A Single Day Walking on Terraformed Land: strangeness and familiarity in rehabilitated open cut mine land at Rix’s Creek.

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Abstract

Terraforming the Upper Hunter Valley occurs when piles of open cut mining waste are transmuted into hills and plains, covered with topsoils and planted with a mix of trees and pasture plants. Animal and bird systems self-establish over the top of the human designed landscape. Due to economic and engineering constraints, terraformed land differs from its original form, and the plant and animal systems that establish within and across it diverge from that prevailing in undisturbed sites.

At Rix’s Creek mine in the Hunter Valley, NSW, Australia, I explore strangeness and familiarity in a landscape terraformed twelve years ago, which has transformed through the prevailing years into a woodlot, pastures and wild places. Plants are familiar but they are in strange configurations. Soils are recognizable but they are divested of their origins. Water finds form in upland swamps yet hillsides remain dry. The landscape is recognizably Hunter Valley and yet alien in quality.

This paper explores my experiences on one sunny winter day in Lot 100, New England Highway. I traverse the land on foot, using my agronomic eye to see and my art practice to interpret the landscape. Whilst it is tempting to keep a list of the missing and the alien, I use the idea of respectful wayfinding (Instone 133) as a methodology to understand the new configuration of life evolving in the terraformed environment. Direct photographic printing, drawing and digital photography, also seek to honour the life force that will not be denied in this terraformed land.
Introduction

Geoengineering is re-landscaping the Upper Hunter. What once was agricultural land is becoming something else. Our demand for coal for both power and foreign exchange, has left large tracts of the Upper Hunter Valley in New South Wales, Australia, undergoing an experimental procedure called rehabilitation as part of a post-mining tidy up. Rehabilitation starts with a remodeled landscape made from rock that once sat above and in between the coal seams. Mounded and shaped into steep sided hills, the new forms are coated with a layer of topsoil and planted with trees and grass as per agreed mine closure documentation. Mining is, after all, only a 21 year land use according to these documents (cite here). And thus all becomes right with the world. Or does it?

Rehabilitation experts may dispute that the process is experimental, however the evidence is not in regarding the long term stability and sustainability of rehabilitated land. Experiments have only been conducted over short time frames of four to 40 years. But the time frame of the Earth stretches beyond human temporalities and our changes to landform will exist until the next ice age, when ice sheets will remodel the earth surface once again. Furthermore, what are the consequences of upscaling such experiments from 40 hectares blocks to 64,000 hectares as is predicted legacy of coal mining in the Hunter? There are so many unknowns that shadow humanity’s choice to geoengineer an entire valley. Whilst this land is predicted to be used once again for grazing and for wood lots, who can say what will happen between the interactions with climate change and new subsoils that are highly alkaline? Or species colonization and agricultural use?

As an artist and agronomist, I explore one block of land terraformed 10 years ago, near the Hunter Valley town of Singleton. This research forms part of my PhD studies into the strangeness and familiarity of human constructed mine rehabilitation landforms, and manufactured ecosystems. Although transformed into a woodlot, pastures and wild places, there remains an alien quality to the environment. Plants are familiar but they are in strange configurations. Soils are recognizable but they are divested of their origins. Water finds form in upland swamps yet hillsides remain...
dry. There are colonizing weeds alongside species from Western Australia. At first glance, it looks like a ‘natural’ Hunter Valley vista, but after spending a day exploring lot 100, I find it an unsettling place.

This paper does not argue for or against land rehabilitation. Instead, this research explores the rehabilitated environment using an ethic of respect for land as an entity in its own right. In this instance, land is understood through observing, looking, drawing, photographing, walking upon and breathing within. Writing is derived from a lived experience of being-in rehabilitated land and participating in the webs of existence that are slowly redeveloping. The embodied nature of the land is honoured, whether it be a past agrarian landscape or a totally constructed new earth.

Thinking about the new field of ecological humanities and the place of humans in land, Deborah Bird Rose writes, “Respect (for land) is a matter of knowledge – of knowing the connections so that one knows the many contexts in which respect is due….” (Rose 5)

By weaving together my personal knowledge of agronomy, soils science, plant nutrition, water management, in conjunction with other knowledges acquired by looking and seeing through an artist eye, respect can be afforded to new land even if they may only be twelve years old. Tiny webs of life sprout through transported topsoils. Rocks start the decaying journey to soil pedogenesis. Birds and kangaroos inspect and taste new shoots. Water seeps. Air rises from hot lands. Eagles catch the updrafts. A lone human walks.

