed photography. The resulting image will be imbued with meaning through the direct control of the elements of which it is composed, as well as through the photographic process. In 1989 Michael Kohler edited a book which contextualised constructed photography that had been made since the early 1980s. In it he discusses why the photographers were making work in this way:

Practitioners of staged and constructed photography invent their motifs, freely combining the real and the invented, photography and painting, photography and stage design, weaving historical and mythological references into their works, and do not hesitate for a moment to manipulate reality. They do not behave destructively, however, but investigatively and analytically. The question is not what reality is, but what modes of representing it are available. (Kohler, 1989[1995]:8)

The genre of constructed photography has existed since the 19th century. At the time, photography often imitated painting, representing reality through allegory in staged images (Vowinckel, 1989 [1995]:7). One of the most recognised examples of this is the image *Two Ways of Life*, made by Oscar G. Rejlander in 1857. It is an image of an elderly man presenting two young men with two important choices; to live a life of moral cleanliness or sin. This is a complex image that engages with ethical decisions that are thought to have spiritual consequences. It is not one image though. 'Rejlander photographed each model and background section separately, yielding more than thirty negatives, which he meticulously combined into a single large print' (Metropolitan Museum, n.d.). Previous to Rejlander's image, the British photographer John Edwin Mayall staged photographs of the Lord's Prayer in 1843 and in the 1840s David Octavius Hill and Robert Adamson staged scenes described in Sir Walter Scott's writings (Hoy, 1987:9). These are some of the earliest examples of constructed and arranged photographs. The genre has been used extensively since this time. Kohler also credits advertising photography, beginning in the 1920s, and Surrealist and Constructivist photography as precursors to contemporary staged photography (Kohler, 1989 [1995]:8). All the examples of early staged photography listed thus far were scenes staged using people. It was the capture or staging of a performance. In 1987 Anne M. Hoy, curator at the International Center of Photography, produced a book on constructed photography titled *Fabrications: Staged, Altered, and Appropriated Photographs*. Both Hoy and Kohler acknowledge that tableau was the first type of constructed photography practiced. The participants were costumed; the silence of their performance carried on in the photograph.

Whether painted or live, sacred or secular, the tableau communicated religious, moral, political, and social values through a universally understood cast of characters and language of pose and gesture. (Hoy, 1987:9)

Concerns within each of the areas listed by Hoy are still being staged in contemporary photography. Neither Hoy or Kohler has given any evidence of environmental concerns being the focus of early constructed imagery. As I will discuss later, this did not feature

in constructed photography until the 1980s. Although understanding and concern about human impact on nature began to take shape in parallel with the development of photography, it was first taken up as a subject of landscape photography[11]. In the early twentieth century the Surrealists began to also construct images in photography:

> The Surrealists adopted the tableau for vanguard painting and photography, using poetic juxtaposition of unlikely objects and irrationalities of place and scale to create haunting scenes of mystery and threat, ambiguity and allure. (Hoy, 1987:9)

The ways in which surrealists combined images and objects were a precursor to postmodern changes in photography that began to take shape in the 1960s. Techniques used by surrealists included double exposure, combination printing, montage, and solarisation (Bate, 2004:9). The subjects included dreams, intoxication, chance, and madness.

According to David Bate, surrealists created images that raised consciousness: 'Here surrealism was close to a conventional notion of 'consciousness raising,' as in Marxist practice, the attempt to make people materially aware of their unconscious values, beliefs and ideology' (Bate, 2004:8). However, the subjects within surrealist imagery did not include human impact on nature. This is interesting, because surrealism combined reality and fantasy as a political project (Bate, 2004:7). Today, environmental efforts are a major point in politics. Contemporary photographers have used constructed images to raise consciousness toward a variety of environmental concerns. The same techniques used by Rejlander, Hill, Adamson and surrealist photographers are still used. In addition, computers can now be used to create the same effects.

Although constructed photographs have been created since the nineteenth century, contemporary constructed photography is a product of a shift from the modern to postmodern aesthetic. Modernism in photography emphasised sharp focus and the depiction of reality in the image. According to Kohler three other terms are also used, 'Straight Photography' in the U.S. and 'New Vision' or 'New Objectivity' in Germany' (Kohler, 1989[1995]:17). He goes on to explain how they are essentially similar. 'However, all of these designations signify essentially the same thing; namely a photographic art that finds its standards of value in the inherent strengths of the

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[11] See Chapter 1

camera' (Kohler, 1989 [1995]:17). This is important to note when considering the approaches used to make commentary on environmental concerns before 'postmodernism'. The images were not staged but composed from what was seen in nature first hand. Images that appeared to directly record/represent reality were the ones that carried the social or political message. In modernist theory of photography, it was thought that the photographer should 'find, and not invent, his subjects' (Kohler, 1989 [1995]:18). It is possible then, that the theories of modernism in photography are a reason why environmental concern was not a subject of staged photography before the 1980s. If this is correct, then excessive use of natural resources, pollution and waste would need to have been the subject of landscape and documentary photography rather than the more overtly fictional, constructed photography. In order for contemporary photographers concerned with environmental issues to be able to begin using constructed photography to approach these subjects, a shift from the idea of using photography to depict reality 'objectively' needed to take place. Hoy describes the work of postmodern photographers working in constructed photography as work that questioned the aesthetics of 'modernism' in photography. She explains,

> Fabricating photographers question the strictly formalist and mechanistic definition of modernism in photography, and like critics of any orthodoxy they find answers that simplify and refine, hybridize, or criticize the dominant mode. (Hoy, 1987:7)

Hoy and Kohler traced a history of this questioning of straight photography and the development of images that were constructed. A more in-depth history is given by photographer and independent scholar Gretchen Garner[12]. In her book *Disappearing Witness: Change in Twentieth-Century American Photography*, she describes why postmodernism developed in the 1960s:

> The 1960s were also years of radical change, and years in which past aesthetic solutions—the ideas of modernism—began to seem irrelevant. Although no one used the term at the time, we could say that postmodernism began in the sixties. It was a time when classical modernist photography of witness suddenly didn't say enough and the most advanced practice in photography was turning inward—to the landscape of the mind, to dream, to memory, to fantasy. (Garner, 2003:106)

Although many photographers were constructing images in the 1960s, Garner and others often use work by Jerry Uelsmann, Duane Michals and Lucas Samaras as

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[12] Gretchen Garner has taught history of photography at both Michigan's Grand Valley State University and at the University of Connecticut. She served as editor of *Exposure* and *New Art Examiner*.

examples of the changes taking place. However, the work of Cindy Sherman and Laurie Simmons in the 1970s could also be included as examples of how photographers began to say more through constructed images. Since then, because of these photographer's unique images, contemporary photographers have continued to add to the purpose for and methods of constructing photographs today (Garner, 2003:106). Garner suggested that two great moral crises contributed to artists' finding new ways to deal with social crises of the time, notably the civil-rights struggle and the Vietnam conflict. She does not mention concern for environmental issues, even though Robert Adams and Lewis Baltz began expressing these concerns in photographic work. In addition, further development and use of nuclear technologies and pesticides grew during this time. Although she alludes to Rachel Carson's *Silent Spring* (1962) as a responsible critical voice warning about harm from continued use of pesticides, there is no discussion of critical warning about environmental issues in photography.

Assistant Curator in the Department of photographs at The Metropolitan Museum of Art, New York, Mia Fineman wrote about manipulated photographs before the use of digital technology. In her discussion of artists of the 1960s and 1970s she notes the appearance of truth in Uelsmann's and Michals' photographs. 'For these artists and others, the truth of photography lay not in its objective rendering of external appearances but in its capacity to produce compelling visualizations of the subjective realm of dreams, visions, fantasies, and hallucinations' (Fineman, 2012:40). They did not photograph actual scenes as they happened. It was the technique of combining photographs which then appeared real, thus creating compelling visualisations.

However, environmental issues are not dreams or fantasies; they are real events. It could be argued, then, that these and other serious issues would be better expressed through documentary photography. Yet it was understood early in the history of photography that a fabricated image was capable of addressing reality. This can be seen by returning for a moment to one of the earliest photographers to construct images, Henry Peach Robinson. He suggested that truth and fact were two separate ideas. Fineman recounts Robinson thus:

> I am far from saying that a photograph must be an actual, literal, and absolute fact...but it must represent truth. Truth and fact are not only two words, but, in art at least, they represent two things. A fact is anything done or that exists—a reality. Truth is conformity to fact or reality—absence of falsehood. So that truth in art may exist without an absolute observance of facts. (Robinson in Fineman, 2012:25)

Fineman suggested that Robinson was comfortable with constructing images that do not appear in reality, but he did not approve of using photography to represent fantasy. In this case, environmental issues could be the subject of a fabricated image as long as it referenced something that is true. But he gives no list of what could be true. This leaves open the possibilities of what could be constructed in the image. In turn, the methods and objects that could be used is also undefined. In this case, then, it is possible that images about environmental issues could be constructed and still be valid, because they are the product of current cultural concerns and realities.

The idea that a fabricated image is capable of conveying truth was also discussed by Helen Petrovsky of the Russian Academy of Sciences. In a 2013 paper titled *Document: Fact and Fiction* she examined ways of conveying historical truth through photography, with a particular reference to the work of Boris Mikhailov. She suggested that 'fiction' is not in opposition of 'truth,' they are allies (Petrovsky, 2013:181).

The subject matter of dreams, fantasies and visions changed with postmodern photographers. The images shifted from depicting the inward mind to commentary about humankind. Images about culture began to develop: 'Convinced that individual invention is irrelevant in art, postmodern photographers present the stereotypes of mass culture for critique' (Hoy, 1987:7). The use of constructed photography to comment on mass culture may be why environmental issues also became a subject of this genre and not just of landscape photography.

It has been suggested that constructed photography in the 1980s was different from the images of the 1960s and 1970s that led up to it. I have looked at three factors which are different. These include openly staging images, introduction of environmental issues as a subject, and technology. The first is a fundamental difference in the appearance of reality. Hoy, Kohler, and Garner, who each looked at the history of constructed photography, and pointed out that constructed imagery, beginning in the 1980s, was not created with an intention of appearing to be real. Hoy tells the reader that the images which Van Deren Coke had curated for *Fabricated to be Photographed* were openly staged. 'The kind of photographs that they singled out and the kind that will be surveyed here are openly staged for the camera and/or manipulated in the darkroom' (Hoy, 1987:7). This is a significant step to note, because there are contemporary photographers who construct images about environmental issues that do not attempt to appear real. Their message does not rely on the recording of a factual scene. In the

preface to *Constructed Realities*, Andreas Vowinckel remarked, 'The photographers represented here show their staging art openly, achieving effects as a result that were hardly accessible to 'classical' photography, as its creators were unwilling to abandon the causal link to reality' (Vowinckel, 1995:8). These authors have pointed out that photographers began to openly stage images, however, this was not a permanent change. Nor did it encompass all practitioners and their work. There are artists today who question reality by staging images to appear as truth. In an extensive history of photography by Francoise Heilbrun, we read that 'an ambiguity between staged scenes and authentic reality traversed all of nineteenth-century photography, steeped as it was in the figurative arts, literature, and theatre... Indeed, this ambiguity still exists in today's 'art' photography' (Heilbrun, 2009:13). Though many of the artists who have been constructing images since the 1980s do not hide the fact that they are staged, many strive to create images that do appear to be real. Erwin Olaf, Juan Fontcuberta, and Gregory Crewdson still construct scenes which, although fabricated, appear to be real and question truth and reality in photography.

Although constructed photography is an approach that has been used by photographers in general since the beginning of photographic history, the methods available through it were not used to comment on environmental issues until close to the 1980s. As discussed in Chapter 1, environmental issues appeared to be the subject of landscape photography. Since the 1980s, though, the use of constructed photography that engages viewers in environmental issues has continued to grow. As of yet I have found no suggestion of constructed photography being used to comment on environmental issues before the 1980s in either texts about landscape photography or constructed photography[13]. What I did find in looking at constructed photography and exhibitions was the work of John Pfahl, in which he altered the landscape specifically to be photographed. Though many other artists altered the landscape, they were land art or earthworks artists who worked with sculpture in the landscape. Photography was not their prime objective but rather a tool of dissemination; its ability to last longer than the land art is critical to its being an historical document (The Metropolitan Museum of Modern Art, 2013). From my search Pfahl appears to be the one photographer

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[13] Texts searched include *Mysterious Coincidences, A History of Photography: The Musee d'Orsay Collection 1839-1925, Constructed Realities: The Art of Staged Photography, Photography: A Cultural History, Fabrications: Staged, Altered, and Appropriated Photographs, Disappearing Witness: Change in Twentieth-Century American Photography, Beyond Photography: Imagination and Photography, Faking It: Manipulated Photography Before Photoshop, Collection photographs: a history of photography through the collections of the Centre Pompidou, Musée National d'Art Moderne, Stilled: Contemporary Still Life Photography by Women, Still Life* and more.

specifically making work related to environmental concern through constructed photography before the 1980s. This is interesting, because both environmental concern and constructed photography have existed since the time photography was first developed.

Environmental concerns within staged and fabricated photographic images were beginning to reflect how artists and society were feeling about consumerism, industry, and the effects of pollution and waste. A brief summary of key exhibitions since 1979 will help to show the growth of environmental commentary in constructed photography. These include *Fabricated to be Photographed* (1979), *Mysterious Coincidences* (1987), *Constructed Realities – The Art of Staged Photography* (1989), *Decomposition: Constructed Photography in Britain* (1991), *Imaging a Shattering Earth: Contemporary Photography and the Environmental Debate* (2005), *Ecotopia* (2006); *Altered Landscapes* (2011).

In 1979, Van Deren Coke, curator of the San Francisco Museum's department of photography, curated the exhibition *Fabricated to be Photographed*. According to Kohler this was the first exhibition that presented constructed photography as a new possibility for creating art (Kohler, 1989 [1995]:35). Little information about this exhibition is available. Hoy informed readers that the exhibition included the work of ten young American photographers (Hoy, 1987:6). Exhibiting their work helped open this genre to contemporary photographers who addressed concerns through this method of photography. It did this by showing that it was a relevant way to work with contemporary concerns and situations.

In 1987, curators Susan Beardmore of the Ffotogallery, and Alexander Noble of the Photographer's Gallery, presented the exhibition *Mysterious Coincidences*. It was not a historical representation of photography (Beardmore, 1987:3). At the time it demonstrated the type of work being done by British photographers. In the exhibition's accompanying publication is a conversation between Stuart Morgan and the exhibition's curators. In it Morgan observes,

> The interiorized, laboratory atmosphere of much recent British colour photography can be explained by its staged techniques, 'staged' like private theatricals for an audience of one, who records the performances in order to let others in on the secret, but 'records' it duplicitously, to produce some quite different effect. (Morgan, 1987:69)

The exhibition included work by Keith Arnatt, Paul Graham, Tim Head, Boyd Webb and others. Their photographs questioned what was happening in society. The work did not romanticise life and its concerns but focused on them through the composition of people and objects. Beardmore explained,

> Through an interrelationship of common social and cultural concerns this exhibition embraces the photographic, the painterly and the sculptural... Not that the artists here, necessarily consider themselves political in a party sense, but the overwhelming plot of *Mysterious Coincidences* points to a serious questioning of the fabric of British society both in public and private domains. (Noble, 1987:3)

The exhibition brought together new works that also questioned traditional approaches in photography. The landscape imagery in the exhibition by Keith Arnatt and Paul Graham followed the shift in landscape aesthetic associated with *New Topographics* in 1975. The photographs showed human development in nature through distanced, objective views of the continuing changes in the landscape (Butler, 1987:8). Some images also incorporated the staging of scenes and the arrangement of everyday objects. Still-life photographs constructed by Tim Head, Boyd Webb, and Ron O'Donnell commented on capitalism, consumerism, and concerns for human impact on nature.

> As a group the works considered here clearly engage a cultural reading, in two possible senses... Most of them address (if sometimes obliquely) various issues or dilemmas in consumer society and media culture of the eighties. Moreover they deal with these issues in ways which involve an awareness that observation, representation and reading necessarily take place within and through a series of discourses operating in culture generally and in traditions of art representation quite specifically. (Butler, 1987:15)

Artists like Tim Head and Boyd Webb reconstructed the landscape from plastics and other items that are known to harm nature. The images hold meaning about what was happening to nature, what it could become, and the ongoing human action that affects it. Whereas landscape documentary practices show nature being obscured by the accumulation of waste and human actions, constructed images often replace nature entirely with human-made objects which then represent forms and shapes in nature. They recreate landscapes, nature, and natural processes.

In 1989, Michael Köhler curated *Das konstruierte Bild—Fotografiearrangiert und inszeniert (Constructed Realities—The Art of Staged Photography)* in Kunstverein,

München. This exhibition focused on the arranged, constructed and staged photographic art of 30 artists in the 1980s. The purpose for the exhibition was to 'discover the artists and works most likely to remain relevant as typical examples of this variety of photo art in the future' (Kohler, 1989 [1995]:35). Of these artists, Patrick Nagatani, Boyd Webb, and Tim Head were the only artists whose work made direct commentary about environmental concerns. In connection with the exhibition, Kohler edited the text of the same name. In it he analyzed contemporary methods and strategies of constructed photography. The analysis and categorising covered a broad spectrum of techniques and concerns which the images addressed. The resulting text serves to address constructed photography as a whole but never focuses on the use of constructed photography for environmental concern except in communicating what these artists' work was about. Perhaps it was too early in the history of post-modern-fabricated images to discuss this use at length.

Environmental Issues in Constructed Photography

A wide range of techniques has continued to be used to stage and fabricate photographs. In addition, the work falls into many genres of photography. The initial examinations of constructed photography of the 1980s by both Hoy and Kohler clearly and concisely established the genre at that time and helped to create a foundation for understanding it as its use grew. Their categorisation of the work near the end of the 1980s made it possible to understand the genres of which constructed photography about environmental concerns were a part. Both clearly placed the current work within established genres of photography. Hoy organised her examination of constructed photography into five chapters, established through separate categories: tableau, portraiture, still life, methods of appropriation, and print manipulation and photo-collage (Hoy, 1987:7). The aim was to examine fabricated images that could not exist in a form other than photography. The exploration emphasised photographers who had been exploring this method of photography for at least five years and were continuing to work in this genre at that time. It was a good beginning in literature that would develop around the area of constructed photography. Included in her book was the work of the British photographer Boyd Webb, whose early work, 'reveals the relationship of man and nature through allegorical references of humankind, and man's disregard and manipulation of nature' (Artnet, n.d.).

In comparison with Hoy's categorisation, just two years later when *Constructed Realities* was curated, Kohler put together a similar grouping of five sections. His examination included the following designations: self-presentation, narrative tableaux, miniature stages, still life, and photo-sculptures and installations. The exhibition also looked at photographic practices being made in the 1980s. Kohler's publication again included Boyd Webb and Tim Head, but he also included images from Patrick Nagatani. These two publications by Hoy and Kohler, along with the first exhibitions of constructed photography in the 1980s (*Fabricated to be Photographed, Mysterious Coincidences, and Constructed Realities*), show the slow start of the use of environmental images in constructed photography.

Photographers Boyd Webb and Tim Head, who were significant in this growing area of photography, were included in specific sections by Hoy and Kohler. Hoy included Webb in narrative tableaux because of his use of directing actors within his imagery. Kohler places Webb in narrative tableaux and includes his images composed of plastic models of animals in staged landscapes. This work exemplifies his early photographs about humankind's disregard for and manipulation of nature (see Fig. 2.2). The work appeared to show the illusion of the plastic animals as alive and moving, although the objects themselves remain still in the photograph. Tim Head's work was included in the still-life section. This may owe to the nature of the objects used: plastic wrap, snack foods, plastic objects and household chemicals. They were not items that could appear as alive as Webb's did (see Fig. 2.3). They were used to construct landscapes that appeared toxic. Neither Hoy nor Kohler included any other imagery that was created explicitly to comment on the impact of humans on nature. Because my exploration has looked at photographers who have used constructed photography to comment on the relationship between humans and nature, my focus therefore will begin with images in Tableau and Still Life, including the work of Tim Head and Boyd Webb.

Fig. 2.2 Boyd Webb, *Caucus* (1989)

Fig. 2.3 Tim Head, *Biological Landscape* (1985)

Tableau photography is a large genre within constructed photography. It has been used since the beginning of photography, and is now a technique that can be used to comment on environmental issues. Kohler establishes that traditionally tableau was directed by the artist and consisted of human actors that 'play out scenes from everyday life, history, myth and fantasy' (Kohler, 1989 [1995]:34). The work of Boyd Webb,

which was included by Kohler in Constructed Realities, does not fit this traditional description of the genre. As described already, Webb's images consisted of plastic animals. The work appears to show a time or action taking place in a landscape. These interesting compositions allude to movements that did not actually take place though. The scenes challenge both traditional tableau and also our view of nature.

In discussing tableau, Joanna Lowry focused on photography's relationship to time. She points out that photography is both a technology that makes the stopping of time possible in the capturing of an image, as well as it being a medium for the production of photographs that may function to 'represent' time. At least it is capable of creating a visual language that represents meaning in temporality (Lowry, 2010:47). In this sense Webb's work technically stops time, but because the subjects are stationary to begin with, this is less relevant than the function of representing a time. In this case, the representation of nature as a construct from plastics was increasingly being used. They appear as a specific moment whose significance is the changing of nature by humans. In other words, 'the distilling into a single image the idea of an ecosystem under threat' (Graham-Dixon, 1994). The moment has not passed, however. This is a time of great environmental issues still happening, making Webb's work as relevant today as it was then. It is the represented moment that is so important, according to Lowry.

> The Tableau as a pictorial form is always traditionally organized around a key moment-the peripateia, or what Gotthold Lessing (1766) called 'the pregnant moment'. The task of the artist is to represent, through the arrangement of figures within the frame, a visual compression of both the temporal and the spatial, so that its significance can be grasped in a moment... The structure of the tableau directs our gaze towards this unassimilable event, this gesture of pointing to the real, by showing what cannot otherwise be seen. (Lowry, 2010:58)

In the case of documented environmental issues, it may be that the tableau images show what can or could be seen, in a manner that makes it unmissable. Whether humans admit to what is happening and do something different, or not, the impacts being caused will have a consequence. In most cases the forecasted consequences are dire. The consequences cannot be seen until too late. However, attention can be directed at the causes and potential outcomes beforehand through constructed photography. Many artists hope that people will recognise their actions and make changes that will help nature.

Perhaps we can see these complex articulations of composite photographic time, these ambiguously fissured tableaux, as also having a certain eloquence in relationship to our own moment in history, their poised ambivalence in relationship to the event seeming to indicate a powerful sense of our contemporary anxieties about the relationship between technology, reality and time. (Lowry, 2010:57)

Though Lowry spoke about technology and time, her commentary can be applied to anxieties about the impact humans have on nature. Because tableau is one technique that can be used to construct an image, it fits that information about it is relevant in discussing constructed photography as a whole. We can use this in discussing other techniques of constructing photographs about environmental issues. Before doing so I would like to return for a moment to Robert and Shana ParkeHarrison already discussed in this chapter. Like Webb the ParkeHarrisons have used tableau as a technique in constructing mythical dream worlds in which Robert interacts with nature, trying to heal it. Their work points the viewer's gaze to the current crisis faced by humankind. However, it also suggests the need to heal nature. It is able to do as Lowry suggests and shows what cannot be seen, a chance to heal the impact humankind is having on nature before nature is completely destroyed.

The other category in which Hoy and Kohler had placed constructed imagery about environmental issues was still life. Still life incorporates all types of human-made and natural objects in the composition of images. The tradition of still life had its beginning in painting, long before photographic practice began. In comparison to other genres of painting, it was not held in high regard. Although I will not focus on a specific history of still life, it is important to note that the importance of the messages communicated in still life have carried on into contemporary environmental photography. 'Still life was considered the lowest of the painting genres based upon classical models, enshrined within the hierarchical canon of European academies of art which developed in the seventeenth and eighteenth centuries' (Martin, 2006:53). Roger Malbert explained further that:

> This form of art was held in low esteem by the academies of England and France in the seventeenth and eighteenth centuries. Low genre scenes in the Dutch manner were afforded little respect by Sir Joshua Reynolds, generally a reliable exponent of officially-received opinion. In the Third Discourse, he rudely dismisses the artist who excels merely at rendering every detail of objects, plants or creatures, as on a level with the florist or collector of shells. (Malbert, 1989:5)

It is an interesting opinion, because still life was already beginning to be used to address concerns within culture. Through it important and forbidden subjects could be represented and commented on. Still life first began to be used in a meaningful way due to painters:

> In the seventeenth century in the Netherlands, when images of religious subjects were forbidden by the Dutch Reformed Protestant Church, the northern tradition of detailed realism and hidden symbols led to a flourishing of still life. (Martin, 2006:53)

Still life flourished then, but still life had existed as a genre long before this, particularly in the tradition of the Vanitas. This act of oppression by the Church would appear to have been one influence that led artists to embrace and develop possibilities within the still-life genre. The message of the artist could still be communicated without an image of reality but through an object instead. 'The objects chosen were also the carriers of symbolic meanings. When commissioned by patrons, the objects portrayed had an associative meaning relating to their identities and social positions from which an emblematic coding was constructed' (Martin, 2006: 3).

In developed western countries today, there is less oppression and a greater acceptance of criticism in art and photography. The need to represent an important issue through an object is not necessary. However, objects are being used to represent issues and objects that are an issue, are being used in still-life compositions. As we view still life and its place within the history of photography, the objects often used in this genre are everyday objects. Not normally looked at as extraordinary or special, they are simply looked at in terms of their function. 'One's next meal, for example, is not intrinsically a subject of high philosophical nobility. The poets even to this day have done relatively little with it, which is some measure of the historic achievement of the painters' (Szarkowski, 2001:9).

One photographer who elevated the status of objects in his still-life imagery was Irving Penn. Known as a fashion photographer, he also captured images of objects for the pages of Vogue. He helped to raise the profile of still-life photography through his images (see Fig. 2.4). He was not the only one at the time who saw the potential in such imagery. He tells us that, 'Alexander Lieberman...saw the possibilities of still life photographs as an enrichment of the content of the magazine' (Penn, 2001).

Fig. 2.4 Irving Penn, *Salad Ingredients* (1947)

According to John Szarkowski, the objects in Irving Penn's still life images changed throughout his career. To describe the still life imagery that Penn made for Vogue, Szarkowski wrote that the objects were 'good things to eat and drink, or the accoutrements of the sweet life: paper-thin kid gloves, expensive gold lighters, shoes handsome enough to dance by themselves' (Szarkowski, 2001:8). Though there may be examples of good things of life, this genre is still used to photograph everyday objects that may not be included in high-profile magazines. The genre has come to include a great number of different types of objects and ways of depicting them and issues. The subjects approached through still life are done so time after time by focusing on such everyday objects as food and household items.

> Most dictionaries define still life as a picture consisting predominantly of inanimate objects such as fruit, flowers, dead game, and vessels, but because still life incorporates a wide variety of influences from different cultures and periods in history, it has always resisted precise definition. (Martineau, 2010:6)

This comment by Martineau points to why such a wide range of photographic imagery can be classified as still life. A wide range of subjects are represented in the book *Stilled: Contemporary Still Life Photography by Women* (2005), including, sexuality, humour, memory, the grotesque, domesticity, consumption and the banal. Such a wide range of subjects helps to show the wide range of which still life is capable. An examination of still-life imagery since the early 1980s reveals that overall, contemporary photographers are 'Less interested in the objects themselves than in the lives they described, these photographers used the material world to explore a gamut of questions about postmodern society' (Williams, 2006:6). The objects used in the images included in *Stilled* fit this description. Even though they may be everyday objects, they still comment on a range of subjects that are not easily explained or explored. Their images have done as Martin described seventeenth century still life did, their work 'transcends the literal; objects and nature are rendered as emblematic' (Martin, 2006:54).

These still-life photographers have created meaning differently than the way in which documentary photographers have. Whereas a documentary photographer will capture images of reality without physically arranging what will be photographed, the still-life photographer arranges and manipulates the objects to document and/or comment on an issue. In constructed still life, truth and realism may be expected in terms of the issue being conveyed, but not necessarily in terms of the subject matter.

Photographers like Tim Head and Joan Fontcuberta, who frequently work in studio settings, have more control over their subjects and the ability to make very precise points they have worked out before and during the image-making process. Even with the ability to control their subjects precisely, there are difficulties in still-life imagery. The objects do not move. They do not respond to the photographer. Being submissive, they require another, the photographer, to arrange the object into position in front of the camera. 'It is in fact their submissiveness that makes them difficult' (Szarkowski, 2001:4). I discuss in Chapter 4 the difficulty, in my own practice, of arranging electronic waste to represent the relationship between humans and nature. In Chapter 3 I examine the work of Chris Jordan, Mandy Barker, and the artistic duo Goldiechiari. Each has expressed the difficulty of working with inanimate objects to express environmental concerns.

In 1982, Joan Fontcuberta began creating the appearance of plants in imagery which resembled the scientific photography of Karl Blossfeldt (see Fig. 2.5). Blossfeldt had used photography to portray the minute details of plants that had previously been overlooked due to their size (Adam, 1999:31). In this instance the photographs made the study of plant forms more accessible by highlighting the importance of each part of the plants. In the images that make up the body of work collectively, titled *Herbarium* (1982–1985), Fontcuberta constructed individual plants using plastic debris; he then photographed these in a manner similar to Karl Blossfeldt's close-up photographs of plants. The resulting images are very lifelike in appearance; but on closer inspection the details begin to give away what

Fig. 2.5 Joan Fontcuberta, *Guillumeta Polymorpha* (1984)

the photographer has done to create the image. In his work, nature is replaced with human-made materials. Fontcuberta's images could be mistaken as living species because of the intricate arrangement of the constructed objects to mimic the appearance of real plants. They also mimic the well-known images Blossfeldt had created.

> These bizarre plants, made from industrial waste and shot in a highly formalist style against a white background, are a tribute to the German artist Karl Blossfeldt who, in the 1920s, made a series of prints depicting natural forms. Full of humour, the image encourages further reflection on the act of perception. (Caujolle, 2001:48)

The detail that reveals the true nature of the objects is needed in order for the work to encourage the viewer to reflect on the act of perception. If that detail was not seen, then it would just be an image of flowers. In the case of this series of work it appears as a scientific study, which suggests that these are real plants. But this perception breaks down as a viewer takes a closer look and sees that the plants are made up of plastics. Fontcuberta acknowledged his purpose in constructing these natural forms from waste:

> These minuscule sculptures only exist in order to be photographed as 'exotic plants'. I have, therefore symbolically appointed myself to the role of genetic designer, recreating species appropriate to a landscape defined by an artificial kind of nature. Blossfeldt celebrated nature and fifty years later *Herbarium* can only confirm our ironic disappointment with that same nature. (Fontcuberta, 2001:24)

Fontcuberta's still-life images of exotic plants work in a surreal fashion. The images are not strictly about the objects constructed and photographed, but instead, what can be suggested by the illusion they create (Fontcuberta, 2001:24). In the context of contemporary discussions about environmental issues, the images could be seen to suggest the replacing of nature with human-made creations of waste. In a conversation among the curators and artists included in the publication *Ecotopia*, we can see why he makes the work he does: 'For a long time I have been interested in the paradox of two parallel but contrary processes: the degradation of the natural environment and the artificial reconstruction of nature' (Fontcuberta, quoted in *Ecotopia*, 2006:21). In many of his works he has reconstructed nature or created landscapes that do not exist. The images he made in *Herbarium* reveal his interest in the impact of humans on nature, even though his interests are wider.

If still-life imagery could enrich the content of a magazine, and comment on real issues, then constructed still-life images could enrich understanding of environmental issues.

Tim Head, whose work was included in *Mysterious Coincidences*, *Constructed Realities* and categorised in still life by Hoy and Kohler, was one of the first to demonstrate this use of still life.

As an artist, Tim Head has worked with many different mediums. In the mid-1980s he used photography to make images that comment on the impacts of human action on nature. The staging in Head's photography was created by arranging objects to create a landscape and ultimately an image that represents environmental concern. Though the images appear to be real landscapes, unlike Fontcuberta's, the detail is not such that the viewer is unable to see that the scene is staged by use of other materials. For his piece *State of the Art* (1984), he used various plastic consumer objects to build an elaborate still life. In *Biological Landscape* (1985) he used biological powder to create a representation of a landscape that does not actually exist (see Fig. 2.3). In *Alien Landscape* (1985) he did the same using snack food and plastic wrap.

The use of biological powder and plastics to create entire landscapes void of any objects naturally found in nature, comments on what is happening to nature and what could ultimately change it completely. 'His photo works from 1987, for example, *Toxic Lagoon* and *Petrochemicaland*, present still life being used to photograph the poisonous chemical waste as dangerously seductive landscapes' (Berg, 2000). Susan Beardmore told readers in 1987 that 'these days what he [Tim Head] wants to show is the banal—simple, ordinary things wrenched out of context and assembled like a traditional still-life' (Beardmore, 1987:69). Although Head arranged the objects out of context, they challenge the arrangements of traditional still-life images. It is almost a continuation of landscape tradition in that the images are reconstructions of what could be landscapes. They represent landscapes quite realistically, but with enough detail that a viewer can understand their actual contents. It is the specific materials he has used that enrich the work with meaning. The items he used are mass produced and consumed constantly. The landscape is consumption. The images are a parody of over-production (Noble, 1987:4). '*Alien Landscape*… made up of Monster Munchies, a children's' snack ... they contain all kinds of chemicals. But Head's recontextualisation has released the full potential of the shapes; they express that contemporary, universal meaning that was implicit all along' (Beardmore, 1987:69). The image titled *The State of the Art* was not included in *Mysterious Coincidences*. It was one of Head's first large cibachrome photographs of artificial landscapes and cityscapes that he constructed from manufactured objects. 'The image is a grotesque parody of the modern city, the

essential forms of which we see multiplied, without regard for scale, in gigantic skyscrapers and small, hand-held gadgets' (Malbert, 1989:26).

Tim Head and Joan Fontcuberta's images engage with environmental issues by shaping and arranging materials of environmental concern. Of the materials that could be used to construct representations of flowers, Fontcuberta chose to use industrial waste, whose meanings extend beyond representations of nature to include the impact of the waste on the environment as well as the state of the world at a particular time. In his constructed landscapes, Head chose to use many different types of materials to represent consumption. Many of those materials, consumed on a large scale, are known to have an impact on nature. Their use to create landscapes represents more than consumption but also the impact of the chemicals on the environment.

Today the genre of still life provides a space for contemporary artists to construct and stage scenes that provide an additional technique for making meaning in imagery. For photographers who want to comment on environmental issues, still life makes it possible to render the details of the objects of an issue, such as waste, and to explore how to represent their impact. I have looked at a few of these to show that the practice of constructing images about environmental concerns has grown and become a powerful way of commenting on such issues.

Two years after *Constructed Realities*, Andrea Rose of the British Council curated the exhibition *Decomposition: Constructed Photography in Britain* (1991), to celebrate the achievements of a new generation of British fine artists who began to use photography as a medium of expression during the late 1980s (British Council, n.d.). Included again in the exhibition were works by Boyd Webb and Tim Head, and also the artist Keith Arnatt, along with a newer generation of artists, including Helen Sear, Ron O'Donnell, Helen Chadwick and others. The exhibition focused on themes of environmental destruction through work that challenged the history of pictorial expression (British Council, n.d.). It was the first exhibition of constructed photography that focused solely on the theme of environmental concern. This exhibition should be considered a major point for recognising the strengths and growing use of the constructed photography genre. According to David Chandler, it also showed that women were pushing constructed image making further. 'Pre-eminent among the artists exploring and establishing these new practices in photographic contexts were women' (Chandler, 2012:133). Three of the four artists whose work stood out for a closer examination for

this thesis are women (see Chapter 3). The works of Helen Sear, which were included in the exhibition, were composed of numerous arranged objects that were then obscured by the projection of an image of nature and photographed together. The space forces human-made objects and images of nature to appear together. Her work is more abstract than that of Webb and Head's. It pushed much further the idea of photography's ability to question and comment. Since *Decomposition*, Sear has developed numerous different series. David Campany wrote about her growing practice, 'Each new series presents a new set of challenges that offer up her fascination with craft and our habits of looking' (Campany, 2005:66). Her extensive practice is an example that numerous methods can be used to construct photographs.