The logic of connection holds that the web of life is a web of mutual interdependencies. Human beings are enmeshed in webs of life as much as are koalas, eucalypts, flying foxes, coral, vultures and bacteria. The web of life really is Earth, because this is what Earth is - a place where life came into being and continues to come into being. Respect is an ethics of engagement with this place, our home; it is
an ethics that brings gratitude for the gifts of life into dialogue with our responsibilities within the wider webs of life. (Rose 5)

And so as a human walking in upon new Earth, I am a member of this web which Rose evokes. I walk with the Earth pushing back at me, breathing air containing dust and spores and bacteria generated from transported soils and rocks, and sitting under the shade of small trees. This paper is an account of that single day of walking in Lot 100 New England Highway, at Rix’s Creek mine rehabilitation area, where the trees are ten years old and the Earth is still in recovery mode.

Lot 100 presents as a reset point in geologic history. Below my feet is a thin layer of topsoil rescued before the mining process and then homogenized, geologic history, 130 million years of it, down to a depth of around 800m. That is, 500m of void back filled and piled up to make a hill 300m higher than the original land. Around me are the planted grasses and trees, mostly native or settlers, each struggling to find a living in such a disturbed environment. And above me are the birds who come and go as they please, since they are not restricted by fences or root systems.

These created lands must eventually pass through mine closure, back to general ownership, transforming the relationship between people and rehabilitated land from onlookers to owners. How will people think about these newly created landscapes with their flat topped hills, steep slopes, straight line trees and odd combinations of plant and animal colonisation? Will these lands be accepted back or will they suffer the prejudice of relationships severed by legislation, or the prosecutions of those looking without express permission and combative mining relations? How can we think about strange, newly created landforms that most have yet to meet?

DAY OF THE CHOUGHS
I am being watched. My movements are shadowed. As I set up camp for the day and start a long exposure photograph, I am scrutinized. It’s not that I’m on mine land without permission. Quite the opposite. The mine staff go out of their way to suggest
places to visit and deliver me to the each site in their mud covered four wheel
drives. They are proud of the work they do to design landform and reconfigure
natural systems and they are willing to share their success with me. No. It is the
birds who are worried, in particular the Choughs. They have placed a guard with me;
I am labelled *intruder*.

It is an odd feeling, being an intruder in a totally manufactured land. I am the human
and they are the animal. Mining rehabilitation is a human creation, so shouldn’t it be
the other way around? But no. As I walk deeper into the tree lot, the ear piecing
alarm goes up. *Intruder alert* the flock of 20 screams. The wail is harsh and
vindictive. My heart races. Will I be attacked?

I am shocked to find I am given the same label as a snake or a bird of prey. Perhaps
the birds know more than we think.

**Terraforming**
Lot 100 has changed since it was first surveyed. Now it is part of Rix’s Creek mine,
just west of Singleton in New South Wales, Australia. Wild bush and open farm land
has transfigured into a steep sided hill, 300m above the original land surface level. It
is covered with young trees in rows, sturdy soil banks running across the hill side
and scatterings of grasses, broad-leafed herbs and wattles. It has the vista and air
flow of a hill but it is totally man made. To the west of the tree lot is the mine void,
with the two faces of civilization showing; the bare rock face interleaved with seams
of coal and the mounds of crushed rock waiting to be reconfigured as another part of
the hill of Lot 100.

It’s all done according to the agreed mining documents which specify, among many
things, lists of plants that should be growing once land is rehabilitated. Mining is
established as a short term land use by virtue of the strength of rehabilitation. Once
the mines leave, the land returns to the agreed agricultural land use (NSW Mining
2016).
In the Hunter, the actions of mining are hidden behind earth berms and stunted tree lots. From the perspective of the mine company, hiding the workings of mining are part of the remediation of the high levels of noise and a dust control measure. They are required by law to implement structures that reduce both physical and visual pollution. For those looking from the outside, it seems as if there is something to hide. And perhaps there is. The earth berms and strategically placed tree lines hide a mechanistic world view where land is understood as a commodity that can be utilized, unmade and then made again.