There have been many exhibitions since this one which have focused on the impact of humans on nature. Included here are three that have also included constructed photography. In addition, two major photography awards highlight photography that documents environmental issues; these have also included a small amount of constructed photography. In 2006, *Ecotopia* opened at the International Center of Photography. The exhibition contained a variety of techniques in photography and film to comment on what is happening to nature. Using new technology, they created images of ecological destruction and visions of possible future interactions with the environment. The exhibition brought together work that showed 'the response of today's artists and photojournalists to the challenges raised by rapid environmental change' (Hartshorn, 2006:7). Among those included in the exhibition were Robert Adams and his landscape images of clear-cut forests in Oregon and Doug Aitken's piece *Plateau*, a constructed photograph depicting a city made of FedEx boxes, one type of waste created by modern society. The exhibition was broad, including the work of forty photographers and artists from twenty different countries who examined 'human interaction with nature in the broadest sense' (Hartshorn, 2006:7). In 2005, *Imaging a Shattering Earth: Contemporary Photography and the Environmental Debate* was first exhibited at the Meadow Brook Art Gallery, Oakland University, Rochester, Michigan. Since then it has exhibited four more times in the United States and Canada. As with *Ecotopia* both documentary and constructed photographs were included in the exhibition. In 2011, the Nevada Museum of Art exhibited *The Altered Landscape: Photographs of a Changing Environment*. It too included a variety of techniques that have been used by photographers to comment on the impact of humankind on the natural environment. Over 150 photographs were included in the accompanying publication. Though the collection of the Nevada Museum contains over

a thousand landscape photographs, only eight photographers who have constructed their images were included. This is interesting, because each of the accompanying texts, except one, focused on a particular work, and those works were constructed images. In addition to these exhibitions, two major photographic awards have been established to promote photography that addresses major environmental concerns that nature faces as a consequence of humankind's actions. These are the Prix Pictet, founded in 2008 by the Prix Pictet Group. 'The award aims to uncover outstanding photography applied to confront the most pressing social and environmental challenges of today' (Prix Pictet, n.d.). The award recently short-listed Yang Yongliang and Sophie Ristelhueber, who both have used techniques of constructed photography to compose their work. Finally, there is the Syngenta Photography Award. Having been created more recently (2013), with an aim similar to that of the PrixPictet, it draws attention to and stimulates dialogue around key global challenges through compelling imagery (Syngenta, n.d.). The inclusion of constructed photography in these exhibitions suggests that this type of imagery is increasingly being considered as important to representing environmental issues as traditional forms of photography. It also shows that the use of constructed photography to comment on environmental issues is increasing in use.

What I have found in my analysis of contemporary exhibitions and the various works included in them is that contemporary photographers have continued to construct imagery through tableau and still life but are also doing so through the digital montage of images and intervention in the landscape. As discussed in Chapter 1, how nature is photographed and reflected on in relation to the environment has changed. Contemporary work that utilises techniques of constructed photography has continued to change how art engages in, and provokes awareness of, environmental issues. I have shown how photographers have been able to direct a viewer's gaze towards real environmental issues through staged and fabricated photography. With increasingly damaging impacts on nature taking place, it is likely that these methods will continue to be explored and developed by environmentally concerned photographers.

This is what Meghan Lowe suggested is needed when she said, 'Both art and environment must be thought of in a new, expanded sense, so that an aesthetics of engagement does not involve simply looking at an external landscape but entails a sense of continuity with the forms and processes of nature' (Lowe, 2009:116). In the next chapter I examine the photographic work of Chris Jordan, Mandy Barker, and the

duo Goldiechiari. These contemporary photographers have composed work that directly addresses consumerism and the harm that comes as a result of the waste and pollution it produces. The environmental concerns are commented on through tableau, intervention in the landscape, and digital montage of still-life imagery. My work with electronic waste correlates directly with the themes these artists are addressing. Through interviews and written texts, I have been able to learn more about their decisions to practice with constructed imagery, as opposed to straight documentary photography, in relation to environmental issues.

Contemporary Photographers and Constructed Practice: Chris Jordan, Mandy Barker, Sara Goldschmied & Eleonora Chiari

This chapter continues my investigation into environmentally concerned constructed photography through a close study of key contemporary practitioners. Their practice can also be seen in the light of the aesthetic questions discussed in Chapter 1. As discussed in that chapter, there has been a move towards everyday places and landscapes as photographic subjects since the work of Robert Adams and Lewis Baltz in the 1970s. Other artists of that period who turned their photographic attention to the 'ordinary' included William Eggleston, Stephen Shore, and Jan Groover. These photographers were producing beautiful images by focusing on the objects of everyday life[14]. Their work is an example of both the use of everyday objects in photography as well as the ability to make a beautiful image from the 'ordinary'.

Waste and Beauty in Constructed Photography

One of the first photographers to create images using waste was Irving Penn, in 1972, when he had an assistant gather cigarette butts to be photographed. It was an interesting change from the fashion, model, celebrity and luxury photographs which he had come to be known for[15]. At the time, and still today, the cigarettes were pieces of inconsequential litter, commonly found polluting the streets after people finished smoking. These objects, which are normally overlooked and seen as litter needing to be cleaned up, became beautiful objects through his method of photographing them. This personal series of work was a direct contrast to the nice things he photographed for magazines. In retrospect, John Szarkowski, who was curator of photography for MoMA (Museum of Modern Art) at the time, commented, 'Here he [Penn] turned away from the stuff of the good life and began to photograph trash' (Szarkowski, 2001:8). Penn's series of cigarette images is a key to understanding how photography can be used to make a beautiful image of waste.

The images which make up Penn's series *Cigarettes* (1975) had an important impact on the future use of waste in photographic images. Rather than items which were to be

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[14] Examples include Eggleston's image of a child's tricycle on the cover of his monograph *William Eggleston's Guide* (1976) and the light fixture on the ceiling in *untitled,* Greenwood, Mississippi (1970). Objects in Stephen Shores image, *Room 125* (1973), are ordinary. The television, lamp and suitcase are not luxury items. The images are not just about the objects; the objects are used by the photographers to create a narrative about the place. Groover produced up close compositions in her home using common eating utensils, knives, forks and spoons (1979).
[15] Penn's images appeared in the magazines *Harper's Bazaar* and *Vogue*.

desired and owned, the cigarettes were detritus, discarded because they were no longer of any use. They were left in the streets where they took on attributes making them undesirable, dirt, filth, and bacteria. It was material which would not normally be picked up by anyone not tasked with cleaning the streets. The finished images transformed the litter into something else. 'With those little bits of insignificant waste Penn proceeded to make one of the great photographic series' (Hodgson, 2012). He did this by skilfully arranging the objects and the light to reveal the texture in each unique piece. He then made platinum prints, an expensive and difficult process, which beautifully rendered the black and white tones and details of the cigarettes. The series made a significant impression on Szarkowski. Reflecting on them he stated:

> The shock of these pictures derived from their terrific, chilly elegance. The detritus of the street had taken on an exotic nobility, like fragments of the heraldry of some lost culture, or the shards of sculpture on the floor of a classical temple. (Szarkowski, 2001:8)

The claim presents an extreme change in the classification of the litter. It's very significance took on new proportions seen as a photographic artwork rather than rubbish underfoot. There is no connection to environmental concerns given by either Penn or Szarkowski, nor is it found in the photographs. Szarkowski points out that Penn photographed the cigarette butts in a manner that they were transformed by the light and other visual parameters of the photograph but not for the purpose of drawing attention to either health concerns or environmental damage. Instead they are classed as, 'bits of the most inconsequential junk, seen in a radiant, transforming light' (Szarkowski, 2001:8) (see Fig. 3.1). He is interested in how the presentation gives them gravity and space for a viewer to contemplate

Fig. 3.1 Irving Penn, *Cigarette #37* (1974)

them in a different manner than one might otherwise do. 'The goal seemed to have been the rediscovery of the possibility of order, under circumstances that are never quite propitious and out of materials that are less than promising' (Szarkowski, 2001:9).

In 1975, fourteen of the Cigarette prints were exhibited at the Museum of Modern Art in New York. The exhibition ran from May to August in the Steichen Galleries (The Museum of Modern Art, 1975). The work was instrumental in more than one way. To begin the images opened the way for acceptance of commercial works in the gallery, including his next series of photographs of litter, *Street Materials* (1977).

> That single exhibition [*Cigarettes*] overcame the strong prejudice against 'commercial' photographers being welcomed in the museum. Penn's next works became his first exhibition at the Metropolitan (*Street Materials*, 1977) where they were – significantly – not shown in the department of Prints & Photographs. Instead they were the first photographs ever shown by Henry Geldzahler in his Department of Twentieth Century Art. These pieces, in other words, represent the blood royal of contemporary art photography. (Hodgson, 2012)

Through the methods of studio photography, platinum printing and subsequent exhibition the litter photographed by Penn was no longer overlooked, but elevated to the status of art. Today his work is an example of how one may be able to photograph waste beautifully. The cigarette butts demonstrated a new way of looking at waste, creating a different point of view. They are an example that waste, in the right light, can be discussed rather than overlooked. Penn's images made his audience consider the hierarchy of subject matter by paying attention to the abject. This then provides a method for portraying information about the things and the ways people are harming nature. In addition to the accumulation of tons of cigarette butts as waste in the landscape, there are many more 'ordinary' objects which are consumed and discarded. Plastics, metals, and chemicals are polluting the earth in ever increasing amounts.

Though Penn's *Cigarettes* and *Street Materials* were not developed for an environmental critique, they are an example of a notion, for dealing with waste, which philosopher and cultural critic Slavoj Žižek had posited. In the 2008 documentary film *Examined Life*[16], Žižek contemplates how waste, as a product of consumerism, essentially disappears. Waste is put in a bin which is then emptied and taken away, out of sight. In a sense we do not have to think about what happens to it or the impact on nature. We can also consider that because of this and the nature of humans, we are incapable of understanding how nature can be destroyed by it or other human activity. This is of course if we do not consider ample amounts of visual representation of waste

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[16] Dir. Astra Taylor (2008)

and reporting about it. In the video Žižek stands next to pile of rubbish and suggests that a different approach is needed in order to make changes.

> I think that what we should do to confront properly the threat of ecological catastrophe is not all this new age stuff to break out of this technological manipulative mould and to found our roots in nature, but, on the contrary, to cut off even more these roots in nature. ... the difficult thing is to find poetry, spirituality, in this dimension, to recreate, if not beauty, then aesthetic dimension in things like this, in trash itself. (Žižek, 2008)

This idea of creating 'aesthetic dimension' in waste is possible as demonstrated by Penn. Each of the photographers already discussed in previous chapters also show an example of finding 'aesthetic dimension' in not only trash but other forms of pollution and ecological issues. To recall a few of these: Richard Misrach[17], Sophie Gerrard[18], and Keith Arnatt[19].

In this chapter the work of three contemporary photographers is examined. Each is doing what Žižek has suggested; constructing beautiful images of the waste and impact humans have on nature. These photographers include American photographer Chris Jordan, UK photographer Mandy Barker and the artistic duo Sara Goldschmied and Eleonora Chiari from Italy. What I look at here is how they are doing something similar to Penn and transforming materials that are less than promising through light and other visual parameters of the photograph. They are giving the waste gravity and space for a viewer to contemplate them in a different manner than they may otherwise do. They are making waste as important as any other subject matter. Their work is important for me to understand as I have worked with electronic waste to construct images about the relationship between humans and nature. In consideration of the technological developments in photography (especially digital) it was important to understand contemporary approaches in order to negotiate experimentation with the approaches and aims of my practice (see Introduction and Chapter 2).

In the process of researching Jordan, Barker, Goldschmied and Chiari, I conducted interviews with them. The interviews consisted of informal question and answer sessions in which we were able to look at their work together to come to a better understanding of how and why they made it. Through this I have learned about their

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[17] *Violent Legacies* (1992) (see Chapter 1)
[18] *E-Wasteland* (2006) (see Chapter 1)
[19] *Pictures from a rubbish tip* (1988-1989), *Canned Sunsets* (1990-1991) (see Chapter 2)

experiences in the development of the work, challenges in making it, and the reason they make beautiful images from waste to highlight various issues. These artists represent a range of methods being used in constructed photography. Though the final images they create are different each has worked directly with objects such as electronic waste, plastic, and other types of rubbish which are compromising and harming nature in various ways. They have used different approaches in constructed photography to communicate about specific environmental issues.

Since 2003 American photographer Chris Jordan has used constructed photography to communicate about environmental problems associated with mass consumption. With the series *Intolerable Beauty* (2003-2005) he began constructing digital collages that address specific statistical data about quantities of plastics, paper, metals, oil and other items that Americans use and discard. In his practice he has physically arranged electronic and other waste in order to construct an image to be photographed. He then uses digital technologies to composite the thousands of images of various types of consumer waste into new compositions (see Fig. 3.2). Mandy Barker also constructs images which depict vast amounts of waste. Rather than depicting specific amounts, as Jordan has, her images represent a section of the world's oceans full of plastic trash. In 2011 she constructed new views of this problem with the series *SOUP*. In her practice she has worked alongside scientists to see first-hand the impact of plastic trash in the ocean. She has also involved people throughout the world in collecting waste from beaches and using it to compose images. By working with scientists and the public her practice is an example of how collaboration with others can spread awareness of important issues (see Fig. 3.3). Sara Goldschmied and Eleonora Chiari have been
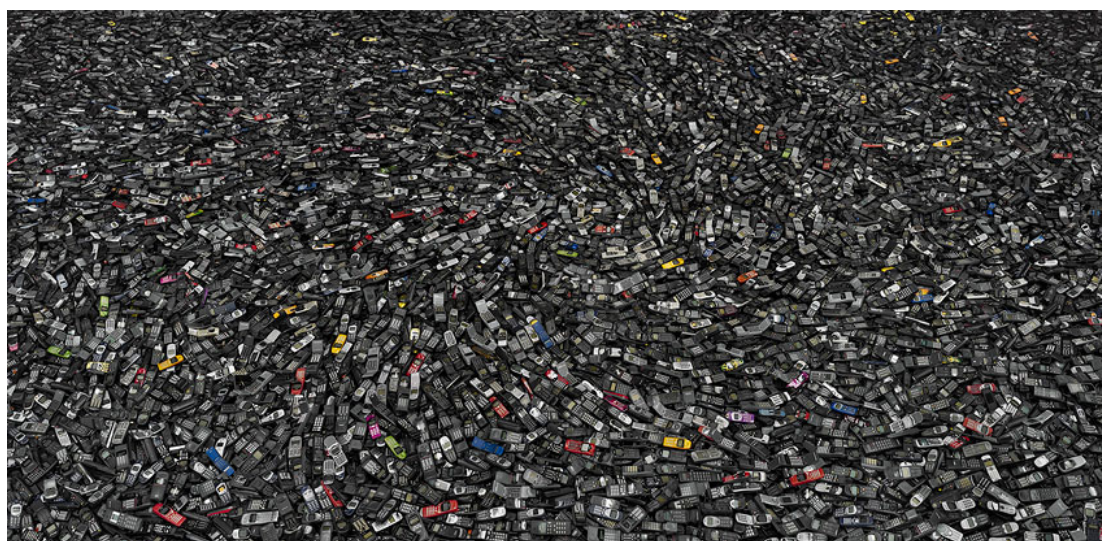
Fig. 3.2 Chris Jordan, *Cell phones #2, Atlanta* (2005)

working as an artistic duo, known as Goldiechiari, since 1997. Rather than using digital technology to composite massive amounts of waste, they have constructed images by staging scenes of human waste in nature. They have done this by subverting the view of nature through interventions in the landscape (see Fig. 3.4). In the series *Panoramic Nympheas* (2011) they created water lilies using plastic bags which were then floated in the River Tiber of Rome and photographed.

Fig. 3.3 Mandy Barker, *SOUP: Refused* (2011)

Through my research and the interviews that I conducted I discovered that despite the work of Jordan, Barker and Goldiechiari being quite different there were also numerous similarities. Each began by looking at waste in the landscape. Their decisions to construct images rather than documenting the pollution has been a result of experiences in nature, inability to access the amounts of waste reported in statistical data, and discussions with colleagues. Rather than directly documenting the impact of waste on nature, they find new ways to show the problems. Their work presents a different perspective on these issues by challenging traditional modes of representation. A common element of their outcomes is the idea of beauty. It is seen by each artist as important to the work for the unique way in which it invites an audience to view the image where a connection to the message can then take place. As their methods of making images and the results differ, I will discuss what I have found about each of them separately.

Fig. 3.4 Goldiechiari, *Panoramic Nympheas # 35* (2011)

Like Penn's images of cigarettes, we will see that Jordan, Barker, and Goldiechiari have also elevated waste to the status of art. Physical and digital arrangement of waste and the resulting image changes the context of viewing the waste. Rather than seeing the waste littering the landscape or piled in heaps in rubbish tips, their arrangements have been consciously constructed. Through this approach they turn waste into something to view and pay attention to rather than letting it be overlooked. By doing so their concerns about the waste are communicated through beautiful images using the waste. As discussed in Chapter 1, the judgement of something as 'beautiful' is about a human relationship to an object or image within a shared cultural context. Our culture would not apply concepts of beauty to the physical properties of the waste photographed by Jordan, Barker and Goldiechiari – quite the opposite. My investigation is into the forms, proportions, and purpose of the final images which they constructed using the waste. Beauty is not an attribute of the waste, but is aesthetically achieved through the lines, colour, textures, and lighting which produce the final image. The artists I am discussing do not attempt to make waste itself seem attractive, but to make it possible for the viewer to be drawn to images of the waste, where it can be seen and the consequences of its accumulation can be considered. Their purpose is not to make waste acceptable but rather to show it and show its impact on nature.

Chris Jordan

Chris Jordan is known most notably for his series *Running the Numbers: An American Self-Portrait* (2006 – Current), and *Running the Numbers II: Portraits of Global Mass Culture* (2009 – Current). The series consists of images which utilise the combination of thousands of photographs of the types of waste just listed to create another image. The finished prints range in size from 44 inches to 20 feet. These massive images depict very specific amounts of consumer products which Americans use and discard.

> It's relatively simple: photograph hundreds or thousands of objects such as tossed-out plastic bottles or office paper or SUVs, then digitally reproduce them to represent thousands or millions, and then title the huge, perversely beautiful, almost abstract images with numbers that literally bring them down to earth and into your face/my face/our faces. (Lippard, 2009:15)

In the image *Plastic Bottles* (2007) he has created the appearance of a vast landscape by repeatedly duplicating photographs of plastic bottles used for various types of

beverages (see Figs. 3.5 and 3.6). By doing this he has created an image that depicts two million plastic beverage bottles. It is the number of bottles used in the United States every five minutes. This image is one example of the many pieces he has created by photographing and digitally repeating in his compositions many different types of items, each of which has a different impact on nature. This includes various types of waste and products that represent the mass consumption of something else such as oil or electricity. He has made images with plastics, aluminium cans, paper cups, and shipping containers. The finished prints are a starting point for beginning to visualise how much is being used and wasted by people in America. This way of representing the statistic about the usage and waste of plastic bottles effectively does what David Pepper suggested was needed to make environmental changes. 'It will be no good

Fig. 3.5 Chris Jordan, *Plastic Bottles* (2007)

Fig. 3.6 Chris Jordan, *Plastic Bottles* (2007)
(detail)

bombarding us with 'facts' which we are anyway predisposed to dismiss. A wiser strategy would be to shake the foundations of our beliefs by undermining the assumptions on which they are based' (Pepper, 1984:2). For some a number may be too abstract to grasp. Data may document the danger but as the statistic cannot be seen it may not be fully comprehended. Although Jordan's work is meant to communicate the data known about the massive amounts of plastics, metals, paper and more that Americans use, it also serves to visually communicate that humankind is using and wasting everyday objects on a grand scale. To some viewers it will serve as a reminder of the impact on nature that a single item may have. To others this visual information may educate about both the amount of different items being used and thrown away as well as the larger impact it has on nature.

The statistical data and the visual representation are linked through the juxtaposition of one image layered on top of the other. The statistic about the amount of an item being consumed is visually represented through the repetition of the object. Jordan is making the work out of direct concern and desire to visually communicate the specific amounts of waste accumulating. The images are a method for showing the amounts of wastes being reported. The numbers he works with are very big. Even though the numbers are huge, a person may not actually see that amount of waste because, as Žižek has suggested, it 'disappears'. The images Jordan has made are static. They represent one statistic at one point in time. In comparison, on the Guardian website is an interactive web page which changes in real time to show the amount of fossil fuels being consumed[20] (Clark, n.d.). The numbers of barrels of oil, tons of coal, and cubic meters of gas being extracted begin adding up the moment the page is opened. The numbers quickly grow, visually changing at an incredibly fast pace. They represent the amounts of these substances being mined and used. Behind the numbers sits a picture of an industrial operation showing the extraction of coal. But it is the rising numbers which are intended to communicate just how much is being used – not the image.

Jordan did not begin with the intent of making photographs that actively communicate about environmental issues. He began developing his photographic practice while he was still a practicing lawyer. It was a career that he acknowledges having pursued for the wrong reasons and was not comfortable with. Photography was simply an activity that he pursued in his leisure time alongside his professional career. Jordan, in

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[20] http: //www.theguardian.com/environment/ng-interactive/2015/apr/10/how-much-fossil-fuel-are-we-using-right-now

conversation with Jorg Colberg in 2006, describes how 'three weeks into the first semester [at law school] I suddenly developed a passion for photography. I think maybe a deep part of me sensed I was headed in the wrong direction, but at that time I didn't have the courage to change paths, so I became a lawyer and made photography my hobby' (Colberg, 2006). He goes on to describe how for the next ten years he spent all his free time and income photographing and continues, 'All that time I knew I had found my calling, but I was afraid to commit myself to it, so I stayed stuck in a career that was un-fulfilling and emotionally unhealthy' (Colberg, 2006). Then in 2003, he changed paths. This recognition of his law career helps to inform certain views of his about the disconnection people have from the issue of mass consumption. He recognised his own disconnection from the reality of environmental harm caused by mass consumption.

When Jordan began to make photographs, it was with a focus on making images which were about colour and beauty. In interviews about the first images made for *Intolerable Beauty* (2003-2004) he speaks about exploring industrial spaces and coming across huge piles of garbage. His initial interest in them were the colours these piles created. He was finding beauty in these waste spaces, in areas which could be deemed ugly. He did not start out with an intent to use his photographs from an activist position but sees now how this path developed organically within his work. In an interview with Gaia Dempsey for the online environmental group *Opportunity Green* he explained this development.

> I initially started photographing giant piles of garbage, honestly because I was looking for these amazing, beautiful colors. I can't really take credit for getting interested in consumerism. I had been photographing these really industrial areas, like the port of Seattle, and I would find massive amounts of crates and things, and they would look just beautiful in print. I took one photo, it was of an enormous pile of garbage, and I thought it was the best photo I'd ever taken. When people saw it in my studio they would say, 'Wow, that's a great statement about consumerism and over-consumption,' and at the time, I would get annoyed and actually argue with them, saying 'That's not what my work is about!' But then I got some advice from two well-known and respected photographer friends, who convinced me that this was a path I could pursue. (Dempsey, 2009)

He has not named the photographers that helped him to see a direction and subject for his practice. Their comments about connections in the images to consumerism were part of the process in which his work went from making beautiful images of waste to making beautiful images that were making a social commentary about consumerism.

Seeing this path for his work was also part of his change from a lawyer to a photographer. He began to read more about consumerism and large-scale waste pollution. The result became a growing series of landscape images documenting waste.

The first major body of photographs that Jordan completed was *Intolerable Beauty: Portraits of American Mass Consumption* (2003-2005). The earliest images in the series were those created for the colours he found in the industrial nature of the spaces and materials in them. Examples of this include *Oil Filters, Seattle 2003* (see Fig. 3.7), and *Container Yard #1, Seattle 2003* (see Fig. 3.8). The compositions of the images follow traditional landscape aesthetics of the time. They are large-scale images of industrial materials and waste that are not of particular interest or beauty on their own. These images carry evidence of the influence on landscape photography from the images of the *New Topographics* exhibition in 1975. They are straightforward images of banal things. What is different is the repetition of form, colour, and the objects in the composition. They pile up filling the entire frame, suggesting huge amounts of waste.

Fig. 3.7 Chris Jordan, *Oil Filters, Seattle* (2003)

In 2014, I discussed further with Jordan what his aims were when making the series of images in *Intolerable Beauty: Portraits of American Mass Consumption* (2003-2005) Jordan described how the aims of his practice changed during that series. It developed from landscape in which colour and beauty were the focus to instead making commentary about the large-scale impact that mass consumerism has. 'The bottom images in that series are much more about colour than they are about mass consumption. That's what I was interested in at the time' (Jordan, Interview with the Author, 2014).[21] According to Jordan the artists that influenced him were Andreas Gursky and Richard Misrach. Both of these artists have worked in colour, producing images that make critical commentary about contemporary life through landscape photography. 'Andreas Gursky makes large-scale, colour

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[21] He referred specifically to the order of the images as listed on his website. The images are organised with the early landscape work made in shipping yards and waste places at the bottom of the list of images.

photographs distinctive for their incisive and critical look at the effect of capitalism and globalization on contemporary life' (White Cube, 2015). The repetition of objects and colours are prime features of Gursky's work. There is also a connection to the *New Topographics* approach to landscape photography for Andreas Gursky, as he was a student of Bernd and Hilla Becher at the Düsseldorf Kunstakadem. Richard Misrach has worked in landscape for over 40 years. He is known for a long series of landscape photographs, *Desert Cantos*. Misrach's practice is a study of place and humankind's complex relationship to it (Fraenkel, n.d.). Misrach captures in a straightforward fashion marks left on the landscape from human activity, some of which includes waste.

Fig. 3.8 Chris Jordan, *Container Yard #1, Seattle* (2003)

The influence of both artists can be seen in the images Jordan made for *Intolerable Beauty*. This is interesting because these early industrial landscape images produced by Jordan contain repetition of industrial items littering the landscape. It shows a strong connection to Gursky's images of repeating lines, forms and colour.

Although Gursky and Misrach were making commentary about consumerism and human impact on nature, the connection to consumption and waste had not yet been realised by Jordan at the time. As he told me,

> The fact that I was shooting the infrastructure of our mass consumption was only kind of a side note for a while, that is, until I started reading about mass consumption and discovered to my astonishment that it's a catastrophic issue. Not that I hadn't been aware of it previously, it just wasn't front and centre in my consciousness. (Jordan, Interview with the Author, 2014)

These images of piles of industrial waste and shipping containers did more than compose beautiful scenes of ugly materials. They documented the evidence of mass consumption and commented on the impact it has on the landscape. This did not become apparent to Jordan until after he showed the images to others. The photographs of shipping containers, stacks of wooden pallets, fifty-gallon steel drums, and discarded

oil filters are all items used to hold and move any number of things that people may use on a given day. Though Jordan has not recorded what had been in containers it does not change that these items are used for shipping products such as toys, equipment, raw materials, all of which are normally stored and moved in large quantities. Looking at more than the surface qualities of the print or the colour and lines that form the image a viewer can see that the objects in these photographs represent the mass consumption of the objects which have been stored and shipped within them. Instead of showing piles of consumer waste these images showed the containers, a direct connection to mass consumption.

The influence of Misrach goes further. As previously discussed in Chapter 1 Misrach referred to his images as showing the evidence of what humans do. There are scars left on the landscape from human actions. They become signs of the character of humans and what they are capable of doing. In addition to Gursky and Misrach's influence, a comment from a friend made it clear that his photographs showed the character of Americans. In an interview with Jorg Colberg for *Orion* Magazine, Jordan explains that moment, the change in his photographic practice, and the research he began to do.

> He commented that the photo was like a macabre portrait of America, and that was the 'aha' moment that started me down the path that I'm still on. Since then I have studied consumerism, read many books on the subject, and talked to people all over the world about it. The more I learn, the more alarmed I become about the enormity of the problem. I have also come to realize how far into the trance I had fallen myself. But I found a path that seems to be taking me to a more connected life, so maybe I can do something to help others turn that way. (Colberg, n.d.)

He was no longer interested solely in capturing beauty, but wanted also to show the scale of consumerism. These are clearly seen in the subject matter of the images, the change from landscape to constructing images, and in the titling of the series. The title refers to the impact of consumerism and its waste as 'intolerable' but that it still holds so much beauty. The series progressed from landscape images made in Seattle's shipping ports to logging yards, recycling yards, and industrial spaces (see Figs. 3.9 and 3.10). A portion of the giant infrastructure of the United States mass consumption is documented in his work.

Fig. 3.9 Chris Jordan, *Recycling Yard #6, Seattle* (2004)

During this time, he continued to study consumerism and became interested in statistics related to huge environmental issues. It inspired him to continue to photograph the large piles of waste he was finding. He was willing to go anywhere to photograph the 'Mount Everest of our garbage'. That is what he was craving. The biggest challenge he found with environmental issues though, is that they are invisible. As he explained to me,

> I want to go to the Mount Everest of our plastic, because I'm reading statistics that talk about the hundreds of billions of plastic bottles being consumed and a hundred million trees cut down in the United States every year to make the paper for junk mail. These staggeringly huge numbers characterise our mass consumption, yet the waste streams, are divided out into hundreds of thousands of different locations, and none of it is ever all in the same place at once. (Jordan, Interview with the Author, 2014)

The desire to photograph what he imagined as the Mount Everest of garbage presented a challenge in that waste is not in the same place at once. He would not be able to photograph a 'Mount Everest' of garbage because of it. He overcame this through constructed photography. It was a part of an evolution of his photographic practice within this first series of images he was making. During the development of the series Jordan began looking for specific subjects. He became really interested in electronic waste. The search for subjects to photograph led to information about the dumping of the e-waste in China and other poor countries; in places where there are no environmental laws. It was particularly interesting to him because it is something we all participate in. 'I'm interested in mass culture and collective consciousness—the shadows of our consciousness that we're all holding together. We all use electronic devices. We all throw them away and you know it's like our use of plastic bottles that way' (Jordan, Interview with the Author 2014).
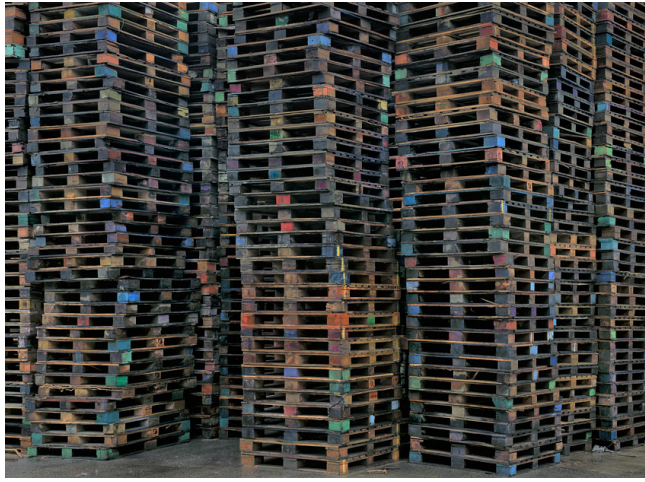
Fig. 3.10 Chris Jordan, *Pallets #2, Seattle* (2003)

The change from landscape images to constructed images began when he went to photograph piles of electronic waste. Instead of doing as Edward Burtynsky had done in documenting landscapes in China filling up with this type of waste, Jordan stayed in the United States and travelled within the country to photograph the massive amounts of electronic waste that was being generated and processed. My discussions with Jordan showed he was very troubled by the scale of the problem,

> I went to one of the biggest cell-phone-processing facilities in the country. They process fifty thousand phones a month. Which is just a couple thousand phones a day. […] Yet, I'm reading that we use more than a hundred million phones in the U.S. per year. I'm realizing what I'm looking at is not the full view of our mass consumption; it's like one drop in a river. I want to take a photograph of the ocean where the river ends up, a kind of catastrophic ocean of our waste, but there is no way to do that. So that's really what got me thinking how can I depict, how can I photograph, this invisible phenomenon? How can I make an image that actually depicts the truth of our mass consumption? That's kind of what got me on the idea of making these digital constructions. (Jordan, Interview with the Author, 2014)

Access to large amounts of e-waste at one time was not possible. This influenced Jordan to construct his images so that more of the waste would be visible in them. The constructed nature of the e-waste images is subtle. When first looking at *Cell Phones #2, Atlanta* (2005) (see Fig. 3.2) it appears as a straight image of a large pile of discarded cell phones. However, it is constructed in two ways. First, Jordan arrived at the facility with the idea to physically arrange the phones in a manner that they would appear as if they were a galaxy from a distance. He chose a galaxy for the enormity and gravity which one has and represents. The choice stems partly from an experience of seeing the film *Powers of Ten*[22] when he was in high school. The film is set up as a single shot, though it includes animation, which begins with an image from above a couple picnicking. It then zooms out by powers of ten until it shows interstellar space made up of dots which are stars. At this point it zooms back to the couple and continues

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[22] Charles Eames and Ray Eames (1977) *The Powers of Ten: A Film Dealing with the Relative Size of Things in the Universe and the Effect of Adding Another Zero*

until it reaches the atomic level. It showed that everything is made of little pieces. In this same sense Jordan's image would show that the enormity and gravity of the problem of e-waste is made up of all the choices to buy, use, and discard of items. The series *Intolerable Beauty* was shot entirely on 8x10 film. When he went to the facility he found that he only had access to about 1500 phones. This led to the second way in which the image was constructed. This was done by combining three different images of the same phones, each arranged completely differently in order to show the enormous scale and the weight of e-waste through both the number of cell phones in the image as well as the reference to the size of a galaxy. It also represents a recurring form found in nature, a spiral. He arranged the phones in the form of a central spiral and photographed it. Then the right and left sides of the image, the continuation of the spiral arms, were arranged and photographed separately. Combining the three photographs created the final image of cell phones in an arrangement that appears like a spiral galaxy. This is an interesting arrangement because unlike a documentary photograph it does not show the reality of a large amount of electronic waste but rather represents the enormity of it.

The image is also typical of most constructed imagery in that it represents more than the immediate impact of e-waste. It creates a space to see that although a single cell phone may not appear to have a large impact on nature it is actually a part of a bigger picture; one that if a viewer steps back from can see the connection to the impact that all the electronic waste has when combined. The image is a metaphor for the impact that humans have on nature.

In this same series is another interesting composition of electronic waste. An image of hard drives titled *Circuit boards, Atlanta* (2004) is actually a grid of hard drives that were laid out to be photographed (see Fig. 3.11). It appears as a grid of circuit boards because the circuit boards of the hard drives are visible. Jordan wanted it to appear like it had been photographed from the air. Again he explained to me the influence for the composition when questioned about the image,

> When you fly into a city at a particular altitude, a couple thousand feet or whatever, it has that same sort of look: a giant electronic thing, especially if you're flying in at night. So I wanted to kind of create that effect—as you're flying over a post, not necessarily post-apocalyptic but an uber-modern industrial landscape where there's no nature left. (Jordan, Interview with the Author, 2014)

The challenge he faced in creating the image, after having laid the hard drives out was the colour. They were all green. He needed them to appear dark. Even though he experimented with different lighting and camera angles for most of the day, the green electronic look still appeared on the arrangement. At the height of his frustration, to create the appearance of the landscape of a city at night, he raised a garage door which

Fig. 3.11 Chris Jordan, *Circuit boards, Atlanta* (2004)

was behind them. After looking through the camera and now seeing a blue light reflect off the hard drives he got the shot exactly as he intended it to appear. The garage had cast a blue light that covered the green of the circuit boards; it fell in the way that dark blue light of the sky at night bathes everything in a blue hue. This created the look of a city at night from above that he had envisioned.