However, there are alternatives to this post-Newtonian, Enlightenment based thinking, which positions humans as observers and manipulators of earth processes, as if we weren’t actually part of the Earth ourselves. As feminist ecologist Val Plumwood highlights; “We struggle to adjust because we’re still largely trapped inside the enlightenment tale of progress as human control over a passive and “dead” nature that justifies both colonial conquests and commodity economies”. (Plumwood 2)

Scientific method in western culture encourages us to see ourselves as outside the process we are observing. From our pinnacle on the hierarchy of creation, we observe and manipulate the Earth. Yet science also posits that humans are animals; that we are made of the same molecules as non-human others. And that those elements come from a diet that derives from earth. Science also describes the kinesthetic interaction between humans and land: when we walk upon the Earth, the Earth pushes back. This force known as gravity, is causing interaction between the materiality of rock and soils, and the materiality of breathing bodies. Through the action of gravity, I can experience the sensation of soils and sticks and rocks pushing back towards my feet. I can intrinsically know the surface of the Earth. And by activating my kinesthetic awareness as I traverse the rehabilitated lands, I can have a deeper appreciation of trees, earth, grass, air and wind. Or the shrill alarm call of birds, or the pain in my chest from breathing mine dust or the punch sound of explosions from the void.
On a larger scale of perception, mine land rehabilitation is the act of transforming part of a planet. So I have borrowed a word, terraforming, from science fiction to describe what is happening now in the open cut coal mining areas of Australia. In sci-fi books it is a word that embodies the idea that it is possible for humans to create a better environment out of a raw planet by making it more habitable, and more beautiful than the original. It involves redesigning landscapes and atmospheres to form something more ‘livable’ for humans. It is also possible for the process to go awry. I would suggest that this is particularly relevant to the Upper Hunter, where 65,000 hectares will be redesigned after open cut coal has gone. That’s most of Singleton and Muswellbrook Shires left with hills like Lot 100 and vast voids filled with water of varying salinity.

Anna Storm (174) writes in her essay *Landscapes of Waste* on the void at the open pit mine at Malmberget, Sweden. She considers such massive pits as anti-structure, “something that has disappeared physically, a place of absence.” Furthermore she asserts that, “Risks … are visible and tangible – a huge hole, a pit, to fall into – but at the same time hidden behind vegetation and several generations of fences.” (Storm 174)

Here in Australia, consideration of the long term management of final voids has only just entered discussion. (Upper Hunter Mining Dialogue - web) When mine leases end and land is returned to general use, who will supply the fencing and who will reconfigure voids as they age? Will these landscape become as Nye suggests “anti-landscape, a space that does not sustain life?” (Nye 11) And how will such places integrate back into common ownership? Importantly, “when a landscape has been degraded for generations, the damage becomes obvious to the unaided senses. People may respond to such places with dread, foreboding and aversion.” (Nye 15). Nye (16) contends that the fear factor is especially strong if ...”some anti-landscapes are intended outcomes.” Cottle (208) echoes this by characterizing the Hunter Valley as a sacrifice zone that supports modern requirements for capital and energy.
Post mining landscapes with their loaf shaped hills and vast water-filled voids will become landscapes of loss, marking the absence of what came before; jobs, machinery, blasting and, further back in time, farming and grazing and further back still, indigenous occupation. It could also be argued that rehabilitated land also qualifies as an *anti-structure*, given that although land form has reappeared, so much that passed before has physically disappeared. And it is yet to be proven that land re-formed from ancient rocks and transplanted topsoil, is capable of supporting sustainable long term industry. Issues of extreme alkalinity in developing subsoils (my research results) nutrient deficiencies and settling landscapes make for an unknown future.

**Transmutation – New Materialism**

Wylie in his book, *Landscape* (2), explains the possibility of an artist becoming so close to the Earth that they can represent the thoughts of the land. Once, in a letter to a friend, Cezanne wrote that ‘the landscape thinks itself in me…and I am its consciousness’. … Cezanne is not a detached spectator – his gaze enters the landscape, is entered by the landscape. In lived, embodied experience eye and hand rest in each other’s depths, and when we in turn gaze upon this painting we see both at once: the painter’s vision and the visible landscape, imprinted on each other. (Wylie 2)