> That one also has that sort of juxtaposition of the near and the far. I love that concept of standing back at a distance and it looks like one thing; then when you walk all the way up close, it looks like something else. That's a theme I've continued in my work. I love it because our world is like that. If you stand back at a distance from any kind of issue, an environmental issue or a social issue or whatever, from that perspective you see it in a certain way. Then when you walk all the way up close, you see it as it morphs. I think that's one of the skills we all have to have in our hyper-modern world: the ability to kind of zoom mentally, with our imagination—zoom in and out, understand things, and see them from multiple perspectives. (Jordan, Interview with the Author, 2014)

Jordan had begun to experiment with not only the appearance of different type of landscapes but also perspective and scale in his images. Interestingly, the titles for these first constructed images of waste were simple, describing what the objects were and the

place where they were photographed. The titling referenced the types of e-waste he was finding and the places around the country.

After the *Intolerable Beauty* series, Jordan began making the images in the *Running the Numbers: An American Self-Portrait* (2006 - present). The images in this series branches away from electronic waste and deals with a broad range of waste such as plastic beverage bottles, cups, aluminium cans, oil barrels, jet trails, and reams of office paper among many other items. The series became a space in which Jordan did more than depict a large amount of waste. Instead he attempts to show specific amounts of the waste. This was because of his research and finding statistics about huge amounts of the items being used and discarded. Each image represents a statistic about the amount of the item, it is composed from, being used or discarded. Some of the items represent something else such as an image of 3.6 million tyre valve caps representing the number of new SUVs[23] sold in the U.S. in 2004, as seen in the image *Valve Caps*, (2006) (see Figs. 3.12 and 3.13). Because it uses tyre valve caps and references SUV sales, it shows that there are numerous pieces that make up any car being produced and all these miniature parts eventually become part of the environmental waste associated with mass consumerism.

Jordan's practice progressed through using this idea of representing a statistic visually and using the actual objects which are harmful to nature in his images in massive amounts. There are so many items in his images and there are so many different types of images that could be formed that it takes between a month and two months to create any one of his constructed images. He describes it as an iterative process, 'like solving a Rubik's cube. All these different things have to work together. It has to be an image. When standing back at a distance, I want it to look like something. Sometimes it's a colour field, or other times it's a famous painting' (Jordan, Interview with the Author, 2014).

To create the images, he arranges and photographs individual items which are then arranged again using the computer program Photoshop. In *Plastic Bottles* (Figs. 3.5 and 3.6) after having photographed the plastic bottles in different arrangements he used Photoshop to digitally place the images together into a larger composition. Doing this he is able to create a specific number of the item in the final image. Represented in

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[23] Sport Utility Vehicle
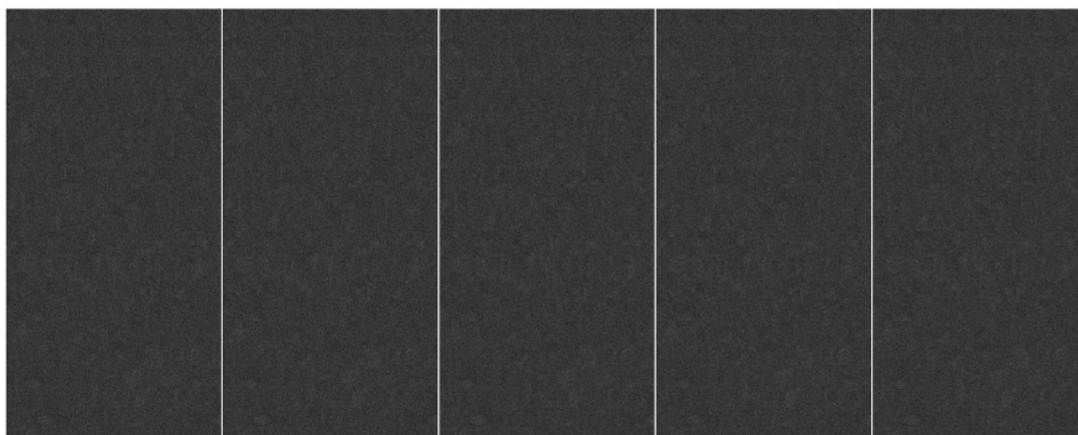
Fig. 3.12 Chris Jordan, *Valve Caps* (2006)

Fig. 3.13 Chris Jordan, *Valve Caps* (2006) (detail)

Plastic Bottles are two million plastic beverage bottles, the number used in the U.S. every fifteen minutes. The compositions represent a statistic about something that is tied to consumption and environmental issues. The titles for the images state what the object is and this is followed by a caption that states the statistical data about the usage and waste of the item that the final images represent. In the *Running the Numbers: An American Self-Portrait* images which he is still making, it can take three or four times of experimenting with the computer to get to a final image.

> It frequently happens that I make an entire piece, but when I think I've got it done and then I stand back and look at it, or my wife comes up and says, 'Hey, did you think about trying it in this different way?' I'm like 'Oh, my God, I just spent two weeks pasting those, but that will add one more layer, so I will start over again.' It's an iterative process that usually goes about four times around. I start from scratch four times and finally end up with the completed piece. (Jordan, Interview with the Author, 2014)

Not only did Jordan find there were there numerous images he could make with one type of waste, but the project also developed further into another series. This new series

is titled *Running the Numbers II: Portraits of Global Mass Culture* (2009 - Current). The images in it are produced in a similar fashion to the previous series. However, in the latest series the statistic is not just about consumption in the United States but consumption globally. Plastic bags are one of many items that he has used in this series.

Following the iterative process described above, he has made three compositions that are entirely filled with them – Figures 3.14 and 3.15 present two of these. Both the images were created through the use of multiple photographs of plastic bags, but the final outcomes are very different, one referencing classical painting and the other a popular image of an extinct animal. This difference is reflected in the way the titles for the images in *Running the Numbers II* are constructed differently from those in *Running the Numbers: An American Self-Portrait*. Jordan no longer uses the name of the waste item as the title, but rather a term related to the

Fig. 3.14 Chris Jordan, *Return of the Dinosaurs* (2011)

reference made and/or the issue evoked. This can be shown with Figure 3.14 in which plastic bags appear as a dinosaur. Titled *Return of the Dinosaurs* (2011) it uses petroleum-based products to dramatise the danger posed by the pollution from such products.

I asked Jordan about his thoughts on making beautiful images using waste. In his opinion beauty was something that was produced, almost inherently, by the act of photography and also by the repetition of objects in an image. He then referred me to his image *Cell phones* (2007) in the *Running the Numbers: An American Self-Portrait* series. For the piece he again visited electronic waste (see Fig. 3.16). This time he approached it differently. The idea was to create an image that was not beautiful. The final piece was made by digitally combining images of cell phones until it depicted 426,000 cell phones. This was the number of cell phones retired in the U.S. every day. It is an enormous amount of plastic, metal, and toxic substances that are being discarded. Jordan found that his attempt to make comment by avoiding beauty was in
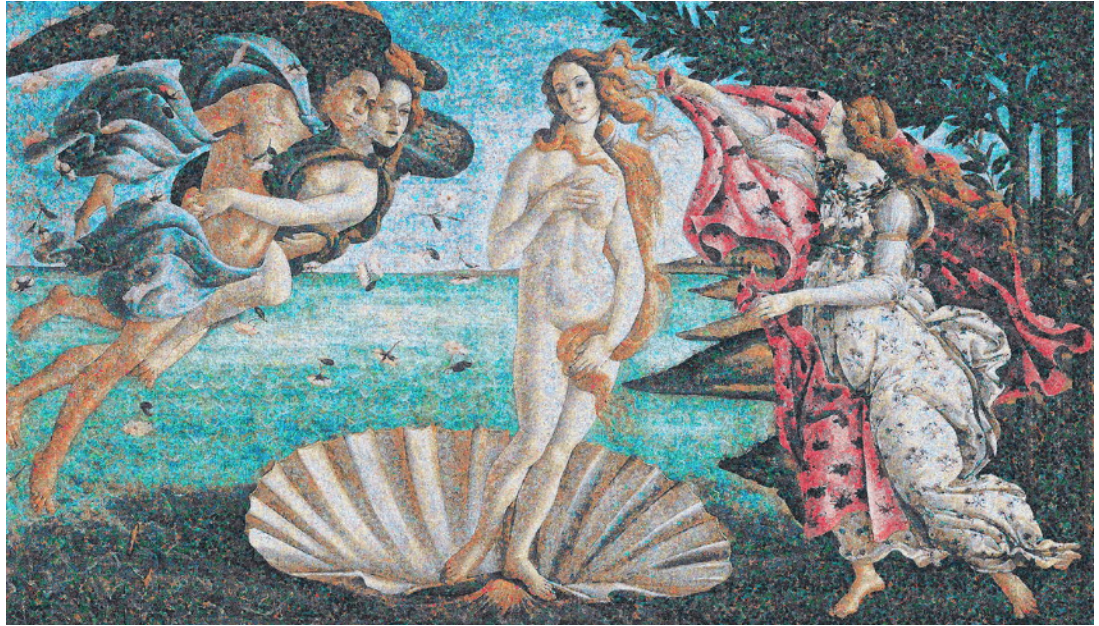
Fig. 3.15 Chris Jordan, *Venus,* (2011)

vain. Once he stepped back from the enormous piece which the combination of images created, he saw a beautiful image. However, the quality of beauty has the capacity to draw viewers in to take a closer look at the image, where an understanding of what is being represented can make it possible for a viewer to make a connection between the products they use and their role in the generation of waste. The final printed image of *Cell Phones* (2007) is 60x100 inches. To view the whole image at once, you need to stand back at a distance. However, walking up close a viewer sees that it is made up many small items. In a way it represents the choice that the buying and discarding of a single item has. The repetition enforces the viewers understanding of the scale of the problem. It is a part of a bigger picture of what is happening all the time.

Fig. 3.16 Chris Jordan, *Cell Phones* (2007)

I asked Jordan why he chose to photograph the electronic waste in America rather than document in other parts of the world which he had seen images of. He stayed in America because of an interest in American culture. 'Just being American myself, I'm most interested in American Culture, and when you read about the percentage of the world's resources that Americans use, they are significantly more wasteful than any other people on earth' (Jordan, Interview with the Author, 2014). It is his belief that people are disconnected from the issues. Waste seems to disappear because of the system by which small amounts of waste are systematically removed in regular waste management services; we know it does not disappear but we no longer have direct contact with it. The enormous quantities (described in the numerical data) connected with waste are hard to imagine and grasp mentally. This is why Jordan has approached the issue through images of massive amounts of the objects. Jordan's reasons echo the thoughts of Žižek and Pepper by illustrating the trash reported in statistical reports. His images provide a way of challenging the idea that waste disappears. Instead his images become almost like visual statistical data.

Jordan continues to create imagery that can make it possible for a viewer to see the enormous statistics about environmental issues and for self-reflection to take place about the enormity of the problem. The hope is that people will make the changes necessary to bring about modification in their attitudes to consumer goods.

> We can't make meaning out of these enormous statistics. So that's what I am trying to do with my work, is to take these numbers these statistics from the raw language of data and to translate them into a more universal visual language that can be felt. Because my belief is that if we can feel these issues, if we can feel these things more deeply then they'll matter to us more than they do now. And if we can find that then we'll be able to find within each one of us what it is that we need to find to face the big question, which is how do we change? (Jordan, 2008)

Jordan's photographic practice developed as he came to see, accept and ultimately embrace the message that he was able to create using photography. He came to an understanding of how he, as one person, has an impact on nature and contributes to the overall issues of human impact on nature. That connection was made partly through his own images. The work has seen huge success through numerous exhibitions, books, and the internet. It is recognised for the message it communicates as much as for the formal composition of the final images. He hopes that the success of the work will make it possible for others to feel differently about their impact on nature as well. One photographer who is familiar with his work and now works in a similar fashion is the

UK photographer Mandy Barker. As I will discuss she also combines hundreds of images of waste to create large scale images about environmental issues.

Mandy Barker

The photographer Mandy Barker had already come to understand the ability that photography has to deliver a socially conscious message when she began photographing plastic debris collected from UK beaches. Since 2011 she has come to be known for her digitally constructed images of ocean plastic. The motivation for her work is to raise awareness about plastic pollution in the world's oceans whilst highlighting the harmful effect on marine life and ultimately on ourselves (Barker, Interview with the Author, 2015). Her work has been very successful. Included in the 2015 Syngenta Photography Award was one of her images titled *SOUP: Refused* (2011) (see Fig. 3.3) in which she has digitally combined plastic collected from a number of different beaches all into one image. Like Jordan her current use of constructing an image was not how she originally intended to make a message about this type of waste polluting the oceans.

Barker's focus on plastic waste in the ocean, began with the series *Indefinite* (2010) (see Fig. 3.17) in which she personally collected and photographed, as individual still life images, plastic waste from beaches. Each piece of waste has been photographed on a solid black background. The textures of the plastics as well as the decay as a result of the ocean is clearly visible. This start to her current practice was completely different to Jordan. Each piece is unique and each piece tells the story of what is happening with the waste and its potential and very real harm to the oceans and the life within them. Although we will see that each piece is able to communicate about the pollution in the oceans, her practice developed

Fig. 3.17 Mandy Barker, *30-40 Years* (2010)

into large scale images made up of hundreds of photos of ocean waste. Following *Indefinite*, Barker has created six more bodies of work based on ocean plastics. For

these she personally collected and sorted plastics from beaches to be used in the making of large scale photographic collages of the series *Where*, *Snow Flurry* and *SOUP* (2011). Following a trip with the Japanese Tsunami Debris Expedition in June 2012 she created *SHOAL* from plastic collected in the Pacific Ocean. For the series *PENALTY* (2014) Barker has collected footballs from beaches around the world. I looked more closely at these series of images and spoke with her about them. In this section I explore the development within Barker's photographic practice from still life images of ocean plastic to the large digital compositions of the waste, as well as her work with scientists, the public, and the photographic results.

As mentioned, Barker started using photography to comment on ocean plastics in 2010. It was during her Master of Arts degree studies at De Montfort University. The decision to work so specifically with ocean plastics stems from her early childhood experiences when she would collect drift wood and other natural objects while visiting beaches. Over the years she has seen fewer natural items washing ashore and more plastic debris ending up on the beach.

> Probably ten years ago I came across a fridge freezer, a TV and a computer that had washed up on the beach. I just began to think about how many other people knew about such debris. If one doesn't walk these areas, nobody would find such debris, and I realised that this would be a good subject for my photography—to let people know what exists on beaches and just sort of investigate further as to how these objects get there. So it was really an increase in seeing debris as opposed to natural things I had seen some 30 years earlier. (Barker, Interview with the Author, 2015)

The series came about because of personal experience in nature where she has seen first-hand more of this type of waste washing up on beaches. It is interesting because there are studies being done about how much plastic is entering the oceans and the harm that is having on the fish, mammals and organisms that rely on the oceans and seas ecosystems.

Yet it was her experience with nature not statistical data that led her to take on the subject in photography. Common items which are produced and used every day are winding up in the ocean where they become a hazard to life in many ways. They can be found washed up on beaches leaving a visible mark on the landscape and harming the life that exists in the oceans. 'Ocean plastic has turned up literally everywhere. It has been found in the deep sea and buried in Arctic ice. It has been ingested with dire consequences by some 700 species of marine wildlife' (Parker, 2015). The plastics are

slowly broken down by the motion of the waves in the ocean to smaller and smaller pieces which are being eaten by marine animals of all kinds, such as the albatrosses on Midway Atoll with devastating consequences. Plastic takes a long time to degrade and until it is fully broken down it remains a risk to the life that lives among it.

Study of plastic waste entering the ocean is a difficult area for researchers[24]. There are many sources that once existed, such as dumping of waste by marine vessels, which have been banned. Waste is mismanaged in many developing countries in close proximity to water. Even in developed nations there is a lot of waste near shorelines. Other than the tsunami created by the 2011 Tōhoku earthquake off the coast of Japan there is no way to see all of the large amounts of plastic and other waste that enters the oceans. Despite this, plastics can be seen littering beaches in photographs made by photojournalists Ken Graham, Joel Satore, Sebastian DeSouza, and Gavin Newman. I have personally walked along beaches and participated in community beach clean-up activities. The amount of plastic waste that washes back up on shore is incredible. Despite the data and knowledge that exists both through scientific research and other photographers, it was Barker's own experience of nature that led her to developing a practice which revolves around it.

As mentioned, the first series of images she completed with the plastic debris formed the series *Indefinite* (2010). In the series, individual pieces of debris, she had collected from beaches, are photographed as individual still life images. She worked with a digital camera and in a studio to produce still life images of the waste on a solid black background. This was a new way of working for her that came as a direct challenge to her existing practice. Previously to this she worked with analogue film and natural light. In the images for *Indefinite* the natural textures of the objects and those from the erosion of the ocean waves and even animals are clearly depicted through her use of studio lighting. They appear to float in deep black ocean. The black space evokes ideas about the vast unseen problem of pollution in the oceans (Barker, 2015a). Each of the

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[24] In a recent report published in February of 2015 the amount of land based plastic waste entering the ocean was estimated. The report titled 'Plastic waste inputs from land into the ocean', published in *Science* magazine, starts by establishing the increase in plastic resin production, 'Global plastic resin production reached 288 million MT [metric tons] in 2012 (3), a 620% increase since 1975' (Jambeck et al, online, 2015). This statistic represents the large amount of plastic items that are being produced and distributed worldwide. The study focused in on estimating annual input of mismanaged plastic to the ocean by 192 coastal countries. The estimate is too large to comprehend, '…we estimate that 99.5 million MT [metric tons] of plastic waste was generated in coastal regions in 2010. Of this, 31.9 million MT were classified as mismanaged and an estimated 4.8 to 12.7 million MT entered the ocean in 2010, equivalent to 1.7 to 4.6% of the total plastic waste generated in those countries' (Jambeck et al, online, 2015).

photographs is simply titled with the length of time it is thought that the material will take to decompose, for example *30-40 Years* (see Fig. 3.17). This way of titling works to deliver information about how long the waste will be a harm to ocean life. Of the series Barker states, 'I was really pleased about how I could make a message through photography. Which I realised was one of the most important things I wanted to do at the end of the day' (Barker, Interview with the Author, 2015). The ability to communicate a message through photography was something she realised while working on a series about children in a local wood previous to *Indefinite*. It was a place where children had been mugged by local gangs. The woods there were unsafe for children to go and play. It was a message she wanted to let the local community know about.

> So this was, in a sense, giving a direct message, making it work in terms of awareness. That was probably the first project I did in which I realised how powerful photography could be in delivering a message and getting action. That preceded *Indefinite*, but then *Indefinite* was the same kind of thing, about giving a message but in a different way, using different techniques. (Barker, Interview with the Author, 2015)

The images in *Indefinite* were appreciated by her peers at that time for the quality of the lighting, the arrangement of the objects and the message. However, Barker sensed that interest in the images quickly faded. Barker recognised that the need to construct images that would hold an audience's attention longer was needed in order to continue raising awareness about plastic pollution in the oceans and its impact on nature. At this point her practice developed from simple still-life arrangements to digital collages of the debris.

The process used by Barker to construct the final images is relatively simple. However, it requires a lot of time in collecting, arranging, photographing and digitally layering the images into one final composition. It starts with her personally collecting the waste from the beach and bringing it back to the studio to be sorted into individual categories. She photographs them with a single source of light as if the light is from the surface of the sea (Barker, Interview with the Author, 2015). Sometimes the images are made by photographing a single item at a time. The majority of the images have multiple visual layers. Some of those layers are made from images in which many items were photographed. She then began to combine the images, she was making of the waste, into larger compositions. The use of layering in Photoshop allowed for the materials to be positioned in a manner that created photographs with an appearance of the waste in

suspension or floating in the ocean.

> I photograph the very small bits on mass, just sort of thrown down randomly; and then there are sort of two medium- size layers, and then a few sort of minimal, larger objects on top. They are then sandwiched in Photoshop. So nothing is manipulated or changed in any way. All is photographed exactly as it is. It's just the layering that is the manipulation. (Barker, Interview with the Author 2015)

The compositions come about through experimentation. As such some of the compositions appear to be quite random in the arrangement of the waste, which is important to mimicking the appearance of this waste in the ocean. As she described she will just throw down objects and photograph them the way they land. It brings a sense of randomness to the constructed method being employed. Other items may be thrown down in a line or sweep to emphasise directions or types of movement (Barker, Interview with the Author, 2015). Pieces of balloons were used to create images for *Where*. White plastics were grouped together for the images *Snow Flurry*. Several different groupings were made for the images of the series *SOUP* (2011). The debris was sorted by colours, types of objects (such as cups), even the marks on the objects was a category. The image *SOUP: Refused* incorporates a group of trash which has been chewed on by marine animals (see Fig. 3.3). It can be seen how the layers of small and larger items in the photographs create a depth from the front to the back. It gives further depth to the message about the amount of waste in the oceans. It is meant to raise awareness and show this type of waste in a manner that it is not normally seen. It is possible to go back and read the estimates about plastic in the ocean and expect to see a layer of plastic floating on the open ocean. This may be the case in some places. However, according to Barker who sailed alongside scientists and educators on a research trip through the Japanese Tsunami debris field in the North Pacific Ocean, this is not always the case - it is spread out and exists at different depths depending on the size and type of plastic material. In an interview with Tiffany Jones for London Independent Photography she commented,

> The mass accumulation of plastic in the North Pacific gyre is almost impossible to photograph in reality as the plastic exists at differing sizes, from microscopic fibres in a soup-like consistency, (hence the title of the project) up to larger objects that are mostly submerged. (Jones, 2011)

This recognition of how the plastics exist in the ocean is important because it presents another challenge to photographing this waste. Instead of arranging it to appear as it

would in reality she has been able to creatively arrange the objects. It is a significant factor to the visual success as well as the successful message of the final images. The objects still appear to be suspended and evoke the notion of a section of the ocean polluted with the objects. However, because the waste used is still recognisable and has not been reduced to microscopic particles we can also see the types of items polluting the oceans. The layering of the objects then creates visual texture and depth to the images.

The book which was published with the images that make up the series *SOUP*, starts with an image titled *SOUP: Turtle*. It is an image of what appears to be broken pieces of a blue toy turtle (see Fig. 3.18). The fragments of the toy appear to be scattered across the image. Mixed in among the images of the turtles in the piece are other plastic toys including ducks, beavers and frogs. The series is quite extensive and includes another piece titled *SOUP: Translucent* (see Fig. 3.19). The combination of objects is again creatively arranged to form lines and give a sense of movement to the image. It is as if the objects are not only suspended but traveling through the ocean.

The compositions have also been influenced by other artists and their work. Barker specifically mentions the influence of Yves Klein for the image *SOUP: Turtle* (see Fig. 3.18). Barker's composition of blue turtles to create a finished image that is predominantly blue in colour was influenced by Klein's *Blue Monochrome* (1957).

Yves Klein, who did the famous canvas of blue; it became the inspiration for the turtle picture. I wanted to create—a kind of mass area of blue to represent the sea, but I made it with turtles that kind of spilled from the container ship. (Barker, Interview with the Author, 2015)

Fig. 3.18 Mandy Barker, *SOUP: Turtle* (2011)

The series ends with a photograph of plastic items that have been arranged by hand to form a single image titled *SOUP: 500+*, representing over 500 pieces of plastic found in the digestive tract of a dead albatross chick (see Fig. 3.20). This image shows that

the project is more than a representation of the amount and types of waste suspended in the ocean. It also shows the harm which has been done to living creatures. The arrangements in the images create a visual attraction to the items. This mimics the attraction ocean animals may have to these items which they do not understand is not a viable food source. The message is about the ingestion and death of animals that are exposed to this type of waste. The image suggests this without showing any dead animals. This is an interesting way of raising awareness about the harmful impact the waste is having on nature, without showing the atrocity of this pollution directly. The image achieves this result through generating an initial attraction that draws a viewer in to see, and then, through visual clues, titles, and captioning, communicates what the compositions of colour and line are formed from. The message is communicated through beautiful images that have been composed through arrangement of and experimentation with the items.

Scientists knew how long the material of a debris field, known to have come from Japan as an effect of the 2011 Tōhoku earthquake, had been in the ocean and how fast and far it was traveling. Barker was able to accompany the Japanese Tsunami Debris Expedition in June 2012, which endeavoured to study the debris field. A mantra trawl

Fig. 3.19 Mandy Barker, *SOUP: Translucent* (2011)

Fig. 3.20 Mandy Barker, *SOUP: 500 +* (2011)

(a kind of fishing net designed to gather material on the ocean surface) was being used on this expedition to sieve the materials that were floating in the ocean and retrieve them for classification and studying. Two types of trawls were done. Some were 24 hours long while others were only an hour long. Barker was there to photograph the items that came up. 'I photographed everything that came out of each of those and sort of put them all on a black back ground for scientific purposes, more than anything. Then I added to the smaller trawls the larger objects collected during the day, to create the one image' (Barker, Interview with the Author, 2015). The expedition provided a unique opportunity for scientific research about the breakdown of materials in the ocean over time. It also provided Barker with material to create more images about ocean waste.

The series *SHOAL* (2012) has been created using images, made on the expedition, of the plastics that were retrieved in the trawls. The title refers to arrangements of the plastics in a manner that helps them appear as shoals or groups of fish. The items in the images were not only photographed but in this series of images they have been duplicated to fill the frame and create the compositions. In addition, the individual work is titled with the coordinates of where the trawl drew up the sample of debris (Barker, Interview with the Author, 2015). The black background of the images in *SHOAL* is broken up with what appears to be a shaft of blue light falling on the debris suspended in the composition. This is a fitting compositional choice which adds to the appearance of these items the idea of them being suspended in the ocean. The effect also adds emotional drama to the scenes. The voyage gave her the chance to see first-hand what ocean plastic looks like in the ocean. There was no other way to get the view of these items that she has created in the compositions.

Another way that Barker has raised awareness and encouraged active participation with the issue of ocean plastic has been through the use of social media to invite people around the world to participate in her practice. The development has gone from collecting the plastic herself along beaches to traveling with a scientific expedition and finally to a worldwide call for the collection of footballs from beaches around the world. For the series of work titled *PENALTY* (2014), she reached out to people around the world, via social media, asking for footballs found on beaches to be sent to her. She then arranged the balls and photographed them through a similar technique of layering the images in Photoshop. For this series she aimed to raise awareness about plastics polluting the oceans through a single type of object, in this case footballs, in order to

show the global scale of the problem (Barker, Interview with the Author, 2015).

The involvement of people sending her the footballs was incredibly high. Recovered from the beaches were 769 footballs and 223 other types of balls. They were collected from over 144 different beaches. The project spanned 4 months with 89 different people contributing to it. Interestingly one image made by Barker utilised 228 balls collected by a single person. The series consists of four finished images that have been constructed through a similar fashion to the *SOUP* and *SHOAL* images. Missing from the compositions in *PENALTY,* is the segment of blue light breaking up the black background. However, the arrangement of this single type of waste brings attention to the magnitude of ocean pollution from just one item that is made of plastic which may not be considered as harmful to the world's oceans.

The balls do not directly link responsibility for the problem to any one person or country. They represent larger geographic regions and those that participate in the buying, selling, and use of the items. Any person in various regions around the world associated with the sport could be responsible for the waste. The image of the balls implies that all those involved in using them have a responsibility to try and prevent the pollution of the ocean from the products they use. The titles are geographical, *PENALTY - The World* (see Fig. 3.21), *PENALTY - Europe,* and the *PENALTY - United Kingdom*. It adds to the message that football is a worldwide sport and that waste from

Fig. 3.21 Mandy Barker, *Penalty - The World* (2014)

the sport ending up in the oceans can be linked directly back to all people of the world who participate in it. The choice of composition and title intentionally considers viewers of the images and their place in the world.

Instead of Barker having to collect the waste and produce images that raises awareness of waste in the oceans, by involving others she created a project that got people doing something about it. In a sense it mimics her original experience of finding waste on beaches. 'Rather than me choosing the subject matter, I wanted the public to send in the subject matter. Doing that increased awareness, just to see how many people are actually interested in the issue and want to help' (Barker, Interview with the Author, 2015). The involvement of 89 people was far more than she had hoped for. If 30 people had sent the footballs in, she would have been happy. Seeing so many take part showed the success this type of work can have in getting people to look at what is on the beach and to pick it up.

The challenges in photographing the footballs was quite different to the previous images she had made, most of which were constructed of small bits of ocean plastic. Those arrangements could contain far more material in the individual photographs from which the larger compositions were made, than in the images for *PENALTY*.

> When I started that project, I didn't realise the size of a football, particularly. Of course I couldn't put them all in the same shot, because they are big. When I work with tiny pieces, it is not so challenging; but that project was a huge challenge because I had to photograph maybe ten footballs at a time, rather than normally put all the stuff together in one image. It was made up of sort of 10 images at a time, a lot more layers, purely because of size. (Barker, Interview with the Author, 2015)

The challenge was something that she was able to overcome. The images still contain the depth of the previous projects and the appearance of suspension in the water. With this series she also produced a typology by photographing 32 of the footballs individually and arranging the separate images in a grid pattern. The final image consists of 24 different footballs titled with the country where they were found (see Fig. 3.22).

Fig. 3.22 Mandy Barker, *Untitled* (2014)

Response to the images has mainly come from the media which shows that others have been influenced by her work. Other than requests for interviews and to use the images, she receives emails from people that have seen the work. The responses range from praise that the images are doing a great thing to how the way she has made the work has raised awareness of the problem. Each of the participants in *PENALTY* received a copy of the final image. This could help to spread the message about ocean plastic as they show the images to others letting them know about a project they were involved with.

The titles for the individual series that have been constructed as well as the individual images were a key aspect to Barkers work. The idea was to link image and text as well as to provide information about the waste. This was influenced by the work of Simon Norfolk and Cornelia Parker. Simon Norfolk has titled his images of landscapes scarred by war by using a name of the place where the photograph was captured and following it with a caption about what took place. This influenced Barker to do something similar.

> That's what inspired me to want to do something similar in my work—to start
> with an initial simple caption that draws the viewer in and makes them sort of
> question and wonder what the image is all about. If it's just a latitude and
> longitude, a kind of description that makes viewers kind of think, 'I wonder
> what that is, I wonder where it is', and all that. When you compose the
> secondary caption, that's the kind of sting in the tail of what the image
> represents. (Barker, Interview with the Author, 2015)

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Parker's work of photographs of feathers also influenced Barker's decision to use the title and captions to reveal details about the work.

> Simple pictures, just a feather on a black background. But it just said *Feather that went to the Top of Everest* and *A Feather from* – I think it was Sigmund Freud's couch. There was a whole series of these things, and just looking at the feathers with the longer caption brought much more depth, making you think so much more about how the feathers had got there. Did somebody take it up to the top of Everest and bring it down, or was it in somebody's coat and somebody just found it? I liked that sort of play with word and image, and that's what I wanted to expand on in my work. Which is why I give the *SOUP* images simple titles, like, 'Bird Soup' or 'Tomato Soup.' Then adding a bit more detail in the caption, about what actually makes the simple caption, gets people to kind of question more about what you're representing.
> (Barker, Interview with the Author, 2015)

Coming back one last time to *SOUP: Turtle* we can examine how the composition, titles, and captions in her work comes together to critically engage and inform viewers about the message the beautiful images have been constructed to communicate. I have already established how the title of the series *SOUP* relates to the consistency that the mixture of plastic in the ocean creates. The individual images have retained the series name with a colon separating and detailing the main component of the image. In the case of this image (*SOUP: Turtle*) the main object is a plastic blue turtle. An accompanying caption reads, 'Ingredients: plastic turtles that have circled & existed in the North Pacific Gyre for 16 years. Additives; ducks, beavers & frogs.' The plastic pieces are the ingredients of this toxic harmful soup that is being ingested by various marine animals. It contains more than one type of object showing that the problem is not just turtles but other objects. Finally, the 'soup' has been being stirred in the ocean for 16 years. Each component points to what appears to be beautiful and even good but in reality is a toxic soup harmful to all life in contact with it. Barker's images communicate the harm in a manner that is full of visual and intellectual dimension yet has been arranged in a straightforward fashion that does not hide or cover over the reality of this type of pollution.

Another aspect of Barker's photographs that connects her work to Burtynsky's, Misrach's and Jordan's is the idea of creating a beautiful image about and with objects that are harmful. This process functions to attract a viewer's gaze so that the message of the images can be communicated. 'The aim of my work is to engage with and stimulate an emotional response in the viewer by combining a contradiction between initial aesthetic attraction along with the subsequent message of awareness' (Barker,

2015b). The title of her first series *Indefinite* is a reference to an unknown amount of time that polystyrene takes to decompose. These plastics may remain indefinitely, never completely degrading; instead becoming smaller and smaller and affecting even the smallest creatures feeding in the oceans. Beauty will also remain a component of the images indefinitely. As ideas about beauty change and develop it is likely that the beauty of these images will remain as will their message.

Sara Goldschmied & Eleonora Chiari

The problem of waste from mass consumption exists because of industrialisation and capitalism. The production and trade of products which are used and discarded is global. The ocean plastic highlighted by Barker may be one type of environmental issue, however it highlights the global scale of the issues nature faces because of human actions. It is such a large problem that there are many artists who are working to comment on it through highlighting similar issues and using constructed photography. This common theme of waste and consumption leads into the discussion of different approaches in constructed photography being produced by two Italian artists Sara Goldschmied and Eleonora Chiari, who are known collectively as Goldiechiari. Like Jordan and Barker, the message in their work deals with consequences of industrialisation and capitalism. They work with similar types of waste as Jordan and Barker. Like Barker, the duo has also made work that comments on pollution in waterways. However, the final images are very different from the digital collages created by the two artists already discussed.

Their artistic practice is more politically situated. Evidence of this can be seen in more recent works which they have completed. One example is *Genealogy Damnatio Memoriae* (2009) an installation piece in which a tree was etched with dates and locations of bombings that occurred between 1969 and 1980 during Italy's Strategy of Tension[25] (see Figs. 3.23 and 3.24). They have used their work to bring attention to important issues about national identity, sexuality, and the environment. In 2006, the Spencer Brownstone Gallery wrote of the duo, 'In homage to some of their feminist antecedents, the artists have styled themselves as 'ironic activists', exploring, with wry humor, some of the staples of the western art tradition, especially its representation of

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[25] when parts of the state collaborated in terrorist attacks on the public, in order to blame and then suppress left-wing and anarchist groups.

the body and nature' (Spencer Brownstone Gallery, 2006). With a similar tone the independent curator and art critic Paola Ugolini in the book *Ninfee* states, 'artists Sara Goldschmied and Eleonora Chiari have been collaborating for nine years with work that ironically, intelligently and aesthetically stigmatizes and underlines the weaknesses, the skeletons in the closet and the taboos of our western, globalized and consumerist world' (Ugolini, 2011:7).

Fig. 3.23 Goldiechiari, *Genealogy of Damnatio Memoriae,* Sculpture (2009)

Fig. 3.24 Goldiechiari, *Genealogy of Damnatio Memoriae*, Sculpture (2009) (detail)

Environmental concerns are just one of the many contemporary issues which the artists engage with, focusing on the need for change. Their work has been created specifically to raise awareness and to question what we know about our relationship with nature. 'What matters [to] the two artists is to underline and bring awareness on the relation between natural and artificial, industry and landscape' (M3 Gallery, n.d.). The photographs of theirs that I explore in this thesis question how the environment is represented and understood, through both tableau reinterpretations of impressionist paintings and interventions in the landscape.

In the past 18 years the duo has created several bodies of work that explore the dichotomy of the natural and artificial in and around Rome. These projects include *Nympheas* (2011) (see Fig. 3.4), a series of panoramic images of coloured plastic bags in the shape of water lilies floating in the River Tiber, *Asbestos Nest* (2004) (see Fig.

3.25), a sculptural piece made of wood and asbestos, and *Pic Nic* (2002) (see Fig. 3.26), in which the artists staged a picnic, referencing Édouard Manet's *Le déjeuner sur l'herbe* (1862), in the neighbourhood of Rome's main garbage dump. Finally, there is *Dump Queen* (2008) (see Fig. 3.27), a video and photography piece where a dancer reinterprets Carmen Miranda in a dump outside Rome. Through these and other projects the artists have questioned how nature is presented and the relationship which humans have with it.

Fig. 3.25 Goldiechiari, *Asbestos Nest,* Sculpture (2004)

Fig. 3.26 Goldiechiari, *Pic Nic* (2002)

Their environmental work began as part of a series titled *Bu Colics*, which was first exhibited in 2005 at the M3 Gallery in Antwerp, Belgium. The exhibition presented three key photographic works and a sculptural piece. The photographs included an early version of *Nympheas*, *Pic Nic,* and *Reflections*, in which it appears as if the two artists are standing on a rowing-boat, but it has been erased; what remains is a
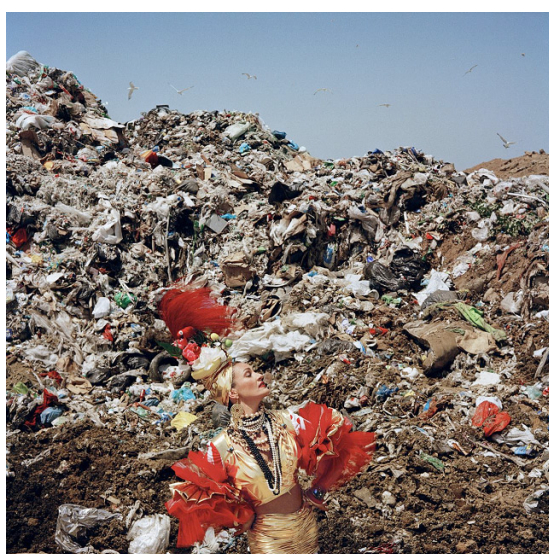
Fig. 3.27 Goldiechiari, *Dump Queen* (2008)

reflection on the water (M3 Gallery, 2005). In this chapter I look at both the *Pic Nic* image and newer *Nympheas* images, made since this initial exhibition. Both provide an example of the use of waste in constructed photography.

The *Nympheas* series, first made in 2003, was remade in 2011 as part of a museum commission, discussed further below (see p. 134). The series of images that make up *Nympheas* (2011) (see Fig. 3.4) are large-

scale panoramic photographs constructed to appear as Claude Monet's paintings of water lilies (see Fig. 3.28). It was constructed through an intervention along the 406 kilometre long River Tiber in Rome by the shaping of plastic bags to look like water lilies floating in the river.

The body of images that makes up the *Nympheas* series comments on the pollution of the river by focusing on the common plastic bag which is mass produced and often discarded after a single use. The river is heavily polluted by rubbish and poorly managed. The problem has been so bad at times that tourist cruises along it have been suspended in the past (Hodge, 2013). It is one of many rivers throughout the world of which the problem of polluted waterways has become a common occurrence. The Ganges, which supports the life of ten per cent of the world, is one of the most polluted rivers (Conway, 2015). Very recently, the Animas River, which runs through Colorado and New Mexico in the United States was the site of a spill of waste water containing heavy metals from a gold mine (Castillo, 2015).
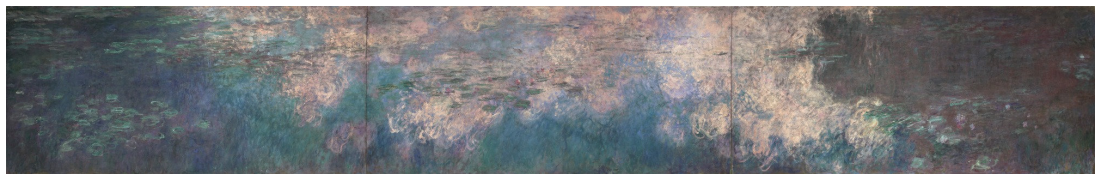
Fig. 3.28 Claude Monet, *Water Lilies,* Oil on Canvas (1914-1926)

In an interview with Eleonora Chiari I was able to discuss the making of the work. The decision to make the original *Nympheas* series came while investigating Rome. They were finding the hidden places, polluted areas, and were fascinated by the dump. 'We were walking around the River Tiber in Rome […] finding lots of pollution and we started to have this idea. We made [water lilies] like origami with all these plastic bags' (Chiari, Interview with the Author, 2015). The images were made by floating the plastic bag water lilies in the River Tiber, and photographing the intervention in the landscape. The original series was shot with a small format film. The images were scanned and lambda prints were made which were protected with a matte coating. The idea was to make them appear more pictorial at the time. Those first images had a rougher appearance according to the artist (Chiari, Interview with the Author, 2015). The newer series of *Nympheas* was made when the Museion Bolzano in Bozen, South Tyrol, invited them to create a work during the reconstruction of the museum. They decided to recreate the *Nympheas* and re-photograph it. The work was realised in ten large-scale panoramic prints which were placed end to end wrapping around the entire

building. The images depict the trash as water lilies in the River Tiber, which is heavily polluted by more than just plastic bags. The location of the final images was interesting because it was placed outside where it could be viewed just as the river could be. However, because the river runs next to the Museum and the work was up during the renovation, it cut off views of the actual river as it surrounded the building itself.

The *Nympheas* images grab a viewer's attention through the use of reinterpretation of Impressionist painting and also through the strange and beautiful scenes that the artists have created. Goldschmied & Chiari's *Nympheas* present an opposing view to the unpolluted scenes of nature created by impressionist painters (Grimaldi Gavin, 2014). Their choice of creating images influenced by Impressionist painting was deliberate.

> We chose the Impressionist visual because usually when we work with photography it is very important that the first impact of the work would be recognisable. So [...] the *Nympheas*, [resembles] the Monet *Water Lilies*, and then there is a kind of stratification of meaning. That for us is very important; that at first view everyone can approach the images that we made. (Chiari, Interview with the Author, 2015)

The impressionist paintings that they chose have their own history that the artists have used to add another layer of meaning to the images that questions our relationship with nature and represent the problem of trash and pollution. The issues of waste and pollution were big topics at the time that they began the work (Chiari, Interview with the Author, 2015). Their images provoke viewers to reflect on the state of the environment by pulling them closer to seeing how the river is being harmed. It is not a clean pure part of nature that can be ignored. The pollutants have entered and float in the river. Seeing the plastic bags as water lilies grabs the attention of the viewer and holds it there to see the other items that also float in the river, much of which is quite small and easier to overlook. The images made by the duo are abstract enough to appear commonplace. The river and bags could be anywhere. This works to reinforce the need to protect rivers throughout the world from pollution, not just the Tiber, even though it was the source of their concern.

The images they have constructed, challenge how we understand our impact on nature and how it has been represented in the past. In *Pic Nic* (2002) (see Fig. 3.26), which was also originally made for the *Bu Colic* project, the artists staged a picnic to be photographed at the edge of the Malagrotta, one of the largest landfills in Europe. At the time they were exploring the area around the landfill. There was a small street that

went around it. They found contradicting elements along the street ranging from prostitutes and trash to a field with vegetables growing and mysterious buildings where they think some of the trash was burned. As already mentioned, the image was influenced by Manet's *Le déjeuner sur l'herbe*. The characters were replaced with the artists themselves having a picnic among piles of trash in front of a field of vegetables.

These complex constructions are metaphors about waste and how easily humans are overlooking the environment. The director of the Museion Bolzano, Letizia Ragaglia, discussed the powerful way of constructing and re-imagining the images.

> In this approach the images of an uncontaminated nature belonging to the idyllic impressionist compositions become staged sets where the *Déjeuner sur l'herbe* by Manet transforms into a picnic on a dump and the famous ponds by Monet are inhabited by plastic bags *Nympheas* floating among many kinds of rubbish. Nevertheless it is not just a simple parody but a learned pretence trying to find a new untamed way of looking at reality. (Ragaglia, 2006:4)

Goldschmied and Chiari have shown that nature is not pristine; that the problems of trash and waste on the land and water exist and should not be overlooked. Ugolini too commented on this subversion of impressionist painting, but also highlighted the shock of Manet's original work.

> In *Bu Colics*, images taken from some of the most famous works of the Impressionist painters became rich intellectual ideas to realize photographic works that, beyond their attractive visual impact, force the viewer to reflect on both the health of our world and our way of life. In this regard, it is emblematic to revisit another famous Impressionist masterpiece, the *Déjeuner Sur l'Herbe* by Manet, a work that created a shock at the time of its creation due to the presence of a completely naked young lady in a picnic setting. Reinterpreted by goldiechiari, the scene becomes an apocalyptic picnic with the artists as protagonists, sitting on a white linen cloth among heaps of waste with the Malagrotta landfill as a backdrop. (Ugolini, 2011:8)

A different kind of shock is created by Goldschmied and Chiari's image of the picnic. It is an image that is bright and calm, and the protagonists appear relaxed and at ease, as if in a peaceful country setting, yet they are eating their picnic in a field of garbage. Despite the first impression of light and colourful tones, there is a darker meaning to be found as the waste, rubble, and industrial background are perceived. This points to the psychological repression of the apocalyptic landscape that is being created. The artists want viewers to look at the images and see the dichotomy between the natural and the artificial, to change perceptions of nature.

What matters [to] the two artists is to underline and bring awareness on the relation between natural and artificial, industry and landscape. Throwing a different light on unpleasant things like dumps, garbage bags, abandoned and ruined monuments, shelters made of asbestos, radio aerials and polluted environment, they change our perception of elements of everyday life, deconstructing and annihilating the [...] idea of Nature as a pure, idealized and reassuring entity. (M3 Gallery, 2005)

Their work offers a different way of seeing what exists. They utilised the method of reinterpreting well known works of impressionist painting to create beautiful images that grab a viewer's attention in order that the different layers of meaning in the images can be interpreted and understood.

Their practice is more politically oriented by questioning society and politics in Italy. However, their environmental work does not focus on Italy or any of Italy's environmental policies specifically. Though they have constructed their images in the Italian landscape, they have created messages that are universal, just as the issues are. This happens because the objects, signs and symbols in the images are generic enough in appearance that they appear similar to other places in the world. In comparison, the message about waste in Jordan's *Running the Numbers: An American Self-Portrait* also applies globally. The series is directed at the American people, though it could also stand as reminder to other countries of what to avoid. It works for him as he recognises his place in a society that is a large contributor to the issues of mass consumption. Even though Barker's images do not visually highlight any particular place other than the world's oceans, she has brought attention to specific places through titles and captions. We saw that Barker had brought in a broader range of countries in her series *PENALTY* through the titling of images of the countries and places where the footballs had been recovered. The message in her images still communicates to a worldwide audience.

This comparison is interesting because of how Goldiechiari have used the landscape of Italy to comment on environmental issues there and throughout the world. The angle of view used in the *Nympheas* series is such that they could have been constructed along the banks of almost any river. The constructed tableaux image, *Pic Nic*, could be the landscape at the edge of any industrial and agricultural landscape. Even *Dump Queen* could have been performed in any waste dumping site throughout the world. Goldiechiari have constructed the images in such a way that the staged and photographed scenes address modern society throughout the world. This generality of settings in the image is key to conveying the message to a larger and more diverse

audience.

Salvoj Žižek made the comment in the film *Examined Life* that humans are incapable of imagining the consequences of environmental issues. 'In the case of ecology, I know very well there may be global warming, everything will explode, be destroyed. ... We are not wired to even imagine something like that. It's, in a way, unimaginable' (Žižek, 2008). He was standing in front of piles of rubbish as he spoke, discussing how much more likely he was to see the trees in front of him and hear the birds singing, than to see the waste dumped behind him.

The thought that anything bad could happen *is* unimaginable in a way. There are statistics which do tell about the amounts of waste being discarded, as we saw with electronic waste (see Appendix 1). To Žižek the problem of not being able to grasp the idea that major catastrophe may take place is the problem with human nature. The artists that I have discussed in this chapter have developed ways, through constructed photography, of making the unimaginable, imaginable.

Combining Human and Nature: Photography Practice Research

In the previous chapter I investigated key contemporary practitioners working with constructed photography, and looked in detail at their methods and the meanings they produced. In my own practice I have been interested for some time in making images that address the relationship between humans and nature[26]. In the practice work made for this thesis my focus was to construct images in connection with the subject of electronic waste[27], in order to address this urgent environmental concern as well as the more general issue of current human impact on nature.

The aim of my practice research has been to construct images of electronic waste, capable of representing and making comment on the current dangerous relationship between humans and nature caused by the dumping of waste. Rather than documenting or illustrating vast amounts of toxic waste accumulating in the environment, as the photographers I have referred to in previous chapters have done[28], I have constructed images using singular components contained within the electronic waste being produced, purchased, and ultimately thrown away within society. In my work, I have experimented with various still life compositions by planting seeds of common plants on electronic waste and photographing the process of growth and eventual death. My images resemble new types of landscapes and in a loose manner appear as pseudo-scientific experiments (see Fig. 4.1).

Questions which I worked with included 'What impact on nature could be shown through constructing images in a studio? and 'What visual strategies will allow a commentary to emerge from the images?' The images needed to be capable of drawing in a viewer's attention and encouraging consideration about the relationship humans have with nature. My aim was to create photographs that would attract attention by incorporating 'a combination of qualities, such as shape, colour, or form, that pleases the aesthetic senses, especially the sight'.[29] In order to achieve such a combination, detailed experiments with every element of the photographs were required.

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[26] Other projects which I have investigated and shown the relationship between humans and nature through include: *i remember* (2011-2014). A series of images, each composed of an animal which has died as a result of being hit by a car, printed along-side text comprised of a memory from either myself or other people. These images create a paradox in that they suggest that the memory could belong to the dead animal.

[27] See Appendix 2

[28] Edward Burtynsky, Chris Jordan, Mandy Barker, Tim Head

[29] Oxford Dictionaries, op.cit.

Fig. 4.1 David Summerill, *Lepidium sativum 13* (2012)

This chapter focuses on the process and outcomes of five experimental work series, which has resulted in the development of three bodies of work *Industrial Growth* (2012)[30], *New Materials* (2013-2014)*,* and *End Product* (2015). Each set of images has dealt with different aspects of making imagery using electronic waste. Each series of photographs both expands on and allows for different commentaries to be made about the relationship between humans and nature. I will discuss each of these series individually. Discussing the experimentation in the order of progress will allow me to cover the process of making the work, challenges and the resulting images, comprehensively. Throughout this chapter I will endeavour to make a link between practice and theory through critical analysis of points discussed in earlier chapters. My work challenges the idea that representation of waste and environmental issues is best expressed through the aesthetic of the sublime or a new sense of the sublime that is now 'industrial'. Instead, I engage with the notion of 'beauty' in attempting to create an aesthetic that can draw viewers' attention to look at subject matter that they would normally overlook.

In working with electronic waste, I am adding to the commentary on environmental waste being made by a growing list of photographers. As presented in Chapters 1 and 2,

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[30] The project *Industrial Growth* (2012) started in my MFA Photography and has been continued and expanded on in this thesis.

electronic waste has been the subject of documentary photographers including Sophie Gerard[31], landscape photographers including Edward Burtynsky[32], as well as artists using constructed photography such as Chris Jordan[33]. A common aspect found in their images of e-waste is the depiction of it in massive amounts. I have carefully considered this point in deciding how to work with e-waste differently. Before starting the discussion on my images, I will recall some of the main aspects discussed in previous chapters.

In Burtynsky's images of e-waste, as well as other environmental concerns, looked at in Chapter 1, were piles of electronic waste strewn across the landscape. His work is used as an example of an 'industrial' sublime aesthetic. Amanda Boetzkes suggested that the sublime is the aesthetic which best expresses the dilemmas associated with environmental issues being faced today. The mass accumulation of the obsolete items creates an appearance of choking the land or replacing nature. Boetzkes commented that Burtynsky's images 'mediate the viewer's contact with nature through a screen of garbage' (Boetzkes, 2010:22). The connection with nature is not just mediated but obscured. Nature is hidden or replaced by the waste captured in the photographs. Burtynsky looks down from above on his scenes. He first did this using cranes, then helicopters, and more recently with drones. The view in his work is elevated, creating a feeling of falling into the landscape. It is this viewpoint and the vastness it encompasses that have the effect of rendering the images sublime. The images are often full of industrial material or waste piled high and covering the landscape. In addition, the colours are rich and vibrant expressing the power of the materials and the daunting impact they are having on the earth. The way that the sense of the sublime comes across in his imagery of large accumulations, not only of electronic waste but other polluting substances and impacts from human actions, is something for which his work is admired. His images are seen as very effective in creating an understanding of waste's power for harm.

However, the power of waste, and the daunting impact it has on nature and people, can also be documented and portrayed without evoking the sublime. This can be seen in work by Sophie Gerrard and Pieter Hugo. In their images, the electronic waste is piled up and being recycled by people without proper safety equipment needed to reduce

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[31] See Chapter 1
[32] See Chapter 1
[33] See Chapter 3

exposure to the harmful elements in e-waste. These were all influential examples which I considered when deciding how to approach making new work about e-waste.

However, I was particularly influenced by photographers who have worked with constructed images about environmental issues, as discussed in Chapters 2 and 3. The work of Chris Jordan and Mandy Barker, as well as others, has been important to the development of my project. Like the documentary photographers mentioned above, these practitioners have represented huge amounts of waste in their work. They photograph relatively small amounts of waste and digitally compile the images into compositions full of massive amounts. Jordan's images represent specific amounts of items being used and thrown away. Barker's images portray the world's oceans full of plastic debris. They have each attempted to show, by constructing an image, what is not normally seen. However, not all of their photographs are focused on great quantities of the waste in question. Barker's series *Indefinite* (2010) captured images of individual pieces of plastic ocean waste. Sara Goldschmied and Eleanora Chiari constructed images containing only a few plastic bags, which they had arranged as water lilies in the River Tiber.

Through discussion in the previous chapters I have demonstrated that there is an increasing variety of ways in which environmental concerns are being represented. Most of the artists and photographers engaging with these concerns make the work with a hope that it might help people change their behaviour in ways that will impact positively on the natural world. Though not environmentally focused, a statement made by Gabriel Orozco about his own work helps to show that we do not need just one type of image to effect a change in people. He said, 'What is important is not so much what people see in the gallery or the museum but what people see after looking at these things, as they confront reality again' (Orozco cited in Bright, 2011:112). Though it is difficult to state that a particular image will help shape a particular perspective in the mind of a viewer, the wide variety of imagery that has been and continues to be made means there is likely to be greater opportunity for new perspectives to form.

The aim of my practice research then has been to construct images of electronic waste, capable of representing and making comment on the relationship between humans and nature, in a manner that promotes the creation of a new perspective on the problems and possible solutions for environmental issues. Findings from the research about the artists discussed in the previous chapters have informed this direction. The massive

amounts of waste in their images represent more than the literal amounts – they suggest also the scale of the issues. My work in contrast attempts to address the scale of the issue of e-waste through representations of a tiny amount of it.

This decision was made through consideration of the points discussed above, in conjunction with reflections on my own actual contact with e-waste, which is quite minimal. The closest I have ever come in contact with large amounts of it was seeing a skip, used for clearing rubbish from construction sites, full of old computers and other electronic items. Other people living in developed nations may never see a large accumulation of discarded electronic items either. The only contact with waste electronics a person may have could be with his or her own products that break down and are no longer needed. A dropped phone, a broken tablet, a personal computer, or any electronic item that is no longer of use to the owner is likely to be discarded and replaced in a manner that does not expose the person to the full amount of obsolete electronics being discarded worldwide every year[34]. The amount disposed of by each person per year varies around the world, according to the authors of *The Global E-waste Monitor - 2017*: *Quantities, Flows and Resources* (Baldé et al., 2017). For 2016, the highest amount was in Oceania, which was estimated to be 17.3 kg per person. The lowest was Africa, estimated at 1.9 kg per person. Not all people will discard the estimated amount; some will dispose of less, and some more. However, it is important to note that waste created by individuals is most likely to be discarded in small amounts. This is another reason why I have worked with small amounts of e-waste to make images that would communicate more directly with the individual about the larger scope of the issue. Individual electronic items would be more familiar, providing a reference back to a viewer's own possible connection to electronic waste.

My photographic experiments have resulted in the construction of still life imagery which can be viewed, because of the way I have constructed them, as unreal or imagined landscapes. Through experimentation with form, proportion, scale and lighting effects, various still life compositions have been tested. This has resulted in both a working method and the refinement of a series of parameters for the visual outcomes. The outcomes are highlighted throughout this chapter, as I discuss the processes of making the work.

[34] For full list of estimates see Baldé, C.P., Forti V., Gray, V., Kuehr, R., Stegmann, P. (2017), *The Global E-waste Monitor - 2017: Quantities, Flows and Resources*, United Nations University (UNU), International Telecommunication Union (ITU) & International Solid Waste Association (ISWA), Bonn/Geneva/Vienna

My series of photographs began by using whole electronic objects. This has included computers, computer peripherals, mobile phones, kitchen appliances and toys. However, the components inside these electronics such as circuit boards, wires and motors became the focus for my work. The electronic waste acted as a base on which I have forced plants to grow (see Fig. 4.1). This simple arrangement forces a new relationship between humans and nature to physically exist. It is the visualisation of this relationship that I intend to use to make comment on the issue and problems of electronic waste.

The plants acquired for this work included both ornamental and edible types. These stand in as a reference to nature more generally as the work is not specifically aimed at issues specific to any one plant, deforestation, species loss, or even genetic manipulation. However, although these were not a direct concern of the project, further meanings could be derived from the particular plants which were used; this is briefly discussed alongside the image exploration in this chapter.

Still life set-ups were experimented with extensively throughout the process. This has involved arrangements created in a studio as well as staged interventions in the landscape. In the studio, I have used various settings including a common Perspex lighting table with an infinity curve. I have constructed white cubical spaces and black backgrounds[35]. I began constructing imagery by removing electronic waste from its original manufactured form and condition, positioning it on the light table and the other spaces mentioned, placing the seeds on the waste and watering them.

Growing common plants on the electronics was challenging. The unnatural setting used no soil which would normally provide protection, nutrients, and moisture to the roots. Though the inclusion of soil was explored, it obscured a visual and physical connection between the plants and e-waste.

Working with single elements of electronic waste in an empty studio space posed compositional challenges different from those of working with large piles of the same materials, which Jordan faced in his practice. In addition, the discarded waste and plants created photographic challenges as a result of their shape and form. The way that light interacted with the materials, reflecting and casting shadows, varied among the

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[35] All compositional arrangements and lighting experiments are discussed throughout this chapter.

objects. The process required extensive experimentation with the objects and their arrangement in front of the camera and within the spaces utilised.

Exploring Composition

The image-making process began by experimenting with the composition of e-waste itself, and the incorporation of plants within the compositions. The initial work used discarded electronic waste in the condition in which it had been found. The first objects used were a computer mouse, keyboard, netbook, and phone. This waste appeared almost completely intact. These objects were placed on top of a basic Perspex lighting table and positioned at an angle to the camera. Artificial lighting was positioned above and to the side, in order to cast shadows forward, creating depth and texture to the waste. A second light positioned behind the camera was used to fill the shadows. This process was begun using a computer mouse and keyboard. Both were manufactured using a very dark plastic. In order to expose the condition of the surface of these materials with sufficient detail, a low ratio between lights was utilised (see Figs. 4.2 - 4.3). A third light was positioned behind and below the table to illuminate the background. These pieces were first photographed as they were, with no other objects added. An analysis of these first two images determined that they appeared as traditional product imagery would, either in a catalogue or on the internet. Setting the objects at an angle to the camera created diagonal lines from the leading edges of the waste. This type of line can lead the eye of a viewer into the image and can suggest motion or energy (Fichner-Rathus, 2015:28). In commercial photography this way of positioning an object is used to create a sense of excitement and interest for the viewer looking at the object. The Perspex table had two sides. One has a matt finish which minimises reflections of objects. The side which was used initially had a glossy finish. This created a reflection of the object. The lighting of the table also produced a brighter area in the image behind the waste. The position of the waste, lighting, and reflection are all aspects of basic product photography.

Fig. 4.2 David Summerill, *Untitled* (2011)

This body of work arose from an interest in the impact of electronic waste on nature. However, positioning and lighting the objects in the manner just described did not convey anything about that impact, for two reasons. First, no connection to nature would be made as nothing exists in the images signifying nature. Second, the products appeared to be arranged as if in a commercial context; in which the message would be that there is a value in the use of the objects. This would not be a desirable outcome for the work. Recalling that in Irving Penn's work with cigarettes (see Chapter 3) he elevated the discarded butts to the status of art. He did not exhibit the waste as something to be desired, but to suggest a beauty in their appearance – he was questioning what we categorise and see as beautiful. My images of the mouse and keyboard did not appear questioning. They looked too much as they would have done in their original manufactured condition, even though the mouse was missing a cover for the battery compartment. They appeared more as items being sold for scrap or potential spare parts, not as part of an image-making commentary about e-waste or the relationship between humans and nature.

Fig. 4.3 David Summerill, *Untitled* (2011)

The next step in the process involved finding a way of visually creating a relationship between nature and the human-made e-waste. This was undertaken by adding plant material to waste. By doing so, a relationship between humans and nature could be signified. It also presented the possibility of showing an impact on nature. Adding plant material to the electronic waste was undertaken by first experimenting with a simple plant, already growing and easily accessible.

Several different types of plants were eventually used. Those that will appear in the imagery in this thesis include garden cress, nasturtiums, marigolds, lavender, anemone, and a mix of wildflower seeds. The plants used add a layer of meaning to the work, so a brief analysis of the specific qualities of each plant will be discussed alongside results of its use in specific image explorations. Information about all of these plants, except for one, points to their use in foods, and to having medicinal qualities. Their qualities for sustaining life are completely different from the electronic waste on which they were forced to grow. The exception among the plants was the anemone. It is toxic if consumed. As will be discussed, the anemone represented nature in the image; however, its potential to harm human life fits with the circuit board on which it was planted. It will be seen that neither plants that are known for their health properties, nor the anemone, were able to overcome the artificial conditions in which they were placed and forced to exist.

Returning to the initial visual experimentations, a potted plant was sourced and added to the opening in the mouse where a battery was designed to be placed (see Fig. 4.4). The composition was explored with the same lighting set up previously described and by photographing this plant and waste object in different positions. A relationship was being forced to exist, however in the resulting images there is no danger; there is no vulnerability or dangerous exposure to the plant. The soil created a visual barrier between the roots and toxic chemicals in the elements of the mouse. It provides stability by giving the roots something to anchor into as well as nourishing elements. The simple addition of soil inhibited the idea of a harmful relationship between humans and nature from being fully expressed

Fig. 4.4 David Summerill, *Untitled* (2011)

in the imagery. The soil lessens a sense of uncertainty and suspense. The message being created aligned more with ideas of reusing obsolete objects than it portrayed the risk e-waste poses to nature. They presented notions of using electronic waste as pots for growing plants, the result of a possible arts and crafts activity children might complete. This result is an image of an activity which is too familiar. It perpetuates the notion of carrying on with producing waste as it will be useful.

In order to achieve the aim of expressing a harmful relationship between humans and nature, compositions of visible connections between the plants and waste needed to be tested. To do this, plants were placed in direct contact with the e-waste. For the next test, several varieties of seeds were planted on the keyboard without soil. The position of the keyboard was also changed. It was placed on a flat piece of white foam board and the light table was stood up behind it. Artificial light was bounced off the ceiling, creating a broad coverage of light from above the object. The seeds were watered using tap water. As no soil was being used there would be less possibility of the plants getting enough nutrients from the water alone. Due to this, I decided to add a small amount of a liquid plant food to the water. In figure 4.5, it is seen that most of the seeds sprouted and grew. However, there is no evidence to suggest that this was due to the plant food.

Fig. 4.5 David Summerill, *Untitled* (2011)

The resulting image appeared less commercial and familiar for three reasons. First, the white background was split in two with distinct shades of grey and no high gloss reflection. Second, the plants covered the keyboard and could be seen growing out of it. This was no longer an image of an electronic item which could be in working order. Third, the object is off centre with more empty space. Basic product shots utilise the entire space centring the object in order to maximise the amount of space which is available in catalogues or internet pages. The object faced the camera straight on. Positioning it in this manner created a long horizontal line, producing a calm effect. The contrast of background and foreground tones created a distinct horizon line which held the potential reading of a landscape. This straight on view also aligns with the view one sees when using a keyboard. Its position is familiar. The plants are familiar. However, the arrangement is strange. Because the familiar view of soil with the plants does not exist, it introduces an uncertainty about the scene.

Along with the keyboard, additional positions of the mouse were experimented with (see Fig. 4.6). The plant and soil remained, while cress seeds were added. Turning the mouse to the side minimised the amount of diagonal lines. However, the mouse was still photographed on a reflective surface. The reflection caused it to still appear as a product shot. The complete shape of the keyboard and mouse still presented them as vessels for growing plants around the house or an office[36]. The new composition achieved with the keyboard encouraged further exploration.

Fig. 4.6 David Summerill, *Untitled* (2011)

This was done using electronics which appeared in a worse state of disrepair. A netbook that was missing a screen and keyboard was used to place cress seeds and bulbs on. An unfamiliar arrangement involving suspending the e-waste above the light table was experimented with. This created the illusion of levitation as a way of adding suspense and uncertainty. It also allowed for the possibility of creating an image of a plant fully grown with its roots engulfing the electronic waste. In order to achieve the image, seeds were planted across the top of the exposed circuit board and underneath it.

Fig. 4.7 David Summerill, *Untitled* (2011)

Over the course of two weeks the seeds were kept moist and grew. The resulting imagery shows that the cress grew and died within a two-week time period; never reaching maturity. The bulbs grew very slowly as would be expected. In this arrangement, two shadows cast by the object appeared on the light table, showing it was suspended. As well, the strings, which held the object in place, were also visible and showed that it was suspended. The strings could easily be left in the composition or digitally removed (see Fig. 4.7). This was followed up with similar levitation compositions of circuit boards (see Appendix 2).

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[36] See Appendix 2 for images of a phone which was also photographed.

Critical analysis of this first set of experimental images established that the aim of creating imagery that comments on the hazardous relationship between humans and nature was not being achieved. The commercial style of the first images were too dynamic (see Figs. 4.2 - 4.4 and 4.6). The suspension of the netbook (see Fig. 4.7) produced a visual appearance of levitation, which appeared mores as a gimmick. Both of these outcomes, though capable of creating a visually dynamic photograph, obscured the message about the relationship between humans and nature. So much is happening in the images that they appear too complex. In her notes regarding the exhibition she co-curated, *Mysterious Coincidences* (1987), Susan Beardmore uses John Szarkowski's statement,

> Form is perhaps the point of art. The goal is not to make something factually impeccable, but seamlessly persuasive. In photography the pursuit of form has taken an unexpected course. In this peculiar art [constructed photography], form and subject are inextricably tangled. Indeed, they are probably the same thing. Or, if they are different, one might say that a photograph's subject is not its starting point but its destination. (Szarkowski 1976, cited in Beardmore, 1987:3)

What I became interested in, as I my developed my process, was the idea of making the images 'seamlessly persuasive' in order for the message of the work to be conveyed. I needed the content of the images, the subject matter, to be as simple as possible – minimal even – in order to draw direct attention to the strange relationship between the plant and the e-waste.

There were two aspects of the process that presented the possibility of achieving the aims of the exploration. First, is the arrangement of the keyboard seen in Figure 4.5. The object was photographed straight on creating a simple composition. There were no distracting shadows and the background remained neutral as there were no reflections to pull the eye away from what was happening on the e-waste. With the keyboard low in the frame, the line behind it, between the table and background, created a horizon. As previously mentioned this creates a calm appearance within images. Together these compositional elements grounded the object and transformed the electronic waste into a type of ground on which the plants grew, rather than becoming a potting solution or a humorous design. This arrangement presented fewer distractions to stop the mind from having a chance to form the concept of a relationship between humans and nature, or to prevent further contemplation about it.

Second, was the appearance of the condition of the netbook. The netbook was missing a keyboard and a screen. In this condition, it could be seen that the computer was in disrepair. It also exposed the component that held the largest mix of possible harmful elements, the circuit board. As the harm of the waste is of importance this made it possible for a mental connection to be made that the plants were in direct contact with possible harmful substances. Simplifying the composition and portraying the objects as harmful waste would become the objective for the next set of images that were to be made.

I moved forward with the experimentation after considering the types of discarded electronics I was working with and their forms. The impact that this waste has on nature comes from the elements that they contain[37]. Their size determines the amount of harmful elements that are being disposed of and subsequent level of impact on nature. The shape of the keyboard, mouse, computer or any other electronic item, is not associated with harmful impacts on the environment. It was also possible that the images I was creating could be simplified by breaking down the discarded electronics and using the pieces they were constructed from separately. Their outer case is what gives the electronics their finished appearance as well as usability. The circuit boards inside them appeared more abstract than a whole computer and would potentially

Fig. 4.8 Sophie Gerrard, *Maya Puri, Delhi, India* (2006)

represent a type of land better than the whole objects previously used. Although the shape and the componentry of circuit boards make them easily identifiable their usability is concealed. Seeing them exposed could suggest a state of disrepair. This also links the components to the piles of circuit boards seen in work by Burtynsky, Gerrard, Jordan and others, of e-waste often seen in documentary work. Using just the components inside the e-waste reveals more of the harmful elements; the recycling of which is a difficult process, as seen in one of Sophie Gerrard's images. The image titled *Maya Puri, Delhi, India* shows this type of recycling being done in Delhi, India in 2006, by a worker dismantling electronic waste by hand (see Fig. 4.8).

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[37] 'Modern electronics can contain up to 60 different elements; many are valuable some are hazardous and some are both' (UNEP, 2009:6).

In my practice research, I continued to experiment with arranging and composing these plant and e-waste objects. This second set of experimental work focused on utilising the components inside e-waste. It began with a minimal composition of the circuit boards. Instead of suspending them above the light table, as was previously done, I positioned these directly on the light table in a horizontal fashion similar to the keyboard in figure 4.5. While this would become the main arrangement for subsequent images, I continued to photograph objects at different angles and by suspending them. The netbook was rotated in order to photograph each of the leading edges around its rectangular form. A diagonal composition was also created in order for a comparison to be made to the previous image of the mouse. Various lighting patterns were also explored through positioning and the number of lights. Different arrangements of the lights affected the aesthetic of the images. The lighting positions determined how the shadows from the objects were cast. The ratio between main light and fill light also affected the aesthetic of the image. Tested along with the various light positions were multiple and single light set ups, different angles for the lights, and resulting shadows[38].

I focus here on the horizontal arrangements because the lighting, diagonal angles and suspension produced results which distracted from aims of the images, as with the mouse and keyboard previously discussed. The main compositional choice consisted of centring the object in the frame of the image but also lowering it to the bottom third (see Figs. 4.9 - 4.12). This created the illusion of a landscape, albeit an artificial one, by implying that the circuit board was the ground on which the seeds were forced to grow. The lines of the circuit board itself were positioned to appear horizontally and as close to vertical as possible, except where natural recession of lines into the horizon would appear diagonal. Though there were diagonal lines created by other components on the circuit board, overall this effect was minimal. As such, no excitement or dynamic appeal resulted from the positioning. The cress sprouts themselves took on the appearance of a small forest that struggled to take root on the impermeable surface of the circuit board. The only lines that appear to bend are created by the cress. Even so, these bend only slightly, limiting the emotional impact which may arise. The process of photographing lasted four weeks with the objects isolated in a studio environment. During this time, the seeds were watered and monitored for growth two and three times per day.

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[38] See Appendix 2 for images

The variety of cress used was *Lepidium sativum*, commonly known as garden cress. It is grown and used in salads, soups, and sandwiches. In addition, the plant is known for its high concentrations of minerals and nutrients (Sharma and Nidhi, 2011:293). The medicinal qualities of cress have been emphasised since ancient times (Bermejo and Leon, 1994:307). The properties of the cress are completely opposite to those of the electronic waste, which is known to contain elements that are harmful to nature and human life. Cress can grow up to 60 cm in length but my plants never reached maturity. As can be seen, from the series of photographs in figures 4.9 – 4.12 the seeds grew and then died. This did not capture an entire life cycle of cress because it started to die after three weeks. They only grew to about 5 cm in length; the normal length for food consumption purposes. Since finding a method of successfully growing mature plants with electronic waste was not an aim of the research, this was an acceptable result at this stage of the project. It is perhaps better than having the plants reach maturity because the image is capable of representing the unsuitable conditions which electronic waste imposes on nature.

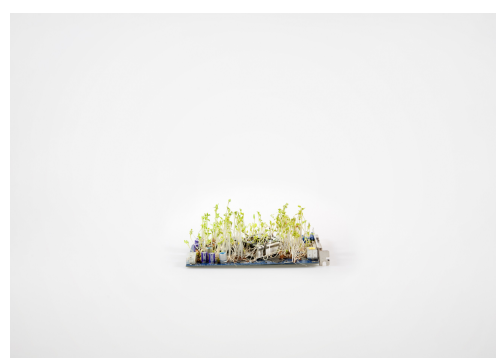Fig. 4.9 David Summerill, *Untitled*, Experimental Work, Series 2 (2012)

Fig. 4.10 David Summerill, *Untitled*, Experimental Work, Series 2 (2012)
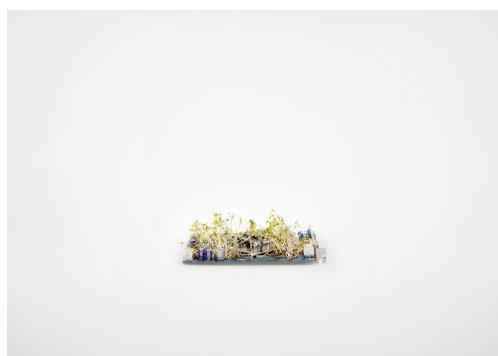
Fig. 4.11 David Summerill, *Untitled*, Experimental Work, Series 2 (2012)
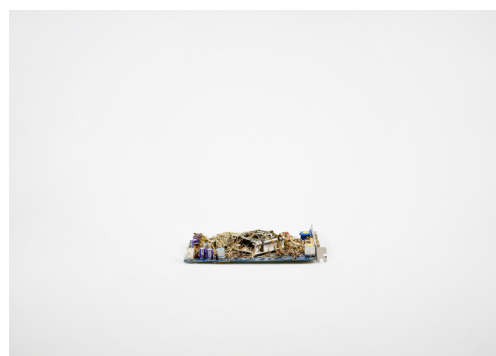
Fig. 4.12 David Summerill, *Untitled*, Experimental Work, Series 2 (2012)

The smooth side of the light table was switched for the matt finish. Even illumination was achieved by utilising a single light from both left and right sides. The arrangement minimised shadows and reflections from the object. As such, there is less, if any, emotional impact. The object is instead presented quite plainly and its details rendered clearly. Positioning the camera back from the objects made it possible to incorporate negative space into the image. This created a visual distance from the object which was further increased using post-production techniques to create more empty space around the object. Jordan and Barker also used post-production techniques to recompose the photographs of objects into much more complex and densely packed images. In contrast, I only added empty space to images. This was done in order to maintain the scale of the e-waste itself. With an image in which the object is tightly cropped an enlargement could exaggerate the size of the waste. By adding empty space, I hoped to maintain the appearance that this waste is small and ordinary.

This first set of circuit board images from the second set of experimental work (see Figs. 4.9 - 4.12) were arranged as a still life. There were similarities that could be drawn between my images and the work of Tim Head as discussed in Chapter 2. Where he was able to construct the illusion of landscape with laundry soaps, toys, and foods, I had found a way to explore the construction and staging of landscape by replacing soil and rock with electronic waste. The images were constructed in a studio environment; this completely man-made space was transformed into an unreal landscape. It suggests the contrived nature of the landscape that can be seen when a person looks on modern cities. The circuit boards created the illusion of distant land stretching into the horizon. The images had the potential to be read as representations of cities seen from a great distance or as small islands. They presented the image of a land shaped by the technology produced from contemporary human activity. The seeds forced to grow on it also resemble the attempt to control and incorporate nature. In a sense, it is similar to landscapes changed by mining and pollution. Lori Pauli pointed out what Edward Burtynsky's photographs capture, 'places where human activity has significantly reshaped the surface of the world' (Pauli, 2003:10). The images I had achieved in the second set of experimental work had this sense of a landscape reshaped by human activity but taken to an extreme state in which there is nothing left of nature. There is no soil, sky, or sea. It resembles a landscape made entirely of technology in which an attempt to grow something natural is failing. My images do not create the emotional impact of Burtynsky's, which he achieved by using photographic methods that render

the image sublime. The small, familiar objects I used were transformed into what appear to be aerial views of cities and/or islands, which have a safe feel.

My whole way of working has been completely opposite to the way Burtynsky has photographed: I am inside, in a studio, using miniature single objects and delicate plants that are living, growing and dying in front of my lens. The only similarity between my own work and that of Burtynsky is that at times the way I have photographed these miniature scenes makes it look as if I am photographing much bigger things (cities and islands) from a distance. And of course we both have an interest in the environment. The sublime quality in Burtynsky's photographs is created through his particular point of view, his framing of the image, his use of colour and the scale of the final prints.

The controls used in the making of my work were much more to do with a slower approach, including how I constructed the set and how I worked out the point of view and lighting over a period of days or weeks. I was arranging the pieces and trying to find how they fit together physically and then how I could photograph these constructed objects. In a sense constructing photographs is more like a puzzle in which you do not know what the final image should look like but must find. By repeating the image making process with more circuit boards and other types of electronic waste I established the method for making the work.

Industrial Growth

Continuing to experiment with e-waste and plants during this second series of experimental work resulted in the creation of a body of images collectively titled *Industrial Growth*. 'Industrial' references the manufactured nature of the electronic waste. Before being discarded, this waste was created through manufacturing processes designed and implemented by humans. 'Growth' refers to growth of the seeds into plants: it is a natural process that, although not specifically dealt with in this project, is also being manipulated by humans. Together, these two words in the title of the work speak of the continuing growth of modern manufacturing, the origins of which date back to the 18th century at the beginning of the industrial age, as well as the increased

production of large amounts of products which eventually become e-waste.

The exploration continued by using the same circuit board seen in figures 4.9 – 4.12 again and continued with eight other e-waste components. In each case the approach was similar to that of the earlier experiments. The circuit board was again covered in cress seeds that were watered and photographed over four weeks as the plants grew and died. Although the same elements, arrangement, compositional choice, and lighting were utilised, a different image resulted. As the cress grew, it naturally took on an appearance similar to, yet different from, the cress in the first experiment. There appeared to be more growth; possibly a result of more seeds being placed on the circuit board. Their growth produced a different pattern made up from the bend in the stalks and positions of the leaves. The image that resulted, titled *Lepidium sativum* 13, was different due to the natural growth of the cress (see Fig. 4.13).

Fig. 4.13 David Summerill, *Lepidium sativum 13* (2012)

The title given to the photograph comprises the Latin name of the plant species and the day of growth, since watering, on which the image was created. The only similarity between the cress and the circuit board is that they are both mass-produced and consumed by humans. The plant however has an evolutionary history. Its name establishes its classification and its place in nature. Using the plant's scientific name

establishes it as a natural thing in the image, but keeps its meaning linked to the issue of humans controlling nature. Shortly after the day of photographing specified in the title, the plants began to die. This is meant to loosely reference the relatively short amount of time in which humans have made a major impact on nature. The evolutionary history of the earth spans billions of years, the current environmental issues we face however have grown in a relatively short amount of time. It also references this particular point just before or at time of decline for the plants. Knowing it died at this point but seeing it captured still alive adds to the feeling that something is not right even though it appears just fine. Unlike Jordan who mainly titled his work after the material used, keeping the link to an environmental concern more obvious, my titling is obscure and complicated. It could easily be read as a scientific experiment with the title referencing what took place. The meaning produced by this combination of title and image bears a relationship to the way Barker titled the images in her series *Indefinite* (2010)*,* where each title simply states the years it would take for an item to break down.

The image titled *Tropaeolum minus Calendula officinalis 19* (2012) (see Fig. 4.14) is interesting to look at because of how large the plants grew. On the circuit board, nasturtiums (*Tropaeolum minus)* and marigolds (*Calendula officinalis*) were planted. According to Maarten J. M. Christenhusz, *Tropaeolum minus* is not difficult to grow – it can tolerate well-drained sandy or loamy soil and can withstand dry conditions. It is also capable of flowering on poor substrates (Christenhusz, 2012:327). The circuit board met the conditions of a 'poor substrate': the nasturtium grew for nearly three weeks, achieving what appeared to be a great degree of maturity. There is no evidence that plant food in the water aided this growth; the cress had not made it past two weeks and there was no control experiment to consider as it was not a scientific experiment but rather a visual experiment. The stalks were climbing toward the light source. The leaves took on the shield shape they should. It would have been another 2-3 months before flowers would have appeared if it had kept growing. However, it suddenly, and for no apparent reason, faded and died (see Fig. 4.14). The conditions in which it was growing were likely the contributing factor. This is important to note because it suggests the types of conditions humans are producing are harmful to nature.

The constant growth that produced long stems and leaves on the nasturtium plant remained within the composition that was established. Although the plant spread out

into the empty space, the sense of scale remained because the circuit board remained small in the frame. The plant grew to either side of the circuit board and the image remained visually balanced. The marigold sprouted, but never appeared to grow past this stage. There was noticeable visual movement of each of the individual nasturtium plants while growing. The plants' movement alone introduced a variation in composition among the images made from it. I continued to experiment with lighting and composition in order to fully explore the object and identify the composition that would best meet the aims of my practice research. Although a number of visual outcomes were achieved, my decision to use images with flat lighting and horizontally positioned objects remained.

Fig. 4.14 David Summerill, *Tropaeolum minus Calendula officinalis 19* (2012)

There are some interesting comparisons that can be made between the plants and e-waste. Marigolds and nasturtiums are both known for having medicinal properties: nasturtiums for their antibiotic properties, and marigolds for their anti-inflammatory properties. Like the cress these plants are associated with health and wellbeing. Again, there was a contrast in terms the health qualities between the plants and the electronic waste, which needs to be disposed of properly to prevent harm to nature and humans. The nasturtium originates from South America (PFAF, n.d.a) while the marigold is thought to have originated in southern Europe (Grieve, n.d.). The e-waste is a product of human 'progress'. Before becoming waste, it could have symbolised the potential to improve lives, similar to the plants. However, as waste it poses a risk to life in the

places e-waste ends up. Another layer in the work exists then from utilising two different plants from different parts of the world. This could be seen as a reference to the global issue that electronic waste has become. This type of waste originates in all parts of the world and is shipped to developing nations such as Ghana, India, and China to be recycled in hazardous conditions as mentioned in Appendix 1 (Greenpeace, 2009). However, this aspect of the work's meaning is contextual rather than directly apparent, as nothing in the image itself points to the widespread problem of e-waste.

Another circuit board used in the process of making images came from a small mobile phone. This object was a fraction of the size of the two circuit boards already used. Making images with this piece of e-waste began by planting lavender (*Lavandula angustifolia*), which was initially chosen because of the size of the seeds. They are extremely small, complementing the small size of the circuit board. Lavender is technically a shrub. This is very different from the two plants already used. Horticultural sources say it needs a neutral-to-alkaline, well-drained loamy soil. It is also considered to be drought tolerant (OMC Seeds, n.d.). Further reading about lavender showed that it is known as a relaxing herb; it has a soothing effect on the nervous system (PFAF, n.d.b). Using it is thought to relieve insect bites, burns, and headaches (PFAF, n.d.b). These qualities are again in complete contrast to the qualities the circuit board and the effects of recycling it without proper safety equipment. The people that burn electronic waste to recover valuable metals contained in it complain of headaches and other health problems (Anane, 2008).

The lavender seeds should have germinated within 14-25 days. Interestingly they did not show any signs of germination within this period (see Fig. 4.15). They were kept moist over the course of two weeks. However, the only change occurred in the metals of the circuit board slowly oxidising. The rust had a dark red hue that surrounded the seeds. On further inspection the dark hue of the seeds, their small size, and hue of the rust made it very difficult to identify that there was anything on the circuit board. The only controls in place were the arrangement of e-waste and plant as
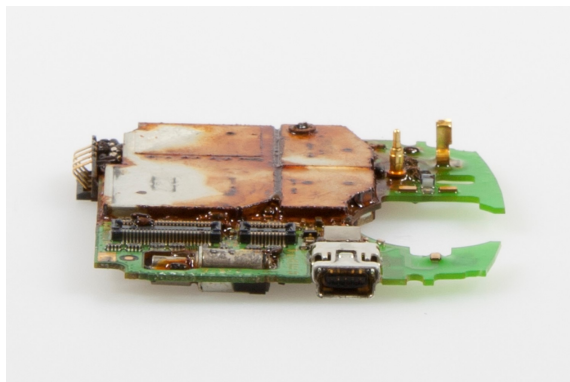
Fig. 4.15 David Summerill, *Untitled*, Experimental Work, Series 2 (2012)

well as composition of the image. The seeds were kept moist, but beyond that, whatever happened in the seed or outside it on the e-waste was left to develop without interference. Though this was not a scientific experiment, the possibility that the circuit board was indeed toxic enough to prevent a plant from growing could be inferred by the outcome, which reproduced in microcosm the way that human products are poisoning nature.

The decision was made to dump an entire packet of wildflower seeds at once on top of the board almost completely covering it from view and attempting to grow the seeds (see Fig. 4.16). For two weeks the seeds were kept moist and monitored. Still nothing grew. The only differences in the images captured were through variations in lighting, as the seed mound remained unchanged. When no signs of growth had appeared after 14 days, the pile of seeds was spread out. Not a single seed had sprouted. Though this result was also frustrating, the seeds not growing was a result in itself. It is possible that none of the seeds were good to begin with. It is also possible that there was some element within that particular circuit board that was so toxic nothing would ever grow on it. It could be an image of just how negative the impact from humans on nature can be. The pile of seeds not growing could be viewed further as a metaphor for the effort being expended to shape nature for human purposes and the result, such as landscapes which are barren or in which nature is missing. The title *Wildflower Mix* (2012) did not utilise the Latin names of any of the seeds used, because neither the packaging nor the manufacturers website listed them and not even the common names of the plants could be found – they remained anonymous.
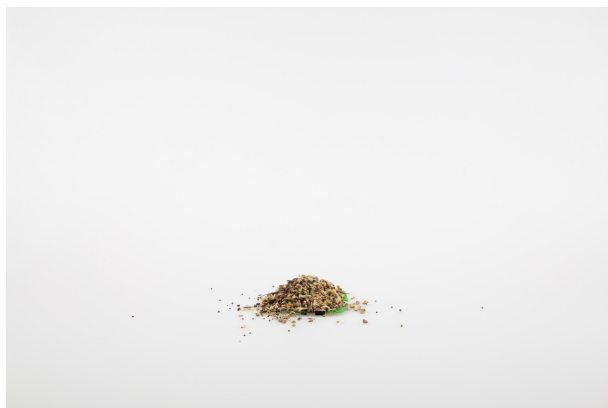
Fig. 4.16 David Summerill, *Wildflower Mix* (2012)

One last element which was explored in making this initial body of work was the medium of photography being used. The choice to work with digital or analogue materials is often questioned. I tested the use of 5x4 colour film and this proved impractical for the work. The large frame of the film required getting extremely close to the objects to fill the frame with the small lighting table. This resulted in a very small depth of field when focusing. The blurring of the image resulted in a different reading of the images. It softened it, romanticising it in a way. The large format also required

more time for set up, developing, and image scanning. The photographs were made every couple of days over the course of a minimum of three weeks. This would have added unnecessary time and costs to the process.

This second series of experimental work in which familiar objects were juxtaposed unnaturally, resulted in the creation of *Industrial Growth* (2012). This body of work includes six final images of electronic waste and plants. The images appear quite simple with just one electronic component to look at in each image. This simplicity makes space for the complexity of the message.

New Materials

As discussed, in most e-waste, circuit boards contain a mix of the various harmful elements listed by the UNEP. The electronic waste used in the final images of *Industrial Growth* (2012) consisted mainly of circuit boards. Exceptions to this were the hard drive and power source. I needed to find a way to work with more of the waste including the wires and cables which are inside most electronic items. So for the next series of images I determined to use circuit boards and wires together and began work on a third series of experimental images.

The work began where *Industrial Growth* (2012) ended, using the basic Perspex lighting table and lighting arrangement. Recognising that the plant food which had been added to the water in the making of the previous images had not produced any type of long term growth, it was removed from subsequent work. Nor was it an aim of the work to produce images of fully matured healthy plants. This meant that the experiment would rely wholly on what the plants and waste could achieve together. For the first image, *RC Airplane Transmitter One* (2013) (see Fig. 4.17) a circuit board with a single wire connected to it was used. I continued working with cress for this image. Although the potential for the cress to grow longer than it had in the previous situations existed, it was unlikely that the plants would mature further.

An unexpected outcome appeared on this particular piece of e-waste (see Fig. 4.17). The cress was spread on top of the circuit board by hand, as with the other electronic waste. It sprouted and began to grow across the entire artificial surface on which it had

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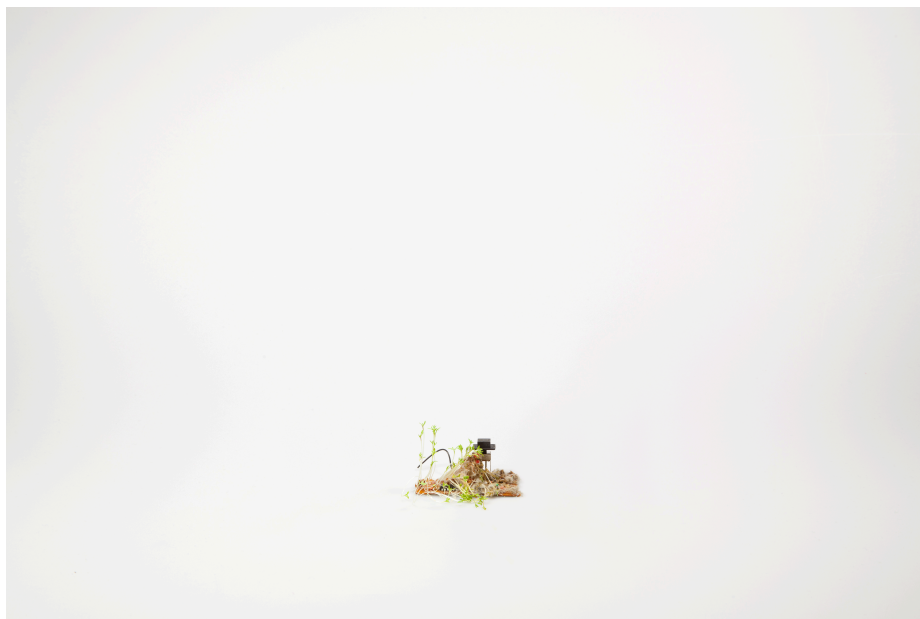
Fig. 4.17 David Summerill, *RC Airplane Transmitter One* (2013)

been planted. On the right side of the circuit board a mould grew. This had not happened on any other item previously experimented with. Interestingly, it has not happened on any materials used since. The cress on the left portion of the circuit board grew as had been seen in previous images. With the cress on the left and the mould on the right, there almost appeared to be a struggle taking place on the small space of artificial land where the two met (see Fig. 4.18). The cress began to lean toward the mould while the mould appeared to be growing into and up the cress, as if it were pulling it down. This appearance of a struggle could be viewed as a struggle that takes place naturally as plants compete for space to live in nature. It is a struggle that could be compounded if the landscape is consumed by growth and pollution from humans, leaving less for nature to use. Like the growth and death of the nasturtium, the growth of the mould was unexpected. Although the plant had been grown in the same conditions as the previous e-waste plant objects had, this was a new result.

Although the objects for this series were set up and photographed in a similar repeatable manner as before, the results appeared slightly differently. This was due to the inclusion of the wire components, the plants used and the compositions constructed.

Fig. 4.18 David Summerill, *Untitled*, Experimental Work, Series 3 (2013) (detail)

Before continuing with a description of making images in which the wires would be present with the circuit boards, it is worth noting the challenge of keeping the seeds and subsequent roots moist. Lack of moisture is the first thing which will cause growth to stop. Constantly, checking and watering the seeds was a time-consuming task throughout the research process. An initial solution devised to keep seeds from drying out involved covering them with a moist towel. This was intended to be removed for taking photographs and then replaced. In keeping with ecological principles, I wanted to keep waste from the image-making process to a minimum, and so tried to use only materials on hand rather than purchasing new items. I devised the use of common materials such as rags, buckets, old socks and eventually a glass bowl to cover the objects. Because they are different sizes, no single covering was capable of meeting the individual needs of the objects. There have been times when the materials used to keep the seeds moist have disturbed the plants and direct intervention has been undertaken to adjust the plant on the circuit board (see Fig. 4.19). I have photographed the coverings used to keep the seeds moist in order to document the process. This record not only shows the process, but helps to demonstrate that the objects were constructed consciously. The problem with covering objects with a rag was discovered when I attempted to remove the rag covering the e-waste (see Fig. 4.19). As it was in direct

contact with the plant, the roots clung to the rag as it was removed. This moved everything from its original position and I had to use a screwdriver to remove the plant from the rag. Bowls and containers were subsequently used as coverings, to keep from disturbing the objects and minimising the work to be done[39].

Fig. 4.19 David Summerill, *Untitled*, Experimental Work, Series 3 (2013)

The wires attached to circuit boards affected the visual outcome of the images by filling the available empty space of the light table (see Fig. 4.20). This was not a challenge for the circuit boards in *Industrial Growth* (2012). Those images only had to consider the plants growing and how they filled the space. These wires added extra lines and dimension to be worked with when composing the pictures. The initial image was similar to those previously made. The wires then presented an opportunity to work with

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[39] See Appendix 2 for additional images of growing and covering

the arrangements slightly differently. They did not have the same shape as a circuit board and this suggested that there may be other arrangements that would still meet the aims of the research. I experimented with the next e-waste object by cutting and crumpling the wires. The resulting bits were then arranged on the light table around the
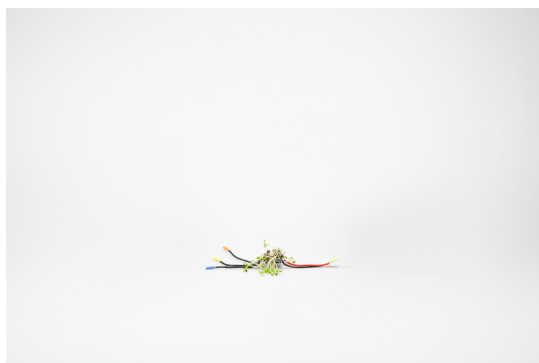
Fig. 4.20 David Summerill, *Electronic Speed Control* (2013)
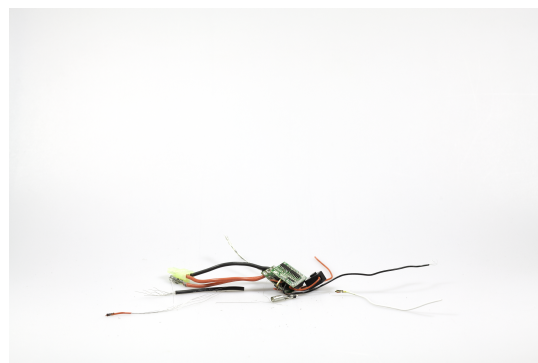
Fig. 4.21 David Summerill, *Untitled*, Experimental Work, Series 3 (2013)

circuit board, which was centrally located in the image (see Fig. 4.21). An *Anemone coronaria* was placed on top of the small circuit board and watered. This plant is the only one which was used that is not meant for consumption. It has toxic qualities, if ingested (NCSU, n.d.). This was not the only similarity that it shared with the circuit board. As will be discussed, the forms of both the waste and the plant, mimic each other in appearance (see Fig. 4.22).

Fig. 4.22 David Summerill, *Untitled*, Experimental Work, Series 3 (2013)

An anemone can reach heights of 45 cm. However, this particular plant was grown without soil on top of a light table. The roots had very little to attach to and support the stalk and leaves. Its growth posed a compositional problem not yet faced. The plant was growing into the foreground of the image, toward the camera. It grew 25 centimetres from the circuit board. This extension of the plant away from the circuit board caused the leaves to fall out of the depth of focus that could be achieved. A shallow depth of field was not desirable as it obstructed the view of the entire object that had been constructed. Letting the leaves fall out of focus would have seemed too 'natural'. In reality a viewer's eye would refocus as it moved from the leaves to the circuit board. As this natural movement was not possible, both parts needed to be kept in focus.

In order to construct an image with all objects in focus, I tried using the smallest aperture the lens had; this did not work. So, I detached the camera from the tripod, which had been set up to specific height and angle of view with the previous imagery. With the camera, free from the tripod, an aerial perspective was explored. Getting above the object flattened its appearance in the image. Depth field was no longer an issue because the plant and e-waste stood no higher than a few centimetres from the table, falling within the depth of field range of the lens and aperture combination used (see Fig. 4.23).

Though the perspective was different from the straight-on, nearly level view utilised for the *Industrial Growth* imagery, it did not seem to disturb the direction and meaning of the work. From this perspective a similarity between the linear pattern of the wires and the anemone stems is visible. The objects appear as if they are a part of the same entity. The shape and colour of the

Fig. 4.23 David Summerill, *ESC Brushed Motor* (2013)

anemone stalk is so similar to the wires that it could be asked, 'What is plant and what is waste?' The effect is similar to the *Herbarium* images made by Joan Fontcuberta (see Chapter 2). Unlike his images, mine do not try to fool the viewer into thinking that the wire is a plant. It is still clear enough to be able to distinguish the wire and plant

material separately. The familiarity of the objects is made just strange enough to allow another reading to take place. The e-waste is incomplete; three elements are missing from it. The waste is not connected to power; it is unable to receive user input; nor can it output any information. In comparison, the plant is whole. The anemone has roots to take in nutrients and moisture as well as leaves to receive light in order for photosynthesis to occur. However, it is not receiving a full set of needed nutrients in order to sustain life. This is partly due to the lack of nutrients as a result of being planted on e-waste. Any sense of this juxtaposition being a 'natural' possibility then, begins to break apart as the illusion of this being one entity becomes apparent.

Working with these circuit boards and wires led me to concentrate my exploration on wires and cables alone. This started a fourth set of experimental work. Wires are distinctly different from circuit boards in shape, line, dimension, structure and material. Whereas circuit boards are stiff, many wires and cables are pliable. These also vary in diameter, from extremely thin to thick. All of this combines to create a type of e-waste which will appear very different from circuit boards. Up to this point I had worked with small diameter wires. These would be difficult to place a seed on or in. To continue the research, I cut a portion of internet cable I had retrieved from an open bin. I cut a length that would fit on the small Perspex table being used. It stretched across the entire table leaving no empty space at either side. This empty space was needed to aid in creating the perspective of distance in the image. The cable could have been cut down but that left very little of the electronic waste to be photographed. In order to avoid reducing the amount of cable in the photographs any further, an exploration of how the cable could be contained in the space available was conducted. This process was guided by cutting several lengths of the cable and shaping each one differently. I shaped the cable into several spirals, a square (which did not hold its shape), and a three-dimensional shape (again this did not remain) (see Fig. 4.24).

Fig. 4.24 David Summerill, *Untitled*, Experimental Work, Series 4 (2013)

The exploration showed the possibility of containing the same length of cable in the small space which would be available to photograph in. It also showed that the empty space would be achieved in the images through this process of shaping the cables. There were visual possibilities within each of the shapes composed; however, reflection

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on the first experiments with waste, already outlined, pointed to the importance of the shape, form and arrangement of the waste being composed in such a way that it does not distract from aims of the imagery. This was the most difficult challenge in working with the wiring. In order to achieve the aims outlined, a concentrated spiral shape, similar to a dvd disc, in appearance, was used. This was achieved by winding the cable tightly around itself (see Fig. 4.24). It would not remain in this shape, so the spiral was secured using tape. Using this disc shape made it possible to concentrate the internet cable into the same portion of the frame as had been established with the circuit boards used in the *Industrial Growth* series. It would create empty space at either side of the waste and space for the plants to grow up into the frame of the image. It would also make it possible to create a sense of distance from the objects in the photographs. This would make it possible to keep the cables closer to their true scale when enlarged as well as emphasising the importance of a single piece of waste.

The next step required consideration of how to best incorporate the plants and their growth into the arrangement. Rather than simply placing the seeds on top of the cable, as was done with the circuit boards, I devised a way to introduce the appearance of more physical engagement between the objects. I decided to place the seeds inside the cable housing so that it would contain both the wires already inside and plant seeds. The cable was designed to contain only the wires inside it with no space for anything else. The small size of the cress seeds was still too large to fit them among the wires inside. This made it difficult to get seeds inside the open ends. Although lavender is a small seed it was not used because it had not grown previously. There was simply no space inside for the seeds. In order to force the plants and cable together, I carefully ran a razor blade along the length of the cable, opening it up. I then forced the garden cress inside the cable alongside the wires. I did the same adding nasturtium seeds into the minimal amount of space in another (see

Fig. 4.25). The physical incompatibility between the seeds and electronic waste became apparent during this process. The small space made it difficult to keep the seeds inside. However, by forcing the seeds into the cable, I mimicked the manner in which plants are forced to exist among the growth of the urban

Fig. 4.25 David Summerill, *Untitled*, Experimental Work, Series 4 (2013)

environment constructed by humans. This can be seen in Lewis Baltz's *South Corner, Riccar America Company, 3184 Pullman, Costa Mesa* (1974) (see Chapter 1). In this photograph the space left for planting anything is limited to a small portion of soil which has not been paved over. Other than gardens and parks within urban environments, most spaces that are left in cities for plants to grow appear similar to the plot in Baltz's image. They are often small openings between paved surfaces. The space remains ordinary with little embellishment around it. Nature is being forced to exist in confined spaces constructed by humans.

The engagement with the discarded cables had already proved to be more challenging than the previous experiments with circuit boards and circuit boards with wires attached to them. When these flat circular shapes were released they would unwind expanding back out into the empty space of the studio. In order to try and photograph the shapes as they had been constructed, I left them bound by the tape for two months. This was done to encourage the plastic housing to hold the shape after the tape was removed. In order to eliminate as many visual elements from the images as possible, I did not intend to leave the tape in. Also, it held the cables quite tightly which might have prevented the seeds from growing out of the cable. During this period, I experimented with other arrangements of e-waste[40].

At the end of a two-month period the tape was removed, but the internet cable did not hold its shape. Instead the cable unravelled and took on a more complex dimension as it expanded (see Fig. 4.26). The new, unintended form, created curved lines that expressed movement within the frame of the image. It was visually more interesting than previous images, which were simple and calm, a result of flat lighting and horizontal lines. It was possible that the twisted shape would be a distraction from the intended message about e-waste and the relationship between humans and nature. Each of the discs expanded into a unique and complex form, as the tape was removed. This happened only with the internet cable, which was exactly stiff enough to react in this way. Black electrical power cords and USB cables

Fig. 4.26 David Summerill, *Untitled*, Experimental Work, Series 4 (2013)

[40] See Appendix 2

reacted differently. Some of these are stiffer and expand very little (see Figs. 4.27 - 4.29). Others are limp and will not hold a shape. The problem with this was that they laid flat and had very little dimension. The angle of view being used to capture them is primarily low, so the shape was lost in the frame. An aerial image would have revealed the form as a shape; however, an entire series of aerial images was not desired. To get them to remain upright, I had to twist and tangle them into various shapes by hand. The process of shaping internet cable was continued in order to be able to maintain the landscape view on these objects already established.

Fig. 4.27 David Summerill, *Untitled*, Experimental Work, Series 4 (2013)
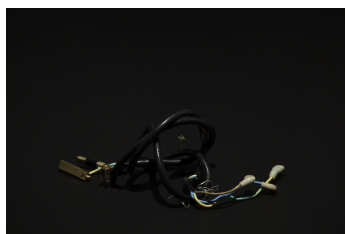
Fig. 4.28 David Summerill, *Untitled*, Experimental Work, Series 4 (2013)
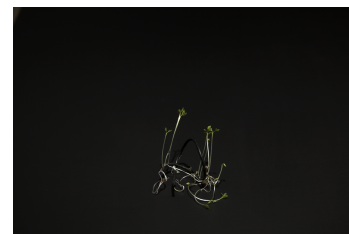
Fig. 4.29 David Summerill, *Untitled*, Experimental Work, Series 4 (2013)

The experiments with the discarded cables and plants created visually more complex objects. Their forms also posed multiple interesting viewing angles. The curve in the cables, as they arch up and back down, leads the eye through the image. The curve could be interpreted as the shape of gentle hills. Two lights were positioned at either side of the object, as done previously, to create an even illumination across the image. These new objects however stood taller on the light table than a circuit board. This combination of two lights and the cable cast two distinct shadows onto the surface of the table. In previous images the shadows were extremely minimal and almost imperceptible because the circuit boards rested so close to the table. However, with these objects there was a greater distance, allowing for the shadows to feature prominently in the photographs (see Fig. 4.26). The double shadow is not natural; it is not a familiar view when looking at objects in a natural light. It adds a layer of unfamiliarity that distracts from what is happening in the image, preventing a viewer from being drawn in. With this in mind I endeavoured to find a composition which would be strengthened by the curves of the e-waste and shadows.

The type of waste that I am working with is not covered in dirt or hair, as the cigarettes Irving Penn had photographed were (see Chapter 3). Its components do not appear ugly

or seem terrible – broken perhaps, but not obviously dangerous. Still, they are full of harmful elements which are not visible. Rather than making images that appear obviously dangerous at first, the objects were utilised almost as they were found, in order for viewers to mentally connect with similar objects when outside the museum or gallery. I hoped that this would result in the consideration of the environmental impact that harmless looking objects can have. This also helps keep the possibility of environmental actions open to solutions.

Reflecting once again on Burtynsky, Jordan, Barker and Goldiechiari we can consider how they have made beautiful images of the waste and scars of human impact on nature. Of Burtynsky's work Kenneth Baker stated,

> Aesthetics and conscience collide in photography as nowhere else in contemporary art. … More often than not, we find the beauty and the meaning of images to be in conflict. ... Burtynsky continually celebrates the beauty possible in photographs…Yet his subjects, the sites and equipment of heavy industry, are in almost constant connotative conflict with his work's aesthetic elegance. (Baker, 2003:40)

The idea of beautifully portraying the harm humans are doing to the planet may seem contradictory. However, using the definition of beauty previously quoted (in the Methodology section and the start of this chapter) and reflecting on the discussion on 'beauty' in Chapter 1, it is clear that an aesthetic which is pleasing to a viewer and conveys the sense of beauty need not be simply about the content of the image, but results from composition, colour, focus, and a range of other qualities that are the result of the image-making process. I have tried in this chapter to describe the process by which I have produced visual effects that I intend to be perceived as beautiful in order to draw attention to products of e-waste that are not beautiful in themselves but are actively harmful.

In an extensive look at changing ideas about beauty in art, Umberto Eco offers further thoughts on the way that beauty may be perceived in art that does not depict subjects traditionally seen as beautiful (such as flowers or softness, which Burke suggested as beautiful objects and quality respectively – see Chapter 1). In relation to medieval art, Eco states: 'Beauty (and this was to become a persuasion common to all Medieval philosophy) also springs from the contrast of opposites' (Eco, 2010:85). Although Eco's discussion was centred on images of good and evil in art, it has an application to the elements that I am working with. The electronic waste I am making imagery with is

considered a polluting element that is harmful to the environment when disposed of improperly. Its growth is seen as a danger to nature and people that work with its harmful elements. The opposite applies to the plants, whose growth is seen as positive and desirable. The contradictory nature of these elements contributes to the striking visual quality I hoped to achieve.

I still had to find a way to create a 'beautiful' image in relation to the object's size, shape and form in connection with their positioning and lighting. I explored the composition by rotating the objects into different positions. The objects were then photographed in these various positions, with two lights on either side of the light table (see Figs. 4.30 - 4.32) as well as a second exposure made using a single flash unit (see Figs. 4.33 - 4.35).

Fig. 4.30 David Summerill, *Untitled*, Experimental Work, Series 4 (2013)

Fig. 4.31 David Summerill, *Untitled*, Experimental Work, Series 4 (2013)

Fig. 4.32 David Summerill, *Untitled*, Experimental Work, Series 4 (2013)

Fig. 4.33 David Summerill, *Untitled*, Experimental Work, Series 4 (2013)

Fig. 4.34 David Summerill, *Untitled*, Experimental Work, Series 4 (2013)

Fig. 4.35 David Summerill, *Untitled*, Experimental Work, Series 4 (2013)

In each position the double shadow continued to appear as a distracting element in the arrangements. The shadows drew the eye away from the cable that would eventually have plants growing on it. The form became too complicated to read. In images lit using the single flash unit, the composition was simplified. The single shadow was not an exact mirror of the shape: the line created by the shadow appeared to complement the line of the cable. The cable itself appeared to flow calmly across the image plane. In contrast, the cut along it appeared sharp and jagged. This necessary cut helps show that

although its form and composition could be seen as beautiful, it was still waste. The object appeared more natural, creating a more familiar appearance of the object when being viewed. Eleven different positions were created with the two choices of lighting. I wanted to find the position and shadow that would be simple in appearance yet 'beautiful'.

Only one composition would be possible for these objects, because moving the cable multiple times in the photographic sessions that were scheduled to take place as the plants grew would disturb any form of natural decay of the objects shape. The arrangement in figure 4.36 was chosen because the line of the cable pulled the eye into the image and did not force it

Fig. 4.36 David Summerill, *Untitled*, Experimental Work, Series 4 (2013)

back out. This is important to keeping the viewer's attention on the objects in the imagery. The shadow in the image both complemented the form of the electronic waste and visually created a weight, grounding the object in the photograph.

The result of this experimentation with the cable has produced a series of images in which the form of both the electronic waste and the plants changed throughout the image making process (see Figs. 4.37 - 4.39). The cress grew similarly to the way it did in other experiments before dying. Since the cable was flexible it responded differently from the circuit boards. Instead of remaining solid, gravity pulled it down, causing its shape to change slightly. It sagged in the composition taking on a tired appearance as if it was being worn down. This of course would appear natural in objects exposed to gravity in the landscape. This familiar action becomes strange in an image arranged so precisely in the studio. The final image chosen from this first set of the cable images is simply titled *Cable* (see Fig. 4.40). To finish the composition empty space was added in post-production. Again, this results in the object appearing closer to its real-life size when an enlarged print is produced.

Fig. 4.37 David Summerill, *Untitled*, Experimental Work, Series 4 (2013)

Fig. 4.38 David Summerill, *Untitled*, Experimental Work, Series 4 (2013)

Fig. 4.39 David Summerill, *Untitled*, Experimental Work, Series 4 (2013)

Fig. 4.40 David Summerill, *Cable* (2013)

The exploration of circuit boards and wires in the third and fourth experimental series continued with three other cables which were cut, planted with cress, and coiled up[41]. The images produced using circuit boards, wires, and cables, make up a body of work titled *New Materials.* This title is a play on the waste itself. Though it was discarded it is possible that it still worked or could be repaired to working order. As it was, they were new materials to be used in my work. The plants themselves were each new material; grown for the first and only time there in the studio. The titles chosen for the final images of the series are simply comprised of a description of what the e-waste was. Though it is a specific type of cable, leaving the title general allows for the image to be about other types of cable as well. This also closely resembles how Jordan has titled his images based on what they were composed of. In contrast, rather than including information about how much of the e-waste I have used is discarded, or referencing other works of art as he did, I have added nothing more.

End Product

Approaching the end of my image-making exploration, I contemplated what my final series of images could look like. At the same time, I considered what the end product of consumer behaviour could look like. Although there is no way of knowing what the end result of human action will be, until that time comes, it is likely that people will

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[41] Subsequent images of cables in the series were titled *Cable* followed by a roman numeral referencing the order in which these objects were created.

continue to control, manipulate, and in the process harm nature. This contemplation resulted in the forming of the title for the final series of work undertaken, *End Product* (2014-2015). It could be a statement about the condition of nature in the future and what we humans have done to it. It is hoped that the images will result in the questioning of what the end product of human action might produce.

For this series, I wanted to do more with the shape of the e-waste than coil it up and let it unravel almost naturally, or simply putting a circuit board on a table. Instead I explored creating new shapes and forms with the e-waste. I began the fifth series of experimental work with both cables and a circuit board. This would be the final exploration of constructed photography using e-waste and plants. In this series, I attempted to find a way to work with the grey internet cable, as well as three different black cables (all from computer peripheral equipment including a USB, mouse and other connecting cable) and the circuit board, in a very different way. The black cables had already been found to be too flexible to hold a shape like the grey internet cable used in the fourth series of experimental work. I decided that instead of creating a shape by bending the cables, a shape would be created from cutting the cables. This idea of shaping the e-waste correlates with Jordan and Barker who composed images of massive amounts of waste but transformed the materials into other shapes and images both physically and using computers. It is also similar to Goldiechiari, as they had formed plastic bags into water lilies (see Chapter 3).

I began by creating a series of small, simple sketches of possible compositions to consider[42]. There seemed to be no limit to the shapes that could have been formed from the cables, if they were cut. The aim of my practice to use single components of e-waste remained. Each cable (or section of cable) and circuit board constitutes an individual component. However, cutting them resulted in anything from a few pieces of e-waste to hundreds of pieces. As will be seen in experimentation, this act of cutting visually transformed one component to appear as more waste. I tried making images using all of the pieces I had cut up. Since there were now more pieces of the waste in the images, they could have been used to show great piles and amounts of waste as Burtynsky, Jordan and Barker had. It could demonstrate how one thing, which seems so small, is part of a big problem. However, though some of the experiments in this series used quite large amounts of the small pieces I had created, my overall aim was still to

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[42] See Appendix 2 for sketches

use less e-waste in the images in order to emphasise the problem that even single elements of e-waste can cause. If too much e-waste were in the images, then that message would be less likely to come across as it would not be represented and instead the image would perpetuate similar notions of taking notice of environmental issues only when seen at points of excess.

Before cutting up the cables, I decided to experiment with the arrangement of bits of a circuit board. The circuit boards were made of fiberglass, which is extremely harmful if inhaled. I started the process without any type of respiratory equipment. Only a few pieces were broken off before it became apparent just how dangerous the material is. I felt that I had inhaled some of the fibres and had to quickly stop working as they caused me to begin coughing. It took about a week for the effect to begin to wear off. For a brief moment, I understood what it might be like for someone in a country where e-waste has been shipped to be recycled by hand without proper safety equipment. It was alarming to consider that even that small amount inhaled could have long-term effects on my health. I returned to my work, with proper respiratory equipment and continued to shred the circuit board (see Fig. 4.41). I never used the resulting pile of fiberglass to produce an image as it was just too dangerous to leave where others could be exposed to it. Instead, I proceeded to cut the cables into various sizes, ranging from a few millimetres up to a centimetre. This produced hundreds of pieces. I then proceeded to force cress seeds into the individual segments of cables. This process took a couple of days to complete with each of the cables used.

For this series, the space in which the objects would be photographed was changed. Instead of working on a Perspex light table, I created a space similar to the one in which the last composition of the keyboard was photographed (see Fig. 4.5). The arrangement had created more space for the keyboard and it was able to sit horizontally to the camera rather than at an angle. In it a horizon line was also created. Such a line could be used to imply an

Fig. 4.41 David Summerill, *Untitled*, Experimental Work, Series 5 (2014)

unreal landscape as a product of human intervention. I constructed this new studio environment by placing a large piece of wood up against a white wall. This would also

make it easier to stand up some of the cables as sketched out previously. I also planned for the setup to include a tripod which would remain in place throughout the image making process. This was done in order to try and keep the camera stable in order to expose changes to the arrangement more accurately than in previous images.

In order to find which arrangements would be constructed I experimented with the bits of cables in three ways. First, I dropped the bits onto the table and let them scatter across its surface randomly (see Fig. 4.42). The pieces spread out far too widely for my purpose; this looked uninteresting and did not keep to the theme of using small amounts of waste only. Next, I attempted to stack them in an orderly fashion (see Fig. 4.43). This appeared as a small type of wall. It never reached higher than five pieces before it fell over. Again, there were so many pieces of that particular cable that it began to appear as a massive amount. I decided that longer segments could be used to construct a small type of wall which would be stable enough to remain upright. Finally, I created a simple cone-shaped pile from some segments cut from a black cable (see Fig. 4.44).
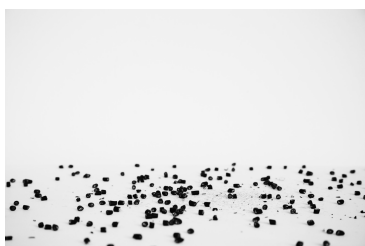
Fig. 4.42 David Summerill, *Untitled*, Experimental Work, Series 5 (2014)

Fig. 4.43 David Summerill, *Untitled*, Experimental Work, Series 5 (2014)

Fig. 4.44 David Summerill, *Untitled*, Experimental Work, Series 5 (2014)

The initial cone-shaped pile was small enough to leave empty space in the image. Its shape was also relatively simple and uncomplicated. This is the composition I decided worked best. Longer sections of cables were stood upright as well as positioned lying on the table (see Figs. 4.45 - 4.46). A final experiment was completed by stacking four extremely small bits upright and fixing them in position using a pin through their centre (see Fig. 4.47).

Fig. 4.45 David
Summerill, *Untitled*,
Experimental Work,
Series 5 (2014)

Fig. 4.46 David
Summerill, *Untitled*,
Experimental Work,
Series 5 (2014)

Fig. 4.47 David
Summerill, *Untitled*,
Experimental Work,
Series 5 (2014)

This work resulted in a series of five final images, which maintain the original visual style of *Industrial Growth* (2012), while diverging from it just enough to allow for greater manipulation of the e-waste and plant objects. These were titled *Pile* (2014)*, Barrier* (2014)*, Logs* (2014)*, Hoodoos* (2014)*,* and *Cactus* (2015)[43]. A couple of these titles, *Hoodoos* and *Barriers,* will be reflected on further when discussing how they were constructed. The titling of the images grew out of the way that the pieces were first set up. They appeared as abstract forms and this prompted my interpretation and the titling of each image. The grey cables appeared to mimic natural forms such as trees, flowers, or eroded rock. Two of the black cables appeared as human-made forms such as a wall, or old piles of tyres; the final black cable arrangement appeared as a cactus. In this series, the titles work to relate the somewhat bizarre images to the real world, so that the photographs function not as abstract art objects but as a commentary on real issues.

The cables were small in diameter. Small seeds were needed to plant inside them. In two images, *Hoodoos* and *Logs* (2014), I cut along the leading edge to open up and place seeds inside. Cress was planted inside *Logs* and sunflowers were used with *Hoodoos.* The wires were packed so tightly inside the cables in *Barrier, Logs* and *Cactus,* that even small cress seeds did not fit. I had to use a metal skewer to make space between the wires for the seed to be pushed into. In a sense, this is similar to making a hole in the ground for planting seeds. The labour had been so tedious with these that no seeds were placed inside the pieces used for *Piles*. Instead, sunflower seeds were dropped onto and into the pile itself.

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[43] See Appendix 2 for images of *Pile, Logs, and Cactus.*

I constructed the image *Hoodoos* (see Fig. 4.48) using a segment of grey internet cable. It was cut into three smaller but identical lengths. To place a sunflower seed in them, I cut a small opening at the side of each length of cable, just large enough for the seed to be wedged in. This specific arrangement of the cable was decided by placing the cables next to each other to be photographed at three different distances (see Fig. 4.49). One of these arrangements was chosen based on the visual balance between the cables and the empty space created around them. This image remained simple. Even though the cable was positioned to create vertical lines, these lines remain quite small in the space. They do not come across as dominating towers of technology but as simple pieces of waste. The horizon was placed low in the frame for the entire series. Overall the empty space, horizon line, and small size of the waste keep the focus on what is happening as the plant grows on the e-waste.

Fig. 4.48 David Summerill, *Hoodoos* (2014)

Fig. 4.49 David Summerill, *Untitled*,
Experimental Work, Series 5 (2014)

Though I had tested lighting in previous work, I had to do this again. Knowing that a single light had worked best with the cables in the fourth series of experimental work, I continued this new series using a single speed light. The speed light was positioned in two ways. First, bounced off the ceiling above the object (see Fig. 4.50). The second, was pointed directly at the object (see Fig. 4.51). The final images were chosen from among images where the light had been bounced from the ceiling above the objects, rather than from the front. This light position produced a slightly darker background and a distinct horizon line. The light from the front softened the horizon line and produced lighter background which draws the eye up away from the e-waste.
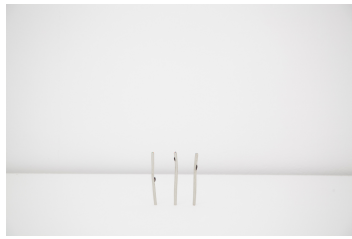

Fig. 4.50 David Summerill, *Untitled*, Experimental Work, Series 5 (2014)

Fig. 4.51 David Summerill, *Untitled*, Experimental Work, Series 5 (2014)

The emptiness in all of the work I had been producing had always represented barren landscapes, when I viewed them. When I looked at these cables standing vertically, it reminded me of the name used in geology to denote columns of rock which remain after weathering processes have eroded the land, 'hoodoos'[44]. Though a natural hoodoo may appear to be a permanent feature of nature, they are fragile. These formations have been constantly changed in a process that began in the Paleocene or Eocene age, 40-60m years ago. The condition of nature is in a fragile state at the moment. This work builds on that fragility by putting nature, the seed, into a precarious position, wedged into the plastic cable housing.

The challenge of keeping the seeds moist was most prevalent with *Hoodoos*. The cables were positioned vertically, which allowed the water to run off the seeds. This caused them to dry out too much between photography sessions. To keep this from happening, I wrapped moist blue paper towels around each seed and covered the objects with a glass bowl (see Figs. 4.52 - 4.53). The seeds were not secure within the space given

[44] See National Park Service for detailed description of Hoodoo
https://www.nps.gov/brca/learn/nature/hoodoos.htm

them and unwrapping the towel posed a risk of causing the seeds to fall out. The resulting growth of the sunflowers was very small. The seed at the left in figure 4.48 only grew a couple of centimetres over the course of 11 days before it stopped growing completely. However, regardless of the success or failure of individual experiments, the processes that I undertook were photographed as a document and may provide material for later work; these documents were interesting images in themselves.

Fig. 4.52 David Summerill, *Untitled*, Experimental Work, Series 5 (2014)

Fig. 4.53 David Summerill, *Untitled*, Experimental Work, Series 5 (2014)

The image *Barrier* (see Fig. 4.54) appears simple at first glance. It shows a few pieces of cable, with cress growing out, stacked on a table. However, there are layers of meaning bound up in both its visual form and its title. To build the object in the photograph, over one hundred 1 cm lengths cut from a black mouse cable were stacked on top of one another. The cress was planted randomly into many of the segments of cable, which were then all mixed together before they were stacked up. To secure the structure in place, a single segment was positioned at each end to keep it upright (see Figs. 4.55 - 4.56). After stacking, I stepped back to view it; I saw a barrier. This could be any material formation that prevents passage or access. It could be a wall, mountain or even a membrane viewed close up.

Rather than calling it mountain or wall, I gave it the more abstract title of *Barrier*. It leaves the image open both to interpretations about what type of barrier, and also to whether it is a barrier at all, as it only blocks a small space within the frame of the image. It can represent both physical and psychological barriers. In one sense, the barrier is real. It is created by the plastic piling up. Within the mind, the barrier is constructed by cultural beliefs and the lack of commitment to change consumer behaviour in deciding what to buy, how much, and how we dispose of items when finished. Small changes in people's behaviour could make a big difference to limiting environmental issues. Just the stacking alone could metaphorically reference the way

that environmental issues continue to grow, stacking up as it were. During the four weeks in which the cress grew and died a couple of the segments at the bottom right of the stack shifted and appear out of place. This was most likely due to the growth of the plants. They are small living things which made an impact on the physical properties of the barrier. This is the type of change that could happen if a few people make changes to their consumer behaviour. It could also refer to combined efforts, by environmental organisations, governments and individuals, to pull down the barriers preventing the protection of nature.

Fig. 4.54 David Summerill, *Barrier* (2014)

Fig. 4.55 David Summerill, *Untitled*, Experimental Work, Series 5 (2014)

Fig. 4.56 David Summerill, *Untitled,* Experimental Work, Series 5 (2014)

As I have demonstrated, my practice research included five stages of experimental processes, in which objects, plants, lighting and backgrounds have been combined to construct images that contribute to commentary about the relationship between humans and nature in a way that I believe is aesthetically pleasing. From this research, three bodies of work have been produced. These series are titled *Industrial Growth* (2012-13), *New Materials* (2013-14), and *End Product* (2014-2015). Each series emphasises a different perspective on the relationship between humans and nature with an emphasis on electronic waste. This chapter included just a few of the visual outcomes created. The substantial body of practice work completed can be viewed in Appendix 2 and the accompanying workbook displayed in the exhibition of my work.

Conclusion

Photographic Genres and the Representation of Environmental Issues

The main purpose of this thesis was to develop an understanding of the changing ways that environmental issues have been addressed in photography, in order to experiment with ways of using electronic waste to make imagery that comments on the relationship between humans and nature. This has been achieved through research into landscape and constructed photography, through interviews with contemporary photographers, and through the photographic practice discussed in Chapter 4. By investigating a range of landscape and constructed photography that addresses environmental concerns, I have been able to explore and contextualise the issues that are central to my practice. An important focus of the research has been to explore the changes in how environmental issues have been addressed in landscape and constructed genres of photography. This has involved following shifts in aesthetics, including those concerning the notion of the sublime and how it applies to images about human impact on nature in contemporary practices. My research has shown that there is no single genre within which environmental issues are most successfully represented. Although these are real issues, that will have real and devastating impacts on plant, animal and human life, the photography that engages with them does not always have to be strictly documentary in the sense of 'truthful images of reality'. I have shown that both landscape and constructed genres can be successfully utilised to make visual commentary about the environment. However, of particular significance to my own practice has been the development of constructed photography as an effective genre for making commentary about environmental issues.

Literature on environmental photography explored in this thesis frequently focused on discussion of the sublime, the industrial sublime, and the concept of beauty as important elements in engaging viewers with vast and complex problems that stem from human action. The sublime is often tied to the experience of the might and awe of nature, but more recently can be understood in regard to industrial aspects of technology and even pollution. Following from the arguments made by Amanda Boetzkes in *Waste and the Sublime Landscape* (2010), I have explored the notion of the sublime as an aesthetic tradition that represents points of excess, and the ways this can be utilised in visualising environmental problems in the world. However, in my own work I have turned to a much smaller scale in representing the problem of e-waste, and have experimented with an aesthetic of beauty to engage the viewer with the issues.

I have aimed to show in this thesis how contemporary photographic representation of environmental issues varies across photographic genres for a range of reasons, including the artist's experiences, changes in art movements, and technological innovation. It is apparent that some of the changes are a result of work which shifts or challenges the representational modes which come before it, in response to historical change. Ansel Adams developed landscape photography that used the strengths and range of the camera to picture the pristine wilderness that needed protection. The *New Topographics* photographers followed the same aesthetic tradition, but focused instead on capturing the architecture and human-created landscapes resulting from development, as nature gave way to suburbs and shopping malls. Robert Adams' goal was not to present an untouched natural world, in order to preserve it, but to show the opposite, in order to help alleviate, some of what was being done.

> Most of my hopes are for the amelioration of problems – a more conservative pattern of land use, a reduction in air pollution, a more prudent consumption of water, a lessening of animal abuse, a more respectful architecture. When I think about the possibility, however, of a landscape enriched by specific places to which we have responded imaginatively and with deference, I find myself thinking that we might be permitted to call it improved. (Adams, 1989:163)

The use of a broadly landscape and documentary approach to photographing environmental issues has continued to be developed in the work of, for example, Burtynsky, who portrays not merely new human landscapes but in particular the landscapes of detritus and industrial waste. The landscape tradition has shifted and renewed over many generations of photography as environmental concerns themselves have changed in the modern world.

Constructed photography for making commentary on environmental issues was not developed until about 1980, and for the past three and a half decades it has been produced in a range of ways to respond to issues that are ongoing. As discussed in Chapter 2, use of the genre for environmental concern was originally developed through tableau and still life practices in work by Boyd Webb and Tim Head respectively. It now encompasses digital montage and interventions in the landscape as seen in the work of Jordan, Barker, and Goldiechiari, which I have explored in depth through written texts as well as interviews with the artists. It is interesting that Jordan's current practice stems from a moment where he came to understand that his beautiful photographs of shipping containers and recycling yards were a type of portrait of America, drawing on imagery that could be seen positively within a landscape

tradition. Since then he has endeavoured to make the amount of waste being generated visible in constructed photographs.

This would seem to validate the position put forward by Meaghan Lowe. She argues that constructed photographic approaches are better than 'distanced objectified landscape views' at encouraging engagement with nature (Lowe, 2009). The idea that constructed photography is capable of creating a participatory moral message about environmental issues is central to my work. However, my own practice is more closely aligned with the argument made by Helen Petrovsky in her examination of conveying historical truth in *Document: Fact and Fiction*. I found that her suggestion that 'fiction' is not in opposition to 'truth', that they are allies (Petrovsky, 2013:181), to be a productive position in considering how to address environmental issues in photography. Both fabricated images and landscape photographs can effectively raise awareness and provide comment on the damaging impact of human action on nature. My own conclusion from the research and practice presented here is that constructed photography is not 'better', as Lowe suggests. Rather, it is useful. It has grown to become a meaningful approach to engage with environmental concern and drive forward discussions about what humans are doing to nature.

Constructed photography generates a space in which ideas, metaphors and data pertaining to issues can be imaginatively explored and presented. This has been demonstrated in constructed photography that visually represents data on waste and pollution, and is seen in images that arrange evidence of harmful objects into compositions which drive the development of further meaning. I hope it is also evident in my own photographic work. Nevertheless, all forms of photography are important to the ongoing struggle to stop the harm continuing to be inflicted on the natural world, and all the photography which I have looked at exposes or comments on the relationship between humans and nature. Fiction can be utilised as an ally of truth, as different genres work side by side to address the urgent environmental issues of our time.

Anticipated Original Contribution to Knowledge

Photographers whose work addresses environmental issues often represent the immensity and large scale of the issues. For example, Edward Burtynsky has

photographed huge piles of waste covering the landscape in China, Nadav Kander has photographed the enormous growth of construction projects covering the landscape of China, and Robert Adams has shown entire mountainsides that have been cleared of trees. The work that has been created by these and other photographers has been variously addressed with regard to both the sublime and industrial sublime and through the use of beauty to engage the audience with vast and complex problems that stem from human action.

Their landscape and documentary work is often exhibited with other artists who make commentary about environmental issues but through constructed photography. As discussed in Chapter 3, Chris Jordan, Shana and Robert ParkeHarrison, and Mandy Barker are just a few of the many artists that construct their images. These photographers engage with the immensity of the issues by using the items that are of concern in imaginative ways. For example, Mandy Barker collects plastic found on beaches and floating in the ocean, photographs each object, and then combines the images into one print. By presenting the issues through staging the images, constructed photography makes it possible for viewers to see and think about the magnitude of the problems differently.

The emphasis of my practice is on electronic waste. It is one of the fastest growing streams of waste and it has a great impact on the people and environments in which it ends up. The impact of electronic waste on nature and people has been covered by a variety of photographers. The consequences of illegal disposal of electronic waste in Ghana have been documented by Nyaba Leon Ouedraogo in 2008 with his series *The Hell of Copper*, Pieter Hugo's series, in 2009, titled *Permanent Error*, Kai Löffelbein in his 2011 series *Kids of Sodom,* and Kevin McElvaney in his 2013 series *Agbogbloshie.* Electronic waste in India has been documented by Sophie Gerrard in 2006 with her series *E-wasteland,* and Peter Essick in 2007. Essick has also documented this waste in Ghana, Pakistan, China, and Nigeria. Edward Burtynsky documented electronic waste found in China in 2004. These are just a few of the places in which electronic waste is a problem. These photographers have approached the subject through documentary and landscape photographic practices. Chris Jordan documented mass amounts of electronic and other waste found throughout the United States in 2004 with his series *Intolerable Beauty*. In 2007 Jordan combined individual images of old cell phones to construct a larger image in order to represent 426,000 cell phones, the number discarded every day in the United States. This marks a different

approach to working with the issue of electronic waste, and creates a different way of understanding the enormity of the issue.

Though the issue of electronic waste and its effects on nature has been known for some time, many of the photographic projects I have found dealing with electronic waste are relatively new. Despite the examples of constructed work discussed above, the majority of work that has already been made about electronic waste is within the field of landscape and documentary practices. The most typical imagery of this kind shows large piles of the waste obscuring the landscape and its impact on nature and human life. While artists using constructed photography find different methods of portraying a large scale, the sense of extensiveness is still a key element in their work. The huge amount of different types of waste generated by people throughout the world is a prominent visual trope in both Barker's and Jordan's images, and although Goldiechiari's show less in terms of quantity, their work shows the waste matter filling the frame, suggesting more accumulation beyond the image itself.

In my practice I approach electronic waste very differently, photographing single pieces of electronic waste in isolation from the 'whole'. The entirety of this waste globally is the massive amount of over 40 million tonnes generated every year. However, the average person in a developed country is likely to only experience electronic waste (or other toxic environmental issues) in much smaller amounts. In the light of this observation, I explore the representation of the impacts that individual pieces of waste may have on nature. I am working at the opposite end of the scale, constructing artificial landscapes from single pieces of electronic waste. As outlined in the previous chapter, I have forced various different plants to grow on these items and then regularly photograph the process of growth and eventual death of the plant on the waste. The objective of this process has been to create, not large scale but very intimately scaled imagery that comments on the relationship between humans and nature by forcing a point where the two collide. This method of creating images makes it possible to explore the aesthetics that have been associated with photographs of environmental issues. It changes the scale of perception and is intended to raise questions rather than make a specific point.

This is particularly the case with the images exhibited alongside this thesis, which show single bits of electronic waste with plants, not dead but actually growing. Because the plants are alive, not dead, the message of harm from e-waste is not straightforward. Nor

is there a straightforward message about what to do with e-waste or how we should be connected to nature. Dealing with e-waste is more complicated than simply stopping how much is generated, or stopping the illegal trade and recycling of it. There is no doubt that its volume needs to be reduced, but there are no simple solutions to its disposal. The images I create suggest the finding of innovative ways to change and even to live with the waste.

The photographs which I have constructed create a space to contemplate the repercussions e-waste may have on nature as well as our continuing 'unnatural' relationship with nature. My work does not produce the same emotional response that is evoked by works showing massive amounts of pollution, such as are present in much landscape photography about environmental issues. The sublime does not come across in my photographs. There is no 'awe'; instead the waste materials being used (computer parts, circuits boards, electronic wiring) are presented plainly. The common electronic objects are paired with common plants in an unnatural way. It appears to be scientific but is far from actually being such. The object/plant combinations are strange objects which may not have a visual counterpart viewers are able to understand them through. At the same time, they are aesthetically attractive almost as abstract, sculptural creations, so that their beauty draws the viewer in to look more closely.

My selection of images does not comment on the toxicity, hazards, and harm which are associated with this waste. Rather they allow for the mind to be able to ask and consider those things as the realisation that this is not natural takes shape. The images can be read as metaphorical landscapes, no longer natural but technological, manufactured, empty, void and unnaturally supporting life. Because these images are constructed landscapes, rather than documented, they suggest, rather than make a straightforward statement, that technology may have gone too far. The images evoke questions and ideas regarding the strained relationship between humans and nature in a modern world. They also suggest the possibility of using science, technology and engineering more thoughtfully to create a future capable of sustaining life. My work demonstrates that a single piece of e-waste, juxtaposed with nature, can be used to comment on the individual impact it and the person that generated it may have on nature. It is anticipated that this can contribute to an understanding of methods of using constructed photography to make commentary about environmental issues. Through my experimental practice, I have produced an original body of images that will help to establish the importance of constructed photography as a productive approach for

environmental engagement.

It is also anticipated that my contextual research will add to an understanding of the theories and aesthetics involved in this area of photographic work, and of the genres of environmental aesthetics. Through a critical analysis and reflection on the methods, strategies, and aesthetics used by contemporary photographers, I have aimed to produce a platform of knowledge that will be of interest to practitioners working with environmental concerns.

Future Possibilities

The amelioration of environmental problems has not taken place and the hazards of pollution and waste continue to grow. This does not mean that photography which addresses these problems is ineffective, rather it makes it all the more important to generate understanding and debate about the issues. There is a great variety of photography today which addresses environmental concerns. A wide range of approaches continue to be utilised, questioning what we know about the issues and confronting us with evidence of what is happening. Photographers have had to document issues and contrive images about the increasing harm being done to nature, despite the ever-increasing research pointing to humans as the cause; it is an enigma that the harm continues. Alexandra Noble has stated,

> Time and again we are offered riddles and enigmas and only our intervention leads to decipherment. We are lured by formal strategies, seduced by surfaces, confounded by indirectness, but the nature of coincidence is such that cumulative understanding arrives, as themes recur and are finally illuminated. For photography has the power to be both familiar and mysterious at the same time. (Noble, 1987:4-5)

Perhaps there is another photographic approach which has not been utilised which will shake up the way in which environmental concerns are represented. Or it may be that another approach is already being utilised, but not acknowledged because it is too different and does not conform to the current aesthetic that people may be used to, similar to the initial reception of images in *New Topographics: Photographs of a Man-Altered Landscape* (1975). That was a key exhibition, even though it was overlooked at the time, in which major changes taking place in landscape photography were presented. Its enduring legacy is an example of how challenging traditional modes of

representation leads photography in new directions and makes it possible to add valuable commentary about what we are doing to the planet. There is no single form of photography that will ever be able to fully address and raise awareness on its own. Through familiar and mysterious images, photography is needed to illuminate environmental issues and encourage the protection of nature, the reduced consumption of materials, and the ethical disposal of waste. Photographers need to continue to challenge modes of representing environmental concerns. How commentary is made about what humans are doing to nature should continue to be experimented with and explored. New ways of bringing attention to environmental issues are needed. New ways of developing meaning will continue to be crucial, creating images which can offer diverse perspectives on important issues and inspire innovative approaches to change.

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Appendices

Appendix 1   Electronic Waste

The United Nations Environment Program has been working for years to study and disseminate information about electronic waste. Part of the concern with e-waste is the elements contained within them. In a 2009 UNEP report specific hazardous material contained in e-waste were defined. These include lead, cadmium, mercury, arsenic, polychlorinated biphenyls (PCBs) and others (UNEP, 2009:12). In the executive summary for the report the specific metals which could be recovered from e-waste, thus reducing the need for raw mining of the materials included aluminium (Al), copper (Cu), palladium (Pd) and gold (Au). Although e-waste is a source of these metals, the methods for their recovery require hazardous chemicals and special facilities to reduce exposure to those that handle them. The process of recovery needs to be done with the right equipment and processes to minimise the hazards posed to humans and the environment. This is not all that is of concern.

E-waste contains many other toxic and hazardous elements. 'Modern electronics can contain up to 60 different elements; many are valuable, some are hazardous and some are both' (UNEP, 2009:6).[45] It is an extensive list of elements that may not exist in every item that becomes electronic waste. However, because there is a broad definition of what constitutes e-waste, the discussion does not focus on any type of e-waste being safe to discard. It is all treated equally as hazardous. As such, all items that could and do fall under the definition of e-waste are considered hazardous and need to be discarded according to current regulations.

In 2017 the United Nations University released a new report in connection with a comprehensive study which assessed e-waste volumes, corresponding impacts, and management status. In *The Global E-waste Monitor - 2017*: *Quantities, Flows and Resources*, authors Baldé, Forti, Gray, Kuehr and Stegmann have calculated the

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[1] The most complex mix of substances is usually present in the printed wiring boards (PWBs). (UNEP, 2009)

amount of e-waste generated worldwide. Using an internationally-adopted measuring framework developed by the Partnership on Measuring ICT for Development (Baldé et al., 2017) they estimated the total amount of e-waste generated in 2016 to be 44.7 million metric tonnes (Baldé, 2017:38). The report shows that earlier estimates which have been reported on are actually quite accurate. Previous to this report the amount of electronic waste being discarded every year was estimated to be 20 – 50 million tonnes (UNEP, 2006). The significance of Baldé's report is that there is an actual number corresponding to the magnitude of the amount of e-waste that was generated in one year. It also categorised the amounts of different types of waste and the amounts generated per country (Baldé, 2017:38-41). An important point in the report is the amount of e-waste that was treated by take-back programs. This equalled 20 percent or 8.9 million tonnes of the overall amount of e-waste generated. The 'take back' programs are seen as the highest standard of collection and recycling of e-waste. Outside this there are numerous places the waste could end up for recycling. It may even end up being collected with normal municipal waste as well. The low percentage of e-waste which is considered to have been recycled at acceptable standards, suggests that improper disposal and recycling of electronic waste is still a very large environmental issue.

Despite knowledge contained in reports about its growing accumulation and harmful impact on the environment, electronic waste is one of the fastest growing streams of waste. Warning about the growth of e-waste was given in 2010 when the UNEP released 'Recycling - from E-Waste to Resources'. In the report data gathered from 11 developing countries was used to estimate current and future e-waste generation. Reasons for growth of e-waste have been attributed to the relatively short life span of computers, growth of mobile phone markets, expanding sales of other consumer electronics and a lack of ethical disposal of electronic equipment. Of particular concern expressed in the report was the proliferation of mobile phones. The UNEP reported,

> Due to the fact that the lifespan of computers has dropped in developed countries from six years in 1997 to just two years in 2005, and mobile phones have a lifespan of even less than two years, the amount of generated e-waste per year grows rapidly. (UNEP, n.d.)

Each year we see the release of new models of phones and new types of electronics. A recent report by Gartner Inc., an information technology research and advisory company in Connecticut, details the worldwide growth for mobile and smartphones in the third quarter of 2015. Mobile phones sales are reported to have increased 3.7 percent from 2014 and smartphones had 15.5 percent growth (Gartner, 2015). Both the Gartner and Baldé research support the UNEP's claim that e-waste is growing rapidly. It is forecasted by Baldé that the amount of e-waste being generated will continue to increase.

The impact that electronic waste has on the people in developing nations which handle it, is the biggest concern. When the UNEP released its report on Electronic Waste in 2010 it stressed this concern.

> many developing countries face the spectre of hazardous e-waste mountains with serious consequences for the environment and public health… In South Africa and China for example, the report predicts that by 2020 e-waste from old computers will have jumped by 200 to 400 per cent from 2007 levels, and by 100% in India. (UNEP, 2010)

There are 3 years left until there will be evidence of whether the forecasted amount of e-waste was accurate. This leaves time for change to take place. However, understanding that current research suggests that sales of phones is increasing and that there were 44.7 million tonnes of e-waste in 2016, there is a lot to be done in order to bring the numbers down. Until new research shows a decline in e-waste, it will continue to be a major issue and as such a viable subject for future projects. Electronic waste is being exported to developing nations for recycling. Due to the costs associated with safely recycling e-waste, it has and is still being shipped to countries such as China, India, Pakistan, the Philippines, Nigeria, Ghana, and Brazil. Numerous environmental organisations and writers including Greenpeace in 2005 (Bridgen et al., 2008) and in the National Geographic in 2008 (Carroll, 2008) continue to state that this is happening. It is disposed of in these places because it is less expensive to ship e-waste to these countries than to meet the health, safety, and environmental regulations for recycling processes in developed nations (Vos, 2012). Karin Lundgren in her report for the International Labour Office stated that,

> Trans boundary movement of e-waste is primarily profit driven. Recyclers and waste brokers are taking advantage of lower recycling costs in developing economies and at the same time avoiding disposal responsibilities at home. (Lundgren, 2012:11)

The costs are low because of the methods being used in those countries to recycle e-waste. It is done by hand without proper safety equipment, putting many people in direct contact with smoke and materials that can cause health problems. Writing for the Nicholas School of the Environment at Duke Sophie Vos describes the recycling processes in developing nations as 'backyard' (Vos, 2012). It is done without proper ventilation or safety equipment. They are conditions, that a person in a developed nation would be able to take legal action against.

> Plastics, which contain heavy metals and flame retardants, are burned in open piles and release deadly dioxin and furans. Cathode ray tubes (CRTs) are broken with hammers to remove copper, a process that also releases toxic phosphor dust. Circuit boards are literally cooked over open flames or in shallow pans, exposing workers to lead fumes. Acid baths are used to extract gold from circuit board chips, spewing even more toxic gases into the air. These processes release a wide variety of heavy metals including lead, cadmium, and mercury into the air, soil, and water. (Vos, 2012)

The health of the people affected by electronic waste as well as the environment is of great concern. It has been studied and documented extensively. Government regulations on the disposal of electronics have been in place for more than a decade. The European Union created the WEEE directive (The Waste Electrical and Electronic Equipment Directive) in order to stop improper disposal of the hazardous elements in electronic waste. In 2003 this directive became European law and was introduced to UK law in 2007 (Dexreco, n.d.). The legislation is aimed at making producers and importers of varying electronic items responsible for the recycling of these types of goods. It specifically aims to reduce the amount of electronic waste that ends up in landfills (Dexreco, n.d.). It could be assumed that this model for dealing with the hazardous substances contained in e-waste would be adopted by other governments as well. However, the United States, which is a big contributor to the amount of e-waste being disposed of unethically, has not taken the same level of action. Although the United States is aware of the hazardous issues associated with electronic waste, their level of action is far behind. Currently there is no regulation at the Federal level in the U.S. to enforce ethical disposal of e-waste. What is concerning is that even though there are laws to limit the harm e-waste will have, the amount of e-waste being safely

recycled and properly disposed of is still low compared to the amount being generated as previously shown by Baldé et al.

Appendix 2   Practice Images

For images see pdf on attached DVD disc.

Appendix 3   Edited Transcript of Interview with Chris Jordan

Interviewed by David Summerill on 20 May 2014

David: Just a few things that I want to talk about today with you. I'll just go over the broad points really quick so you're aware of them. I'm interested in talking about the work you've done, specifically the images you've made about electronic waste. I also want to talk a little bit more about your method for constructing images that you moved onto with *Running the Numbers.*

Chris: Ok

David: I want to talk a little bit about aesthetics and beauty and ask you some questions in that area. Then I want to discuss your choice of the titles for the projects. And also just a little bit more about the passion you have for your subject area, because it can really be felt and seen when you speak about your work. So those are the broad areas I want to look at. I know you've probably talked about your work many times before, so some of the questions will be general; but then I'm going to try to ask a few more specific questions about your work. So anything you don't want to answer, feel free to say 'no', or 'Don't go there,' or 'I'm just not prepared for that right now.' I'm fine with that.

Chris: All right

David: So electronic waste, as we know, is full of some toxic substances. And it's one of the fastest growing streams of waste. Thus in the project *Intolerable Beauty,* which you've done, electronic waste makes up quite a few images. I just want to ask why you choose to work with that, to work with the waste.

Chris: That wasn't how I started with *Intolerable Beauty*. It started with giant piles of garbage that I discovered down in the port of Seattle near where I live. The project just kind of evolved. I first found my way into the port and started photographing many of the images of the giant infrastructure of our mass consumption. If you look at the *Intolerable Beauty* series and start from the bottom, you'll find it basically in reverse chronological order: the bottom ones are the oldest ones, and you can see that what I was especially interested in back then was colour. The bottom images in that series are

much more about colour than they are about mass consumption. That's what I was interested in at the time.

David: Okay.

Chris: The fact that I was shooting the infrastructure of our mass consumption was only kind of a side note for a while, that is, until I started reading about mass consumption and discovered to my astonishment that it's a catastrophic issue. Not that I hadn't been aware of it previously, it just wasn't front and centre in my consciousness. When the enormousness of the problem and the connection of mass consumption to all of the other problems in our world; and when the monster began to become visible through the fog, then I became much more interested in devoting myself to photographing mass consumption, and I held onto the colour aesthetic. (We can talk about that a little bit later when we get to that subject.) At that point, when the *Intolerable Beauty* series was beginning to mature, beginning to evolve into a series that was specifically about mass consumption, then I started looking for specific subjects. As you know, logging is a big commercial activity in the state of Washington. So I drove around, found logging yards, snuck in, and photographed them. Then I learned about e-waste. A fellow in Seattle was very inspirational to me on that subject. As an international e-waste activist, he had many photographs of horrible piles of circuit boards and stuff in China, and these websites depict what happens to our e-waste—that we're basically dumping it wherever in the world that is the poorest, where there are no environmental laws. Now really interested in e-waste, I began to focus on that subject, and one of the things of particular interest to me is that we all participate in a way with such dumping. Some kinds of consumption, like the consumption of elephant tusks, are horrible; we can try to become activists about it, though we don't directly, personally participate in it. In a sort of deeper level, I'm interested in mass culture and collective consciousness—the shadows of our consciousness that we're all holding together. We all use electronic devices. We all throw them away and you know it's like our use of plastic bottles that way. That's kind of how I started thinking about e-waste, which I also find visually fascinating.

David: Absolutely.

Chris: It's interesting, and cool, and bizarre, and kind of post-apocalyptic.

David: And it's not something you are aware of every day. It's usually hidden inside the items that we use a lot of, such as circuit boards and wires and cables. You mentioned that you saw images from China, and that kind of leads onto one of my other questions, which is, basically, why did you choose to photograph the waste in America and not in another country where it collects?

Chris: Just being American myself, I'm most interested in American culture, and when you read about the percentage of the world's resources that Americans use, they are significantly more wasteful than any other people on earth. Sadly, China and a few other countries are doing their best to catch up with us. There's just something about American culture, as if this is the place where mass consumption was invented. It's also the place where marketing has been refined into an incredibly persuasive, manipulative tool. Some sophisticated Americans can kind of see through the illusion, but people all over the world are not so sophisticated, so they are very vulnerable to the spread of our culture and our marketing. These people are being taken advantage of, being manipulated by companies that want to sell their plastic crap whatever it may be. I see this deep disconnect form the natural world and the focus on material things as a path to happiness, which is an endless pursuit of money. This is an American thing. Maybe we inherited some of the deeper philosophy of it from Britain, but I think it's fundamentally American culture that is being spread all over the world.

David: I also don't know how much of it comes from Britain, where I'm now living, as there is a lot of mass consumption here as well. We are pretty much caught up in it the same as almost anywhere. Maybe it began in the U.S. back in the early 19th century, as Americans expanded westward; maybe that in part has to do with it—the taking over and moving in and filling everything. Let me return to the images of electronic waste and *Intolerable Beauty*. I have some more questions about those, because of my interest in 'constructed imagery' and what can be done with it. I've read in interviews that you did take some time to arrange some of that waste imagery. Did I read that correctly? I just want to make sure before I ask any further questions.

Chris: Well, I did arrange some of the *Intolerable Beauty* images, for example the swirl of cell phones, which I actually constructed in a couple of different ways. Knowing I was going to be going to a facility to photograph cell phones, I just had the idea that I would make a kind of 'installation.' Instead of just photographing lots of phones on the ground, my idea was to make it look like a galaxy, viewed from standing back at a

distance. I actually brought some photographs of spiral galaxies from the Hubble space telescope. I would stand back at a distance from this giant pile of phones and then see how they might be arranged to give the effect of a galaxy; then I spent a bunch of time organising them, and again stood back at a distance. I used a galaxy just to depict the enormousness of the pile, as well the swirling gravity of it all. I love that kind of deep-zooming worldview, which I call the *google-earth, deep-world view*—the ability to zoom all the way out in your imagination and remember that we're humans on a tiny planet in the vast depths of outer space; then I zoom all the way back to me sitting at my desk. A friend of mine calls that the *transcaler imaginary*. I've been fascinated with that concept ever since I was small. I think it was the film *Powers of Ten* that sort of blew my mind, when I saw it as a high school student: So just the idea of a galaxy made out of cell phones.

It's constructed in another way as well, an idea I hit on a while back. I was shooting 8x10 film at the time; the whole *Intolerable Beauty* series was done in 8x10 film and I didn't have enough phones. I only had access to something like 1500 phones when I was at this facility, and so the image of the cell phones is actually the same phones three different times. I stitched those three images together digitally in Photoshop. First, I made the centre of the spiral, and then I made the right side, a sort of the continuation of the spiral arms. Then I photographed that. Then I made the left side, photographed that, and then stitched all three of them together. So you can sort of see the genesis of the *Running the Numbers* series. I did that with a couple of other *Intolerable Beauty* images. The one called *Diodes* consists also of multiple exposures of the same diodes. I think I did three of that one as well and just manually stitched them together. The bullet casings was three exposures as well.

David: They are all stitched together very well.

Chris: Well, it's not so hard to do. It's not very sophisticated. There's just an overlap of images. Then I go in all the way at a hundred percent and carefully erase half, the ones that got cut off by half at the very end of the image. It stitches together surprisingly well.

David: There's another image, which looks like hard drives or circuit boards.

Chris: They are actually hard drives. People have corrected me a few times. I called it

Circuit boards and sold a few prints. Now it's called *Circuit boards,* but you're right: it actually should be called *Hard drives*, because that's what they are.

David: Circuit boards are probably connected to them, though, like most are. At least it looks like it. For that image, you arranged them by laying them out, then positioned the camera and took a straight shot?

Chris: I did lay them out on the ground, and it became super interesting, one of those fortuitous experiences, because I had had this idea for a long time, and I wanted it to look like an image from the air. When you fly into a city at a particular altitude, a couple thousand feet or whatever, it has that same sort of look: a giant electronic thing, especially if you're flying in at night. So I wanted to kind of create that effect—as you're flying over a post, not necessarily post-apocalyptic but an uber-modern industrial landscape where there's no nature left. So I laid out on the ground boxes and boxes and boxes of hard drives, and the circuit boards and the hard drives were all green; and it all had a kind of green electronic look to it. I tried all kinds of different lighting, but it just didn't look the way I wanted, and it was very frustrating. It took me most of the day. I moved the camera a bunch of times and tried different lightings and different angles. Finally, in frustration I raised the garage door that was behind the images, went out and stood in the light for a second, then I came back in and looked through my camera. The raising of the garage door let in that blue light that reflected perfectly off the hard drives and looked exactly the way I was wishing for. One click later, and I captured that image.

David: Cool.

Chris: That one also has that sort of juxtaposition of the near and the far. I love that concept of standing back at a distance and it looks like one thing; then when you walk all the way up close, it looks like something else. That's a theme I've continued in my work. I love it because our world is like that. If you stand back at a distance from any kind of issue, an environmental issue or a social issue or whatever, from that perspective you see it in a certain way. Then when you walk all the way up close, you see it as it morphs. I think that's one of the skills we all have to have in our hyper-modern world: the ability to kind of zoom mentally, with our imagination—zoom in and out, understand things, and see them from multiple perspectives.

David: Being able to do that would keep us from being so self-centred and have a wider perspective.

Chris: Any issue you look at, for example, if you look at cell phones like that—I'm holding my Samsung Galaxy S4 here in my hand, and it's a super-bitchin' device. I love having it. If you could open up the phone and look at all the components, one component you would find is a tiny bit of that material called *Coltan*, which is mined in the Congo. If you could zoom around the world and find a place where the Coltan is being mined in the hellish conditions that people work in; and add the fact that the Coltan mines are very close to the mountain gorilla habitat, suddenly this whole other world would open up. You would look at an environmental issue like the killing of elephants for their tusks, which is something I'm always watching. I spent some time in Kenya photographing such killing. We stand back and think, 'Oh it's so terrible. They're killing elephants for their tusks, which are sent to China; These greedy people want to have pens and combs and foolish things made out of elephant ivory. Then you zoom in and look at the poverty, the desperation of the people who are doing it and the fact that by killing one elephant for its tusks they can make more money than their entire village would otherwise make in their entire lifetime. When you look deeply at any issue like that, it opens up into a whole other world. I am fascinated by that concept. I want to develop more capacity to see the world in a multi-perspective way.

David: I was actually at the exhibition of PrixPictet commissions this last fall and saw those elephant images.

Chris: Oh my gosh!

David: I just stood for a long time and looked at what was happening. It's something I can't fathom, because I haven't been there, haven't seen it, but I think I get a sense of it.

Chris: It's sad.

David: It's just one of many issues, as you say—having that broad perspective and trying to contemplate what we're doing.

Chris: People used to kill the elephants one by one, and it's a real challenge to kill an

elephant. Elephant skin is as thick and gnarly as a car tire. So for a group of guys who don't have a powerful gun, killing an elephant is quite an undertaking. People devise all kinds of awful traps, full of spikes sticking out of the ground, so that the elephants step on them, they can't move. Finally, the elephant falls down and a group of men attack it with axes. Now that they have helicopters, they are becoming more sophisticated. They fill up a helicopter with a bunch of car batteries, attach all the car batteries with wires, then fly over and dangle the wires from the helicopter. When the wires touch an elephant, they electrocute it.

David: Whoa!

Chris: They can electrocute an entire family of elephants. You can now see pictures of entire piles of elephants—a whole family, including little babies with tiny, stubby tusks. Then the hunters come in at night and take all the tusks. So elephants are on their way out.

David: That is very troubling. I don't even know how to respond. Let me bring our conversation back to talking about constructing the images. You mention some of the challenges you had with working with the waste: not having enough of it, having to digitally stitch it, the light being wrong. I was wondering if you faced any other challenges in general while working, not only with issues of the electronic waste but with the other constructed images you make. How do you know what direction to go with making the image?

Chris: That goes right to the heart of the project. The biggest challenge of all is that these issues are invisible. That's sort of what I ran into near the end of the *Intolerable Beauty* series, and that's what kind of inspired the *Running the Numbers* project. I got to the point with *Intolerable Beauty* where I was actually travelling to specific locations to shoot a specific subject. I flew all the way from Seattle to Atlanta just to take the photograph of the cell phones. I started thinking, 'Okay, I'll go anywhere to photograph the Grand Canyon of our garbage. That's what I was craving to do. I want to go to the mount Everest of our plastic, because I'm reading statistics that talk about the hundreds of billions of plastic bottles being consumed and a hundred million trees cut down in the United States every year to make the paper for junk mail. These staggeringly huge numbers characterise our mass consumption, yet the waste streams are divided out into hundreds of thousands of different locations, and none of it is ever all in the same place

at once. Not even the cell phone facilities. I went to one of the biggest cell-phone-processing facilities in the country. They process fifty thousand phones a month. Which is just a couple thousand phones a day. All these phones arrive in individual envelopes. People mail their phones to this place, where a whole line of people take phones out of the envelopes and then de-manufacture them, figuring out which one's work (those get reused) and then de-manufacturing the other ones. Those go into a shredder, and the largest number of phones at any given point is a couple thousand. Yet, I'm reading that we use more than a hundred million phones in the U.S. per year. I'm realizing what I'm looking at is not the full view of our mass consumption; it's like one drop in a river. I want to take a photograph of the ocean where the river ends up, a kind of catastrophic ocean of our waste, but there is no way to do that. So that's really what got me thinking how can I depict, how can I photograph, this invisible phenomenon? How can I make an image that actually depicts the truth of our mass consumption? That's kind of what got me on the idea of making these digital constructions. So, in a strange way, I think of the *Running the Numbers* series as being representational artwork, even though you could say it's abstract conceptual art. It's my attempt at direct representation.

David: That's how I see it, as very direct representation, but at the same time it makes anther image that hopefully draws us in to look more closely at it. I have a couple simple questions. How long on average does it take you to create one of those images?

Chris: I would say probably a month, or between a month and two months. It's always an iterative process. Making the *Running the Numbers* images is like solving a Rubik's cube. All these different things have to work together. It has to be an image. When standing back at a distance, I want it to look like something. Sometimes it's a colour field, or other times it's a famous painting. I've even appropriated some of my own photographs, but the general wish is that I want it to be something that is easy to walk toward—a beautiful painting or a big image of an ocean, or maybe a kind of big, boring piece of modern art, like lots of giant orange rectangles. I don't want it to be something that's kind of in your face as a piece of activism. I want it to be visually attractive, such that none of a viewer's defences come up. I don't want it to be a horrible, frightening kind of image. I want viewers to walk closer to it, and as they walk closer they see lots of little details. They sort of start to see a texture, and as they go closer and closer and closer, they finally see that the whole thing is made up of something different from what they thought. The whole of my recreation of the famous pointillist painting by Seurat is actually lots and lots of little aluminium cans, or whatever. My hope is that

what happens at that point is that viewers are almost close enough to put their noses on the piece. I carefully optimize each piece so that you have to walk up close to be able to see the little items, and all of the little items are as small as possible but still can be visible, so I can squeeze as many of them in as possible.

At that point the viewer intuitively comprehends how many of that thing there are. You see it is a humongous number of plastic bottles or a humongous number of aluminium cans, or whatever the thing is—prison uniforms, or whatever. Hopefully at that point the viewers' defences still aren't up, they are just having a sort of visually interesting experience of having walked up and seen a strange, maybe a little bit clever, visual thing. Only when they read the wall plaque do they see that this depicts the actual number of whatever it is that we used. Every fifteen seconds or half an hour, or whatever the statistic is, by then they've sort of been tricked. Hopefully, that's my wish: they've been tricked into comprehending an issue they might have otherwise avoided. That's the intention behind those pieces. They are like substitutes for actual photographs, because if there were a mount Everest of garbage, then that's what I would be going to take photographs of. I'm trying to create a similar effect, and I'm working with digital constructions, I can make them however I want. It's always interesting. Hopefully it takes the project to another level, and to include layers of meta-message. I try to include as many of those as possible and try to make it all as rich as I can each time.

David: I think you definitely are doing that. There are many layers of meaning in the work. A lot of different visual things are happening in the different images as well. You've answered my question on Beauty, and why that's important to what you are doing. So I don't think I've heard it said that way quite yet: hopefully the beauty draws viewers in so the view doesn't immediately throw up defences. I think that might be the key.

Chris: Beauty is like that in a couple of ways, and that's one of them to lots of photographers and artists; a major theme in the history of art is to use beauty as a kind of seduction. That's not something I came up with, but it's a powerful tool. I've always been a big fan of the work of Richard Misrach, who has been using that concept through his whole career. His images are breathtakingly beautiful, and at the same time there's a kind of horror. Andreas Gursky's work is all over in the art world. There's another aspect about beauty as well that feels important to me. That is that everything is

beautiful. Our whole world is beautiful. It's easy to lose sight of that, especially when you focus on horror and waste and destruction—humanity's destructiveness. My experience always is that even when you're the most focused on horror, there is still beauty there. It's a strange thing, like I can't seem to escape beauty however hard I try to create something that is just purely god-awful. There is always beauty in it.

David: Why do you think that is? Because that was kind of what my next question. How do we make the image beautiful? Does it have to do with the colours or with the lines, or with the composition? What do you think?

Chris: It's interesting because one of the first images I made in the *Running the Numbers* series was the image of *Cell phones,* a grey mass of 426,000 cell phones. I was still emerging from my show in New York City when I showed the *Intolerable Beauty* series, where all anyone could talk about was the artwork. Nobody was interested in the subject of mass consumption. So I had my big hoity-toity reception and was ready to talk about mass consumption, but the whole conversation was about how beautiful the images were and 'Oh you're such a great photographer, and I love this composition, and the colour and the printing are really—'. It was just a conversation about the objects of art. I then realised, I had a sense, that maybe there was too *much* beauty. That it had kind of overwhelmed my intention to make it all about mass consumption.

So when I made the *Running the Numbers* piece with cell phones, I intentionally said, 'Okay, there's going to be no colour, because that's all anybody talked about in New York City—interesting, beautiful colour. So this is gonna be monochromatic or almost.' So I gathered only lots and lots of silver-grey phones. Then I said, 'Okay, there's not going to be any swirl, and it's not gonna even be shot in perspective. It's just gonna be a flat grey mass of phones.' I intentionally wanted it to be as ugly as possible so that there would be no conversation about beauty; it would be just a conversation about mass consumption. I only had 400 phones, just a little pile of phones, and that's why I took several hundred pictures of the phones and stitched them together one by one. That's how I made that giant image.

The first time I made a print of that image, I stood back, and it was like, 'Oh, my God, it's gorgeous.' Not because of anything I did but because it's like there was something just inherently beautiful about that kind of chaos and the exquisitely fine detail. All the

Running the Numbers pieces have a strange kind of beauty to them; they form the exquisiteness of the detail at that very high scale and the kind of random chaotic patterns that happen when you throw a whole bunch of stuff randomly together like that. There were all these patterns. It's really shifted what my idea of what beauty is. I used to have a kind of traditional notion of what beauty is. That's changed a lot. It's hard to find anything in the world that isn't beautiful.

David: It's very hard. There's a book by Umberto Eco called O*n Beauty,* in which he covers the subject quite extensively. I don't know if you've seen it. Just finding beauty in everything, even in the new things, the new technologies we have now. The fact that new classifications of beauty keep coming up and working into the conversation is very interesting.

I want to quickly ask you about another aesthetic, the sublime. I don't know if you've thought about that in relation to your work. Especially when I look at the cell phone chargers in *Intolerable Beauty,* it's like this mountain of chargers that's going to collapse on you as you stand next to it, given the dark tones in it. I don't know if you've ever thought at all about the sublime in the work.

Chris: It's something I'm very interested in. It's funny, that popped right into my mind right before you said it. It's like the cosmic dance is happening everywhere all the time, on every scale. Even as humanity is working with Nano particles and creating something that is probably so horrific and dangerous that it's going to cause our extinction, when you zoom in and look at those Nano particles and what it is they are doing, it's the cosmic dance again, this incredible beauty. I guess that to me is what the sublime is, such as when you see something that is more than you can comprehend. It's like you have an intuition that it's bigger than you have the ability to comprehend, and then the experience is one of awe and wonderment.

I wish my work would at least point in the direction of the sublime, but the real sublime is out there in the world. I frequently have the thought that the natural world, every bit of it, is sublime. A single ant is a thousand times more sophisticated and complex than anything humans have ever created. We think our 747s and our stealth bombers and our space shuttles and all that stuff is amazing, sophisticated things we've created. If you look at the albatross, and the way the albatross flies, it's an infinitely more sophisticated flying machine than anything humans will ever create. So the sublime is

everywhere in every little corner of the world you look into. If you study any creature or any plant that exists, you find a cosmic dance—an incomprehensibly beautiful, magnificent process happening. I think a large part of all of the problems in our world are happening because we have become disconnected from that awareness. We've lost our connection with the miracle—the miracle of the world that created us and on which we rely for our continued existence. We look at the old-growth forests in Canada, the boreal forests, the most sophisticated ecosystem on earth, the most complex and sophisticated ecosystem with the highest bio mass found anywhere in the world, yet the name that's given to that forest is *overburden*. We think of that forest as weeds, the annoying crap that's in the way of us getting down to the oil sands, the tar sands, an overburden. Something I crave to do is to go to the boreal forest and do a project that attempts to show it as something other than overburden. The sublime, it's always there and so I wish that I could put more of it into my work.

David: Maybe that will come with time and with more experimentation and image making.

Chris: I wanted to finish answering another question about how I think of what to depict. The *Running the Numbers* pieces usually take me about four times around, because I never start each time in a particular place. I want to do something about the elephants and I'm now starting a new piece about them. All I know so far is that I want it to be about elephants, and it's going to be composed of lots and lots of tusks. Sometimes I already have the bigger image in mind, like the Seurat piece, which I wanted to make out of something. Sometimes one side of the Rubik's cube is already solved, and another time a different side is already solved. Many times it happens that I just throw a whole bunch of things up on a canvas and see what it looks like. The Barbie dolls—I didn't know that I wanted to make a huge image of breasts. So I got lots and lots of Barbie dolls and tried lots of things. I stood them all in rows and then tried to create a Barbie cross hatch. I can make an entire piece that way. It frequently happens that I make an entire piece, but when I think I've got it done and then I stand back and look at it, or my wife comes up and says, 'Hey, did you think about trying it in this different way?' I'm like 'Oh, my God, I just spent two weeks pasting those, but that will add one more layer, so I will start over again.' It's an iterative process that usually goes about four times around. I start from scratch four times and finally end up with the completed piece.

David: I noticed in the *Venus* picture, and also the *Return of the Dinosaurs*, they are both composed of plastic bags but have two completely different end images, I guess you could say. I just noticed it with these two, but I'm not exactly sure if I've noticed it with other specific elements.

Chris: I did a third piece, the whale with plastic bags, as well. I spent so much time photographing, scanning, and cutting out all those plastic bags, I thought, 'I'm not going to use all the plastic bags just for one piece.'

David: Use them as much as you can. It's neat that you've been able to make three completely different images from all those different bags you've photographed.

Chris: Did you get the pun on return of the dinosaurs?

David: Uh . . .

Chris: Plastic bags are made out of dinosaurs, so the plastic bags are really the return of the dinosaurs, coming back as petroleum to destroy us.

David: We don't need to worry about Godzilla, we just need to worry about the plastic bags we are making. Godzilla was a fun story to watch in the theatres, but it's not really pertinent to what we are doing with the stuff that's collecting. Thank you for letting me know about that working with the objects and exploring their significance. You're exploring the possibilities of what imaging making looks like.

Chris: Yes, and it's a lot of fun. There is a strange kind of humour and excitement in that creative process. There's also another aspect of it. I envy artists who get to be in the creative space for a long period of time, like musicians. Jazz musicians get to improvise in a creative space for minutes at time, or in a gig for a few hours, in this way it usually feels similar with my *Running the Numbers* pieces. It's as if the idea comes as an instant spark, as if it's not something that comes from me, but something that comes *to* me. The idea flows into my head, and it's like, 'Oh, wow, I'll make the moon out of lots and lots of credit cards.' I remember that one specifically, the one that didn't have multiple iterations. That one came to me all in one shot. I was standing outside at night looking at the full moon, and I had just read an article about how many people are losing their homes to bankruptcy. I had the sort of cliché thought that

everybody in the world, whatever their life situation, yet we all look up at the same moon. I thought, 'Wow, the moon, it's grey scale, and I could make it out of lots and lots of grey and black and white credit cards.' That thought came to me like zing! A creative moment. From then on it was like a month of pure tedium. There's a lot of tedious, repetitive work in the *Running the Numbers* stuff that doesn't feel creative at all. So it's first like a thousandth-of-a-second flash of creative energy, and after that it's just nose to the grindstone.

David: How do you keep the enthusiasm going, knowing how tedious it's going to be?

Chris: I just want the final result, and there is no other way to get to it. It's a desire to finish the piece that actually says what I want it to say.

David: You just keep working at it.

Chris: Yes.

David: I can kind of connect with you on some of those points. Just as with my own creative work, when I'm trying to make things, it becomes a slow process. I work very differently than you do, I should probably point out. I've used electronic waste to try and grow plants on, but it never works out. The final image is selected from several images I try to make. I have to explore it and work hard with it in multiple ways, and that takes time, a little bit of work every day on the project, and trying to find new ways to work with it is kind of hard. It's kind of slow between shots. I don't feel like the musicians who are able to sit and play with the music. My creative work takes time. I mention that because I think I kind of connect with you in that area. Having the PhD to work with keeps me motivated to continue. Also still knowing that the issue is bigger than me, bigger than what I 'm trying to do. Hopefully something changes in the future with the waste. Hopefully, we as a culture will come around to seeing it and doing something collectively and different about it.

Chris: That's the other motivating factor, the tremendous urgency of our times. I want to do something to contribute. Maybe it's grandiose to think that one person can make a difference, but I feel as if I want at least to die trying.

David: That's the passion I feel in your work—that you'll at least try, or you'll give it your all, to make some kind of ripple in the pond, I guess you could say.

Chris: Yes.

David: That inspires me in my work, knowing that you come at it with such passion, that you discuss these things with such passion. I've watched the trailer for the midway film that you're making. It feels like you connect on an emotional level with those birds out there and with what's happening. Correct me if I'm wrong, but is that emotion there when you're working?

Chris: That to me is the very heart of it. My belief is that that is the disconnect that has happened, that is causing virtually all of the bad things that are happening in our world. It's one of the reasons I think art has such an important role to play in the healing of our world. The environmental movement is all about looking out at all of the problems that are happening in the external world and then figuring out how to solve those problems. Imagine looking at your body and seeing that you had a number of symptoms: 'Uh oh, something is wrong with my skin. I have to solve what's wrong with my skin.' So you put a Band Aid on it. Pretty soon your entire body will be covered with Band Aids, and you won't be any more healthy than when you started. That's what the environmental movement does: it looks out into the environment and says, 'Oh, look, too many trees are being cut down, or mountain tops are being removed, or the oceans are being emptied of their fish, and we have to solve that problem.'

I think the problems all originate with us, with something that's happening inside of us that is causing us collectively to behave the way we are behaving. I see those problems as symptoms of an internal disconnect, and that's what I'm interested in. Where I'm focusing my energy is on that internal disconnect, because if we could heal that, then all of those problems out there would suddenly look different. To me the internal disconnect is that we have lost contact with what we feel.

A lot of very interesting brain science is being conducted around this subject. The limbic mind is the part of our mind that feels, and the neocortex is our thinking mind it's probably where the ego resides. Our collective ego has just sort of run away with itself, and in that process we've lost contact with what we feel. Our feeling is our connection with the world. If we see an atrocity being committed somewhere—we see

or are aware of a starving person, or we're aware of a suffering creature or a suffering ecosystem—we feel something and connect ourselves to it. If we don't feel anything, then we aren't connected to it, and then we can participate in the atrocity.

When I was young, I was taught that the vast majority of our feelings are bad. There is a feeling of love and joy that's of course not a bad feeling, but all the other feelings, like anxiety, anger, rage, sadness, and fear, those are all bad feelings. And if I feel any of those feelings. then something is wrong, and I had better get over it. That's how I was raised. I've come to realise that all of those feelings are, first of all, natural human feelings we all have all the time, and they're especially natural when we look out at the state of our world right now. Paul Hawkins says this in a beautiful way: 'If you're not terrified by what's happening, if you're not terrified for our future, if you're not filled with rage about the things being done to our world that we can't control, if you're not filled with sadness about everything that's being lost, and if you're not filled with anxiety about the uncertainty and horror that are happening in our world, then you're not paying attention.'

Of course we are paying attention, so we feel all of those things, but as a culture we tend to shy away—we don't want to feel those feelings. If we think anxiety is bad, and if we hate that feeling, we want to do whatever we can to not feel anxiety, and that's the same thing with fear. Nike tapped into that a few years back, as if somehow you could conquer your fear, shove your fears so far away from yourself so you couldn't hear it screaming. I think you can look at our culture and see that there has been a slow progression: we have become more and more disconnected from what we feel, and in that process we have become slowly more and more predatory; it becomes easier and easier to exploit each other and the natural world. It's incredibly important to reconnect with what we feel, and especially with grief, especially our sadness.

Grief is one of the deepest of all feelings, because grief is the same thing as love: there is no difference between grief and love. Grief is the love we feel for something we're losing or have lost. We all love our world. It's our fundamental state of being. How could we not be head over heels in love with the miracle of our world and the gift of life we've each been given? I think we all are. It's just that that feeling gets lost, it gets covered over, with all the rushing around. That's my hope with the *Midway* project, my film and the photographs I've been taking. It's a project about grief, not as a doorway into sadness or despair or hopelessness or generally what we think of grief as being;

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rather it's like a portal back to a connected state of feeling, a state of love for our world. At least that's my hope for it.

David: Don't let me interrupt if you're not done.

Chris: No, go ahead

David: Because you say that that's what you hope for, I think that will come across. What kind of feedback do you get from people about your work? Maybe that's too vague a question, but do you get the response that your work is helping others make some changes and make the connections to feel what you are trying to convey?

Chris: Yes, that part is incredibly inspiring. I receive far more response to my work than I ever imagined would happen in my lifetime. One thing I have to carefully avoid is reading comments on the Internet. People post my work, because there's a lot of ugliness that is not inspiring. The kind of messages I receive daily by email, the people who are interested in my work and who contact me for interviews, are a constant, huge source of inspiration. It is one of the things I've discovered as most surprising and wonderful about an artistic practice. I never thought in a million years that anyone else would care about photographs of a bunch of dead birds on an island that no one's ever going to visit. When I started the *Midway* project I thought it was going to be just like my *Katrina* project, which bombed. There were a couple of local exhibitions, a few of the prints were included in a few group exhibitions, and then that was it. There was very little interest in my *Katrina* project, and I thought the *Midway* project was going to be just the same, in fact, even worse. I discovered that when you look really, really deeply into something, the world in a strange way flips itself inside out. Poets as well have this ability, to look so closely at one little detail of the world that they discover something universal, something everybody can connect with. There's something like that in the *Midway* project, something unexpected and it's inspiring to see it reflected back: people see those photographs and feel something! Maybe that's for me the great mystery of the photographic medium; it's a strange thing to think of what's actually going on.

I go to a remote island in the Pacific with an electronic device made of metal and glass and plastic. I point it at these subjects, and an image gets projected through the glass onto an electronic device that records millions and millions of tiny electronic blips on a

plastic memory card, I bring that back and put it in my computer, then use Photoshop to manipulate the electronic blips. Lots of zeros get turned into ones and lots of ones get turned into zeros. Then all those ones and zeros get uploaded onto the Internet and can be fired up to a satellite, which shoots them back down into somebody's iPhone in Australia; and that person in Australia looks at that image, and somehow the feeling I had while standing over that bird made it all the way across the medium. It's intact and transfers right into the heart of the person in Australia who looks at that photograph. It's mind blowing that such a thing could be possible.

David: It truly is. It's a miracle and it's amazing—just amazing.

Chris: Of course that's not unique to my work at all, it's just the nature of the photographic medium and the artistic medium, but it's mysterious and amazing, and it keeps me going.

David: That's great. I don't want to take too much more of your time. It's great to be hearing you talk about the work like this. I just want to ask you a couple more questions and let you get on with your day.
The one thing I haven't quite asked yet, and this goes back to Richard Misrach, who you mentioned was someone you've looked up to in photography, is the titles. Within the choice of the titles for at least four of the projects that are listed online—the *Running the Numbers, Running the Numbers II, Intolerable Beauty, and Katrina's Wake*—the word *portrait* is in each of the titles. I lead into this with some of my readings about Kant and the sublime. He didn't talk about the sublime just in nature, art or literature, he talked about it in human character as well. In Richard Misrach's *Desert Cantos* series he focuses and talks about how the photographs of landscapes he is taking show in general a bit of human character. So my question would be, basically, in choosing those titles, how hard was it to choose, and what inspired the word *portrait*?

Chris: That's a beautiful, insightful question. It goes to another piece of the heart of my work. One of the things I discovered a long time ago about my own photographic process was that I don't like to follow the standard rules of composition. When I was a kid my dad, a photographer, he taught me the rule of thirds, and many other rules of composition. There must be a focal point, and you want to try and lead the viewer's eye, and you're not supposed to break circles. Maybe 25 rules have come down from the painters ever since the 14th century, or going back even before that. One of the

things that I always look for, whenever I see a picture I really like, whether it be something I took or somebody else took is whether the subject is always in the middle. I don't like using the rule of thirds. I like putting the subject right in the middle.

I have about five bodies of work I did before *Intolerable Beauty*, which I have never released publicly. I call those my *studies*. In all of those projects the subject is right in the middle every time. It's what I think of being a portrait. If you hold the camera horizontally, so the image is wider than it is tall, people call that *landscape format*. If you turn it vertical, that's *portrait format*. I don't really think of a portrait being that way. I think of a portrait as being a very direct depiction of the subject without the artist's presence. The opposite of the portrait is an Ansel Adams photograph, in which the photographer is extremely present. As much as I love Ansel and everything about him and his work, every time I look at an Ansel Adams photograph, all I can think about is Ansel Adams. I look at those pictures and think, 'Wow, what an amazing photographer he was. I love the way he juxtaposed that texture against that texture. What a good printer he was, and look at the power of the composition.' When I look at those photographs I spend very little time connecting with Yosemite. It's like the photographer is extremely present, and his work is sort of all about that. I want to take pictures like great portrait photographers do, where you look at the subject and don't think about the photographer at all. I've always wanted my work to be like a clear window: you look right through it at the subject and get to interact directly with the subject without me being in the way. That's what I think of being a very good portrait, an image by which you meet only the subject of the photograph.

I discovered many years ago in one of my first projects, for which I spent a few years wandering around in the alleys of Downtown Seattle and photographing little scenes of moss growing on old pipes and other things like that. Those turned out to be portraits— portraits of rusty old drainpipes. I want viewers to feel as if they were actually there. I wanted to put the viewer in my shoes, seeing the same thing that I saw, without thinking anything about me or about art or about composition. I just wanted to try to transfer my own experience directly, or let viewers have their own experience seeing the subject in a very direct way. I think of my photographic practice as being like taking portraits everywhere I go. I want every picture I take to be a portrait of that subject. That concept keeps coming up in the titles.

David: Thank you for that insight.

Chris: It's the same thing with *Midway*. I haven't specifically called those portraits, but I think of them in just that same way. When I'm standing over one of those birds filled with plastic and looking through the lens, I'm not thinking, 'Okay, where is the focal point going to be and how can I make the most powerful artistic composition possible.' I'm not thinking about the rule of thirds. I'm just looking at the subject and thinking only about balance. It's like organizing the sacred object on an altar. If you ever organized an altar, you might have a couple candles you put symmetrically on both sides of whatever is the thing that is going to be right in the middle. When I organize an altar, I get a little bit obsessive. It has to be perfectly symmetrical. If you move something just a couple of millimetres, like 'Ah, there's a perfect balance right there, that's what I'm looking for, a sense of balance that feels so right and so peaceful that you don't think about it anymore.

David: The elements come together at that point, and you can see right through them, you said, like a window to your subject.

Chris: Yes, and it's like, 'How clean and clear can I make that window so that it's truly invisible, just not there at all?'

David: That's a definite challenge in photography. At least what I've found is that if I don't have that, those right elements and things in their correct places—whether it's against the rules of design or goes with the rules—if they're not in the right place, the message doesn't connect. The message gets lost, and you don't draw focus on the subject.

Chris: Right.

David: That's the big challenge in working with the waste that I have found. At least with the waste I am working with.
I think I've taken far more time with you than I was expecting. Thank you.

Chris: I hope that doesn't give you too bad of a transcribing task.

David: It may take a little longer than I was expecting.

Chris: Sorry about that

David: No need to be sorry. I'm grateful that you're willing to give the time and be so open about your work. I was kind of thinking of one more question I might ask you really quick. A lot of this environmental photography that I've looked at does focus on the magnitude of issues you are dealing with. You are working with big statistics, so you've found a way to work with those with the imagery, depicting lots of waste. Other people, other photographers, might go out and show big amounts of it in the landscape. This is kind of geared specifically to what I'm trying to do with imagery. I'm working at a much smaller scale, a piece at a time, basically. My question is along the lines of should the photography show lots and lots of it, or do you think there might be a space to show a piece at a time on its own?

Chris: It sounds like you're having a concern that it somehow might not be as powerful to show.

David: Yes, that's kind of the question I'm trying to pose. I don't know if I will succeed until I try.

Chris: It's a good question, and here is what I believe about it. You can find that transformational power at any scale. I think if I had to critique the *Running the Numbers* project, in my attempt to look at such gigantic scale, I created something that's kind of cold. If I were my own adviser I would say, 'Try to be more personal. That's part of why I found the story of *Midway* so compelling. When you can genuinely get to something that's local and private and personal and plumb all the way into its depths, then you get to something, strangely enough, paradoxically, to something that's universal which everybody can relate to. To me the key is to allow yourself to really feel it. That's the mystery of the medium. That to me is the difference between photographic art and good documentary photography and photojournalism. I remember vividly when I was down in New Orleans after Katrina, lots of news crews were down there, and a crew from CNN came driving up. They jumped down and asked, 'Have you got any dead baby shots. We are looking for a dead baby.'

David: Oh, gee.

Chris: It was this group of frat guys, who seemed to have no feeling at all. They just wanted their dead baby shot. When you look at photojournalism, you often find that. Somehow it transfers across in the imagery as a lack of connection, a lack of reverence.

When you see photographs taken with reverence, you feel the artist's reverence. And somehow that reverence makes it into the image, and it survives all of the transmutation of the process—the digitization, and sending it up to satellites. The reverence transfers. I believe that whatever subject you decide to focus on, as long as you can make a practice, you should always want to go deeper, and this is in my own practice. I always want to go deeper. I want to feel more. I want to discover the places where I'm being a hypocrite. I want to find the irony of my own privileged perspective. It's like I simply want to go deeper and deeper and deeper. I've discovered that if you have that intention and you really allow yourself to feel and put your heart into whatever crazy project it is, that will transfer; and that's the most important thing—not to show the enormous scale or the horror of our world or whatever. The most powerful form of activism in the world is people who are simply willing to say, 'Here's how much I care about this particular subject.' It's not to point to the world and say, that problem is really bad. We have to solve that problem. My favourite example of that is one of the greatest works of art so far in the human world: Picasso's painting called *Guernica*. Do you know it?

David: I believe I know that one. I'm not as up on art history. Let me just double check that I'm thinking of the right thing.

Chris: You don't have to know much about art history to appreciate *Guernica.*

David: Yes, I did just pull it up. I am familiar with *Guernica.* I forgot that that's what its name was. So yes, I do know the work.

Chris: Maybe do a little reading about its background. It's a stunningly powerful work that Picasso did soon after the fascists were on the move and were trying to get Spain on their side. So one night, just to show how strong they were, they bombed a little town in Spain, the town of Guernica—bombed it completely out of existence. Not a single person survived, and nothing was left standing. So the painting is Picasso's response, and he spent a long time creating *Guernica.* He did all the different studies of individual elements before he did the full painting. It's a picture of a bomb exploding inside a farm house. You can see body parts flying, and a horse has an expression of terror. There are lots of archetypes—Taurus the bull, self-reflected eye, etc. Lots of things are happening. On one hand you could say it's a work of art, and on another hand you can say it's an extremely powerful piece of anti-war activism. If you think of all of the anti-war activism out there, there are many different ways that people do

activism about war, but the vast majority of all anti-war activism is people pointing to war and saying, 'That's bad. We have to stop doing that.' Picasso, instead of doing that, looked inward and created something that says, 'Here's how much I care. I'm not telling you how to behave. I'm not telling you what to think. I'm not telling you what to feel. I'm not telling you to change in any way. I'm just saying, 'Here's how much I care about this issue.' He's not just saying that he cares, he's *showing*. He created an unbelievably powerful piece of art.

I think that's the most powerful form of activism. You can do it on any scale. I found your photographs of the dead animals on highways to be extremely moving. I was a little bit envious that you had discovered that subject and started to work it already because I thought, 'Wow, I wish I had thought of that.' That's an amazing project. In that way, those individual animals symbolize much. They can stand for lots of things. They are symbols. So I wouldn't worry at all about trying to show the grand scale of things. I think you're totally on the right track. Just follow your heart and go deeper and deeper.

David: I will definitely do that, and thanks for reminding me about *Guernica* as well. It's been a long time since I looked at it and studied it at any depth. Thank you.

Chris: I once stood in front of the real painting at the Reina Sofia Museum in Madrid. I embarrassed myself badly by crying loudly for a long time. I just completely lost it in front of that painting.

David: Well. that's good. You felt something from the art. As you've been saying, if we can feel that, hopefully that can guide our actions and not steer us from doing good but guide us to doing good.

Chris: Yes.

David: I'm going to finish up here. Thank you for this dialogue, Chris. Keep up your good work you are making. It will continue having an impact.

Chris: Thank you also, David, and best of success with your projects.

Appendix 4   Edited Transcript of Interview with Mandy Barker

Interviewed by David Summerill on 27 February 2015

David: I've read quite a bit, at least what I can find online, of different interviews you've done. I've obviously looked through a lot of your work. I have some up here on the computer. So I will just start off here, kind of simply. Can you tell me a bit about yourself and your photographic practice?

Mandy: All my life I've been interested in photography, but I only got the opportunity to actually study it through education over the last seven years. Initially, my practice was very much based on film and the use of natural light. I did that for a couple of years, and then when I went to do my MA degree, we were given a project where we had to do something we had never done before. We couldn't use techniques, the sort of film and natural light and other things we had used before. We had to go into a different area. That's what forced me to experiment with digital and using objects in the studio because I'd never worked in a studio before, so I was in a sense forced out of my comfort zone. I think sometimes that makes you try harder. If you are established in doing a certain thing, it makes you a bit lazy, and you carry on doing that. So I think that made me look at something new, and that project turned into *Indefinite*, which was one of the first projects I did with marine debris, and it just seemed to work. I was quite comfortable with that way of working and I was really pleased about how I could make a message through photography. Which I realised was one of the most important things I wanted to do at the end of the day, something I hadn't really realised before.

David: Did that realisation come then, when you working in the studio, or did that come from another source of inspiration, another artist, or—?

Mandy: I actually did one previous project, a project taken of children in a local wood. I think it may be on my website under 'archives.'

David: It is, actually.

Mandy: And that was about some children who had been mugged in the local wood and were under threat of theft, and things like that. That was something I badly wanted to let the community know about. So this was, in a sense, giving a direct message, making

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it work in terms of awareness. That was probably the first project I did in which I realised how powerful photography could be in delivering a message and getting action. That preceded *Indefinite*, but then *Indefinite* was the same kind of thing, about giving a message but in a different way, using different techniques.

David: Why did you focus on plastics, because, as you said, you started with some other projects. *Indefinite* makes it look like you're working a lot with plastics in the ocean. Why have you focused on that particular type of waste?

Mandy: It actually stems from childhood. Ever since I was young, I have walked on the beach and collected things. As a child I would collect driftwood and shells and all those kinds of thing—natural objects. As the years went by, I gradually began to realise that less and less debris was ending up on the beach. Probably ten years ago I came across a fridge freezer, a TV and a computer that had washed up on the beach. I just began to think about how many other people knew about such debris. If one doesn't walk these areas, nobody would find such debris, and I realised that this would be a good subject for my photography—to let people know what exists on beaches and just sort of investigate further as to how these objects get there. So it was really an increase in seeing debris as opposed to natural things I had seen some 30 years earlier.

David: Fifteen years ago I was a part of a beach clean-up day up in Irvine, Scotland. The beach was a mess. We were out there for an hour or two just picking up rubbish, and it still just never ended. You could see debris on the whole length of the beach.

Mandy: The west coast of Scotland is dreadful, actually. I was there two weekends ago, and it's pretty shocking. There's mountains of debris in the remote locations where it's never cleaned up because not many tourists go there. It's sad.

David: It does get pretty bad. So you mentioned that you started working in the studio, and that kind of led to your method of constructing the images. What is your process for making your images?

Mandy: I Collect them from the beach and bring them back to my studio. Using a black velvet background, I photograph them in natural light. I have a studio where I have just one source of light, from one direction. I photograph everything with that same directional light so in the final image, they look like the light from the surface of the

sea, in a similar kind of position.

David: When you photograph it, is it just one object at a time or multiple objects at a time?

Mandy: It varies from image to image, but mostly I have four layers. I photograph the very small bits on mass, just sort of thrown down randomly; and then there are sort of two medium- size layers, and then a few sort of minimal, larger objects on top. They are then sandwiched in Photoshop. So nothing is manipulated or changed in any way. All is photographed exactly as it is. It's just the layering that is the manipulation.

David: A lot of the layering appears to form some kind of pattern, like whether it's swirling or flowing in the same direction. So these types of compositions, do they form naturally, or do you have to try different arrangements to find something that works?

Mandy: Sometimes they are just randomly thrown down, because I kind of like the way it would be in the sea, where they would exist in a random sort of fashion. Some things are not random. I might throw the plastics down in a kind of a line or a sweep to try and emphasise a direction or certain types of movements. Some of my images in *Soup* were influenced by a lot of different artists and photographers. I don't know if you've seen my sketch book pages, some of which relate to some of the images. I've got the inspiration from those. So some of the compositions may relate back to things I've seen from other artists that have shaped me, for example Yves Klein, who did the famous canvas of blue; it became the inspiration for the turtle picture. I wanted to create—a kind of mass area of blue to represent the sea, but I made it with turtles that kind of spilled from the container ship.

David: When I look at them I can kind of see both them floating in the ocean or the sea, but then also they kind of become typologies, maybe in a different form instead of a single image in a grid. It's like one big typology, to see the different plastics and objects all side by side, kind of floating and suspended. It's cool.
I've got quite a few questions regarding just the work itself and then some of your opinions. I'll just ask a couple more questions on the making of your work. What challenges do you face? Or what challenges are there in constructing your images?

Mandy: I suppose that initially, some things maybe don't sit together or don't work properly. When I come to sort of fit the four layers together, maybe they don't kind of work together because of the way the layers fall in a random way. It's just what happens to be under each one, and sometimes they might not fit or work together. So sometimes I might move one or two of those to make the composition look a bit better. I always collect and photograph everything I find, even if it's something you might not really want in the image. I don't want to be selective; I want to represent what's out there. So I don't have any restrictions as far as that goes.

David: So it is in a way a documentary? You are actually documenting the objects?

Mandy: I suppose I am selective in terms choosing certain groupings. For example, I might choose to do all translucent objects, all red objects, all objects with letters and numbers. So I do make groups from the collections I find, but that's the only kind of selective process I make. For example, in the *SHOAL*(s), everything was brought aboard the yacht at a certain time, and whatever was there was photographed in that image. So there's no selection, it's just exactly what was kind of brought aboard at that particular location.

David: You mentioned that boats were trawling and picking up rubbish. How much were they collecting at one time, would you say?

Mandy: We were at sea for 32 days, so there was not a lot of space on board our 72-foot yacht. We were essentially collecting micro plastics and smaller particles. There was what was called a *mantra trawl*, a stocking-like thing with a sieve on the top. We were essentially sieving the surface of the ocean to collect what was there. We did sort of 24-hour trawls and one-hour trawls, from which I photographed everything that came out of each of those and sort of put them all on a black back ground for scientific purposes, more than anything. Then I added to the smaller trawls the larger objects collected during the day, to create the one image.

David: And those are all titled with the coordinates of where you were trawling at the time?

Mandy: Yes, it was where the trawls were brought up at that time, and what was caught that day.

David: There's a tyre.

Mandy: Yes, there were some quite large items. We found a tsunami fishing boat that had been sheared from its moorings. There were lots of snapped ropes from fishing boats and things like that which had obviously broken free during the tsunami. Lots of household objects. Lots of things floated by which we couldn't capture. For instance, a child's shoe floated by. Then half an hour later there was the other shoe of the same pair. So obviously a pair of the same shoes sort of drifted off. And some sort of pair of boots, which were laced up to the top, as well as some quite disturbing things. We didn't catch everything.

David: The tsunami debris field was especially interesting. It's both what we put into the ocean and at the same time the power of nature—what it can do to us.

Mandy: It was particularly significant to the scientists, because normally when plastic goes into the sea, you don't know the time when it entered; nor do you know the starting point. On this particular trip, the date was known to be 11 March 2011, exactly the time the debris entered the sea, so scientists could do research on the period of time when creatures attached themselves to the plastics and what happened to the plastics over this time. I believe it had been a year and two months since the tsunami, so they could record what happened in the time the plastics had been in the sea. That was quite unique for research purposes.

David: It's especially interesting because researchers can see how long something has been there and how far it's travelled. Which is interesting, because in *Penalty*, among the footballs all washed up on the shore, it was interesting to see what the 769 marine debris footballs and some other balls apparently looked like. Plastic travels worldwide. That project was a bit different. The way I see it, it looks like you've done some projects in which it's just you doing the collecting, but in this project, you're on a trip to the tsunami debris field with the scientists, and the project *Penalty* is more of a collaboration with the community.

Mandy: That is what I wanted it to be. Rather than me choosing the subject matter, I wanted the public to send in the subject matter. Doing that increased awareness, just to see how many people are actually interested in the issue and want to help. When I started the project, I had no idea whether anybody would really find a football and post

it to me, because it's quite a big favour to ask someone who found a stinking, sodden football on the beach; how many people would pick it up and post it? Yet nearly 90 people did from all over the world, and I was pleased that they did. I had kind of thought that if I got 30 people to do it, I would be quite happy. That would be quite good. So I was amazed that people were emailing me from Singapore and saying, 'I just found one. Do you want it?'

David: Do you know if any of these people have seen the images?

Mandy: Well, I have emailed the images to everybody who contributed. They have been published in various countries and in different formats around the world. So hopefully the contributors will have seen the images.

David: Have you gotten any responses back?

Mandy: Mainly from media, wanting to use the images for different things. And people generally do email me and say, 'What a great thing.' and, 'I really like the way you've sort of increased awareness.' That particular project was actually very different from the other projects. You were asking me about putting all the debris together, because when I started that project, I didn't realise the size of a football, particularly. Of course I couldn't put them all in the same shot, because they are big. When I work with tiny pieces, it is not so challenging; but that project was a huge challenge because I had to photograph maybe ten footballs at a time, rather than normally put all the stuff together in one image. It was made up of sort of 10 images at a time, a lot more layers, purely because of size.

David: The size creates the challenge, and you have to go about it slightly differently. Yet you still come out with a similar aesthetic, a similar composition, which is good. One more technical thing: What has inspired the titling?

Mandy: The idea of linking kind of word with image came from a couple of inspirations, one from Simon Norfolk. I don't know if you're familiar with his work? As a war landscape photographer, he writes an initial caption, something like, 'Landscape of something, Afghanistan, whatever.' Then when you see a beautiful image of dawn with a ruin in the background, and you read his more detailed caption, it tells you what actually happened. Then you come to know, many people were killed

and all that sort of thing. That's what inspired me to want to do something similar in my work—to start with an initial simple caption that draws the viewer in and makes them sort of question and wonder what the image is all about. If it's just a latitude and longitude, a kind of description that makes viewers kind of think, 'I wonder what that is, I wonder where it is', and all that. When you compose the secondary caption, that's the kind of sting in the tail of what the image represents. And I really like the way he, Norfolk, does that.

Another artist, Cornelia Parker, does sort of sculptural work. She took a series of photographs of feathers—simple pictures, just a feather on a black background. But it just said *Feather that went to the Top of Everest* and *A Feather from* – I think it was Sigmund Freud's couch. There was a whole series of these things, and just looking at the feathers with the longer caption brought much more depth, making you think so much more about how the feathers had got there. Did somebody take it up to the top of Everest and bring it down, or was it in somebody's coat and somebody just found it? I liked that sort of play with word and image, and that's what I wanted to expand on in my work. Which is why I give the *SOUP* images simple titles, like, 'Bird Soup' or 'Tomato Soup.' Then adding a bit more detail in the caption, about what actually makes the simple caption, gets people to kind of question more about what you're representing.

David: I would say it kind of reveals a history for the object.

Mandy: Yes.

David: It's no longer just an object, it's something more, and it's significant. Just a few more questions. The work is beautifully laid out, and they are very large format prints, in which I understand that you can actually see the detail of the objects. I kind of just want to discuss beauty in the work and ask what role you think beauty has in this kind of work. Because it is something that still gets spoken about quite a bit.

Mandy: It's essential in my work because it attracts the viewer. When I first started doing this work I photographed things in situ on the beach. I did a series of work not taking things out of context, but just as they arrived on the shore. I presented them to several people during my MA course, but nobody was really interested. They looked at them and said, 'Oh, look at that and look at that,' but their attention span was so short it

was left aside. It was just something they've seen before, they've seen it in the gutter; they've seen rubbish before and they didn't resonate with it very much. I realised at that time that I had to create something that held people's attention longer and also made them want to question what the images represented. That questioning leaves a kind of longer-lasting memory of what they've seen. So this is why I wanted to create an attractive aesthetic, to kind of draw a person in because they get drawn in, and it's said 'Oh, that's interesting,' or even 'That looks really beautiful, or 'What's that mean?' Then you get the kind of hard-hitting reality of what an image represents. Initially it's definitely only an attraction to draw people in, to attract interest, and then find out more of the issue.

David: Because I am looking at constructed images, could I ask, 'What Value is there in this type of photography?'

Mandy: Well, much value. Based on kind of the responses I've received from around the world, and publications, I have an awareness of people making a difference. When I have exhibitions, people ask, 'What can I do to help?' and 'Can you point me in the right direction?' They want to do something even if it's just as simple as thinking about whether to take another plastic bag or buy another bottle of water. It's just that basic level—if it makes people question, then my work has achieved its own in just making people aware. But if they want to go further, and they want to help with beach clean-ups, or they want to get more actively involved in campaigning against companies that produce single-use plastics and don't have any kind of guilt as to where their products end up, then even better.

David: while you were talking, saying that you had made a trip to the debris field, I remembered that I wanted to ask, 'What does it look like?' Can you see the plastics on the surface or floating around?

Mandy: Yes, and it's not as the media portrays. The media portrays a floating island of trash, and most people have this picture that trash is all packed together, and you can walk on it. It's not like that at all. There are these gyres, but I wouldn't say they're distinct; they don't start at one point and finish at another. The whole of the ocean is all but scattered with confetti-like bits of plastic. The crew sat on the boat and wrote down how many pieces of plastic they saw passing by us. I think it was every 2 - 3 minutes we could see a piece of plastic float past that was significantly large. That's just on the

surface, visibility sometimes wasn't brilliant. All those things are suspended at different levels, so what you see on the surface doesn't bear any representation of what is below; and also, the microplastics are more detrimental than any other size plastics, because they are more easily eaten and thus cause more damage. It is not a solid mass but a continuous sort of confetti pieces. Some areas are more densely polluted with plastic than others. One of the things I was going to say about constructing images is its importance; I wouldn't be able to do this any other way, because you can't really photograph under the water to get this representation, which is one of the reasons I did it. I wanted to represent what's out there, but you can't do it in a single shot. The density of the water is quite cloudy, and you could never get that kind of view or that kind of representation; you'd get only a cloudy picture. To achieve the feeling, you have to do it by construction. It's obviously a representation of what exists, but few images really exist of the garbage patch, which is why I wanted to do it and thought this was the best way to do it. You sometimes see the odd murky sort of pictures looking up and seeing a few bottles on the surface, but again people don't really resonate with that little thing. It's really bad, but they don't dwell on it. I would love to do some sort of analysis as to how long people would linger on an image as opposed to another image to see how much they soak in and which image they remember, and things like that, based on the reality and conception.

David: That would be an interesting research project.

Mandy: Yes, it would.

David: Speaking of that, what are your plans for the future?

Mandy: About a year ago, I had a residency in Ireland where I was working with somebody from a marine organisation that was doing a lot of research on plankton in Cork Harbour; I worked with him a bit in Plymouth. In their extensive work on microplastics, they have found plankton to be ingesting microplastics in laboratory conditions. They're now doing more tests to see if plankton are also eating microplastics in the sea. If so, it's an epic worry, because obviously they are the bottom of the food chain, and whatever plankton are eating affects us all. So I'm led by scientific research, and things that have been discovered. This project I'm doing now will be based on plankton. I have a lot of contacts that send me papers all the time about the latest research on marine debris. I'm always mindful of new discoveries that

need to be highlighted, which represent projects to come.

David: It sounds like you have a lot of work ahead of you

Mandy: Yes, I'm pretty planned up for the next couple of years.

David: It will be good to see what you come up with. I did see that you were nominated for the Prix Pictet award a couple of times

Mandy: That is the award that means more to me probably than any other, because it is the leading global-sustainability award. So I am quite pleased to be entered for that. I've just completed a series of images in Hong Kong, where I've collected debris on the beaches for the last three years. I've just been nominated as a finalist for that award, and the winner will be announced in Hong Kong in April. That's exciting, because that will resonate with all the public of Hong Kong, and they have such a massive problem. It's not a patch of debris like anywhere else in the world. It's mountain-like. Piles of debris, and landfills are filling up. They will fill up in the next five years. Again, it's a massive problem. That was very interesting work to do.

David: Thank you for your time

Mandy: Glad to help out.

Appendix 5 Edited Transcript of Interview with Eleonora Chiari

Interviewed by David Summerill on 19 February 2015

David: I found the work via the exhibition that's here in London, the *Nympheas*, the water lilies. I came across it and thought, 'This is very interesting.' I saw the water lilies and the plastic bags floating in the polluted river. The reason I am interested is because I'm looking at other photographers who have also made images using waste. Not in a strictly documentary approach of the environment. I'm working with the materials to raise an issue. That is what I'm looking at in my research, and as part of it I've been working on a body of work in photography too, which attempts to make commentary about electronic waste and our relationship, as humans, with nature. That's a little bit about my research and why I'm interested in the water lilies and other works you've made. So would you mind guiding me through your work and how it started. I'm familiar with the image *Pic Nic*, and then the water lilies, and the *Panoramic Nympheas* project, which was done as well. I'm just trying to get an idea of how and when it started.

Eleonora: Our first series was in 2004. We always worked on topics of this kind, but there is no line between nature and artificial. All these kinds of topics meet each other in what's natural and artificial, not only in nature but also in history and representation. At about the time of the *Nympheas* we started to imagine ourselves like flâneur, the French impressionists. We spent lots of time walking around Rome, and trying to find the hidden places, and the polluted areas; We were fascinated by the dump, which is somewhere we made work after that part of the series. So we called this series *Bu Colic*. It relates to the meaning of bucolic but also refers to this illness the colic, that is, something kind of painful. It was also a question of being female. We imagine ourselves walking around like the male impressionists did. So we begin this journey around the city that could be any city. I know that Italy has a big issue about pollution problems with trash, more than other countries. So it was really interesting for us. We chose the Impressionist visual because usually when we work with photography it is very important that the first impact of the work would be recognisable. So that way, like the *Nympheas*, the Monet *Water Lilies*, and then there is a kind of stratification of meaning. That for us is very important; that at first view everyone can approach the images that we made. We were walking around the River Tiber in Rome, and finding lots of pollution and we started to have this idea. We made [water lilies] like origami

with all these plastic bags. We went to the dump, it's part of our work to go inside to go deeply in this [subject], for the pictures that we made. I don't know if it's clear but in that time, we made also different works, not only photography on that series. One was our first video, it's a still video called *Controcorrente*, it's 'against the tide'. We found this, don't know if you saw that video; we found in the Tiber, this little waterfall, a small waterfall, that at the end it becomes kind of a gargle a vortex, that all the trash stays there and it just moves. So it's a still video of this trash that's jumping, it seems like a washing machine. It's kind of hypnotic, its super rough, but it's something that is all these things, you keep looking at; it's one hour. Then we made some installations, we made some nests made from asbestos.

David: Yeah, I've seen that.

Eleonora: It [asbestos] was always [used for] these kinds of things, like protection, because it was made at that time for [stopping] fire I guess. So all of the toys for the children, the paint for the apartment, the movie theatres, was made with asbestos. So although it seemed to protect, it's poison. We were interested in that.

David: Ok, so you worked not just with photography but also sculpture and video.

Eleonora: Yes, we used different types of media, except painting. Principally photography is our first media

David: Ok

Eleonora: We met through photography Sara and I, who says hello to you, but she is in Milan now. We started with that but then we found we needed to use other media. So we started with video and then installation. Every project is always mixed. It depends on what we need. But first its photography. We use it a lot.

David: That actually leads right to one of the questions, why choose photography to work in this subject area?

Eleonora: It depends. We started with that because we were really comfortable. Anyways Sara and I studied at the art school, photography, and then I was a photography assistant. Sara, she went to study sociology at university and she

graduated with a thesis on photography and so it was the principle technique to express ourselves. Then it also depends on the project. I don't know if you saw, the *Dump Queen* project, it is video and photography also. It's both. It depends what we like, the synthesis that we find. Sometimes it's not [found] with photography but it's always in our project.

David: When I've presented my work, they ask me if I'm going to work with video in any way and I keep thinking, I would like to, I just need to find the right method for the things that I'm making. So it's one thing I plan to work with too, video and other things.

Eleonora: It's a long time that we have been together and it's always a challenge for us to go [exclusively] through photography. *Nympheas* is also produced in a way that you saw that panoramic; at the beginning it can seem kind of like a painting also. Sometimes people don't realise, at the first view, that it is photography. So it's also interesting for us to use, like a tool, photography. There is a small work in the gallery we're working on, a series of mirrors, that we are shooting smoke bombs. We are working with the concept of landscape, that its always this topic about nature and artificial. We are recreating kinds of landscapes that seem like sky from the paintings of the 19th century. The sky, all this landscape, are made artificially inside a room. It's the opposite of the other work. It's also interesting how we found this technique, that is a mirror and a print. The print doesn't cover the mirror but its blended with the mirror. It depends on where you are, which side you look at this image from. Sometimes you see yourself, sometimes you can see the images, sometimes its blended, its mixed. It goes through this classical approach to photography, however we always try to find a new way to use it.

David: It's like it allows a person to envision themselves in that work.

Eleonora: Yes, or everything else that is in the room. We are going to have a show in October or November. I think we're going to show the whole series of work we are doing.

David: I look forward to seeing that, it sounds like it will be good. You had looked at pollution, why did you choose to construct the image? For example, making water lilies out of bags; why did you choose that instead of just documenting the rubbish and

pollution in the river?

Eleonora: We always create a 'set' when we do photography. We always try to create an image about what we want to say and not use what's already made. Like in *Dump Queen*, because it's a metaphor. So visually we try to create our view and our metaphor to give a narrative to the image. In *Dump Queen* we have this vision of a figure like Carmen Miranda. For us it was a metaphor, the goddess of the apple dance and happiness with this tuti-fruity hat. It was really perfect with the juxtaposition of this mountain of garbage in the background. So she was singing the chicka-chicka boom song in the video, ignoring completely what was around her; it's like a metaphor of our society. We were portraying this idea of psychological removal, like forgetting in a psychological way everything you consume, then abandon like trash. It goes in this place that is a kind of like memory, historical memory, of our society. So she was dancing on top of trash, singing that crazy song. With the images we made a tryptic. Each picture was 2 meters; they are really big. There are two mountains of trash and in the middle image, she is posing, kind of vogue magazine style with the trash behind her. We were trying to build an idea in these images, trying to find a synthesis that gives you some information or feelings.

David: It's telling us so much about society. You just mentioned it entirely. I mean we use these things and then when we're done with them it just disappears.

Eleonora: Yeah, and then birds eat that or like the vortex of trash that we have in the ocean, it becomes more like plankton, the fish eat that and we find the fish in the supermarkets. So this kind of biotic mix comes back to us and its part of our lifestyle.

David: So, *Dump Queen*, that was made in 2008?

Eleonora: Yes, it was made in 2008 but it was like, sorry if I interrupted you.

David: Go ahead

Eleonora: It was more than 2 years that we were looking for a place. We were walking around trying to find a dump. We were planning to do it in this huge dump that is in Rome, Malagrotta, that was the biggest open air dump in Europe. It was impossible to get there. It's incredible how its built and is protected, because it's a really hot spot.

Finally, we found another dump, it was used to make the movie. We used that dump because it was really super well organised and unknown, everything was perfect. So they built for us, this mountain of trash. They even asked us, 'How many metres do you want it to be?' It was summer, it was really hot, it was really hard.

David: Wow, that is really great. I am just going to walk back through the work, so to speak. I imagine the water lilies was made before *Dump Queen*. Is that correct?

Eleonora: Yes.

David: About what time was that made, the year?

Eleonora: We made the first series that is not panoramic, it's a smaller size. It's 180x150mm, half the size of the panoramic. That was the first. Then we were invited by the Museum of Modern and Contemporary Art of Bozen, they were rebuilding the museum. They asked us to cover all around the building while they were building the museum. So we were thinking about the *Nymphea* because in the back of the museum there is this river and in the front they have this tree. So we decided for that project to do a new series of *Nympheas* that were all connected to each other. With ten picture we made a big long picture that we printed on aluminium. It was 2 metres by maybe sixty; it went all around [the museum]. It was a public project, so compared to the other *Nympheas* they are more visually pleasing. Also the light that is on the picture was mixed with the light of the tree. So with all the things that were surrounding these images, it was nice. We were happy about how it worked. Also people that live there liked the work. It [the message] was something strong but it was with this approach that made it appealing.

David: You mentioned that there is an earlier *Nymphea* series.

Eleonora: Yes

David: Is it the same type of images?

Eleonora: It is the same type of images; I'm looking at one I have here. It has maybe a different colour. At that time, we found the pollution on the river, the trash, so we used this. They are a bit more rough and strong [in appearance]. With the others [newer

series] we were working with the impressionist style. Also, the size, it's kind of the size Monet was using in scale. So we were working with colour, and using different techniques. The first [series] was more rough but we wanted to have this.

David: Yeah, different ideas, different aesthetic, you were looking for?

Eleonora: Yes, the technique we usually put first, it depends on the work of course. With that we use a small format analogic [camera], and then we digitalise the analogue, print on lambda, then it has a plasticisation, it's protected with a matte. So it becomes more pictorial. Digitally it's a bit cold so we decide to do this kind of back and forth technique, with the analogue, then scan to have that final result.

David: So that was the *Nymphea*, water lilies. Was that done with digital then? Digital photography or still the analogue system?

Eleonora: No, still analogue.

David: Ok, I'm just trying to get a good idea of this, so sorry if I'm a little behind.

Eleonora: We usually use analogue. We could also use big format. But we decide to have the grain of the picture. It was a precise choice that we made.

David: Just one more image to ask about and that is 'Picnic'. It says it was 2002. Could you tell me a little bit about making that?

Eleonora: Yeah, it was part of the *Bu Colic* project. In *Bu Colic* is the first series of the *Nympheas*, and the first video 'against the tide', and so it's part of this process of flâneur. At that time we were looking for the dump. So we made that picture, just behind this huge dump that I was telling you about, the Malagrotta. We were walking a lot in that area, during that period. There's this small street that goes all around this dump. It's really weird because it's a small street and there's a lot of prostitutes and a lot of trash. But also there is a field with vegetables. It was really interesting to walk around there and discover all these contradictions. So we decide to put ourselves in the series by recreating *Le déjeuner sur l'herbe*; we took the female figure and put it in the position of the two males, in this nice picnic 'set' in a dump

David: Yeah, I see that there. It works really well. It's like a little picnic amongst rubbish. It's not where you would normally see people sitting down to have a lunch. Eleonora: Yeah, but also it's not obvious. It's like you can see but also you can't. At the end there is this huge mystery building where I think they burn the trash. You can see some of this field in front of that and then trash all-around but not too much.

David: Something I read about your work said that what matters is to bring awareness to the relation between natural and artificial, industry and landscape to throw this different light on the way we think of things in the landscape. Is that still, that idea; bringing awareness to pollution?

Eleonora: I don't know if bringing awareness is right. We're not scientists and historians, we absolutely do not pretend to be. We just give our vision of what is interesting to us. We are trying to put it in a different perspective. It's also a question about vision and the perspective of the vision. Even if what you want to show is not reality, like reportage, it's always something that is the truth. For us its more important to explore our vision with a different perspective. You can see Carmen Miranda, you can see a dump, but then it's not the same. It depends on how you use images. We really got into that. I think that this kind of approach comes to have a different line. We did a big project this past year about history and we made installations with this genealogy of the Nazis memorial, it was this living tree. So nature and artificial they are always there even if we talk about different things and not pollution. The tree was carved with the history of Italy in the 1970s. It was a blood line of a genealogy of our country, not a family blood line, but historical and cultural. Our cultural bloodline, all the things that you have to forget to feel Italian. It's really complex because we use different media. I have to say that the topic is the forgetting of, like denial, our history in society and also this nature and artificial concept. We also did another picture in that series called *Bastarde*, bastards. I don't know if you saw it?

David: Yes

Eleonora: It kind of matched this. Bastard is a concept of not being pure. It was this (I don't remember the name of the philosopher) distrust of purity, its vitriolic for the soul; for us, it had a really strong sense.

David: That wasn't Slavoj Žižek was it?

Eleonora: No, I will tell you later.

David: Just a few more minutes here. One of the main things that I see discussed by other writers about environmental work is the use of beauty in images. This making of beautiful images, that when you look at them a second time, or you look more closely there is something else happening. What are your feelings on that? Is beauty something you seek to create, to kind of put into the image or is it just something that comes about in making art?

Eleonora: It depends, I don't know. As I said before, I think for us its very interesting, visual appeal. The first view is to catch the eye of the public and not to have a kind of repulsion from it. It's interesting that the first view can also lead you through the different layers in images. So for me, yes it's interesting to use it. I don't think it's a question of beauty, it's just a question of something that can catch your eye.

David: Catch your eye, leads you in, gets you looking at it and thinking about it.

Eleonora: Yeah.

David: well thank you for your time

Eleonora: It was a pleasure, thank you.