In this passage Wylie points towards a vision where the artist becomes intrinsically entangled with landscape rather than observing landscape from outside the system. Cezanne’s paintings become the embodiment of his intimate experience of places he paints. Likewise, in my interactions with Lot 100, I try to understand that there is no disembodied gaze, there is no view from ‘no-where’. It takes a conscious effort to shake the disembodied view of knowing, that both my science training and my art training have given me. Science encourages me to think that I am outside the research area looking in, with a duality of the observer and the observed. Similarly, conventional landscape art requires the artist to use external observation techniques, where ‘seeing’ takes place from outside the landscape in order to
execute a likeness of a scene. Generally landscape rendering is observed with a frame to surround it, to be observed at our leisure and convenience. However, choosing to research the practice and outcomes of mine rehabilitation through fine art, I am given permission to take the bigger picture, to move away from the disembodied view. Fundamentally, it also begins to dissolve the boundaries between land and myself, between myself and grass and rocks and alkaline soils and spiders and kangaroos and eucalypts and angophoras that constitute rehabilitated terrain. The idea that the artist is not separate from what she might observe, and that there is no duality of observer and observed, of researcher and subject, is a fundamental tenant of New Materialism (Coole 10). Materiality is a way of thinking about matter just as ‘dead’ and knowable only from a distance. Rather, New Materialism takes thinking about things and matter beyond the disembodied world view, viewing matter as active and participatory in the making of its own future. From the point of view of the researcher, the object of research isn’t passive, in fact many elements are active in making the results of research. In the case of Lot 100, rocks, trees, dust, and kangaroos are all actors in the landscape and are always producing new knowledges. Even mine documents, views from outside the mine, letters to the editor of the local paper and economics should be included as participants in the emerging terraformed landscape. All elements are active and participate in the making of new land, thus the rehabilitated landscape of Lot 100 has multiple emergent properties. Trees establish on soils that are changing with each passing moment as organic matter builds and mycorrhizal fungi establish. Water works its way through the stones and oxidative processes enable rock to change quickly into soils. Alkalinity manifests in the survival and life spans of vegetation. Grasses establish and re-establish elsewhere. A new land comes into being through the engineers, mine documents, environmental officers and my research, walking and art making.

**Walking as a Performative act**

Instone (134) proposes in her paper *Walking as Respectful Wayfinding in an Uncertain Age* that it is possible to explore the emergent properties of a place by walking. She argues that intra-action can be understood through the interrelation
between body, knowing, place and feeling and suggests that walking through a land is a way of seeing and knowing. She quotes Solnit saying,

In many ways the random and impromptu qualities of walking engender a kind of openness to surprises and chance encounters that provoke affective ways of knowing (Solnit 11). The intermeshing of movement, mind, body and land/cape, ground and atmosphere transport us into a realm of inexpressible, ineffable and fleeting relatings, where we know “the world through the body and the body through the world” (Solnit 29).

By choosing random paths through unknown tree lots and disturbed grasslands, Instone suggests I will find affective ways of knowing as part of my art practice. My aim of engaging trees, soils, understory and inhabitants forms part of a two way conversation enacted as I move through the land, understanding the earth through my feet, wind through my hair, grasses though my hands. By following the paths of kangaroos and smaller mammals, I am beginning to understand the odd world of terraformed land through my body and my body through interaction with the land.

Instone extolls the virtues of walking as a research tool for understanding an area. Walking slows you down, time passes differently and mind and body are merged in the effort to cover ground and take in surroundings. That is, every step embodies time as well as space, each step meshing things past and those to come in an ongoing process, each step participating in the making of worlds and in the process, knitting together responsibility for past, present and future. (Instone 134-135)

I walked, mindful of my way and the placement of my feet, looking, smelling, listening and wondering. This performative walking method involves my legs, my head, my heart and my breath. In walking, I meshed my knowledge of past histories of unmined land with the current histories of terraformed earth, and meshed past histories of my own agronomic practice with my current artist practice. And perhaps I began to make a change to cultural interactions of mine companies with artists. It may be that I was meshing past histories of mine management and its introspective gaze, with alternate practices of looking outwards for community partnership. By
walking, I began to open possibilities and new histories for a land only twelve years old.

The very fact that I was walking in the land was an act of rehabilitation, making attachments grow, and creating special places. In walking, photographing, drawing and painting in the land I was and continue to be, calling rehabilitated land into a world of relating. As Instone (135) says, “This performative understanding of space and knowledge highlights the complex processes through which worlds are always relational achievements and perpetually “in-the-making,” never fixed or pre-given.” Walking as wayfinding builds “different knowledges” (Instone 135) of rehabilitated land, moving from an understanding of nature as commodity to a knowledge of new land as intrinsic, material and relational.

Back in the landscape as I walked, according to my training I kept lists in my head; lists of differences. Lists of species of weeds, of trees, of ground covers, of birds, of rocks. My head was full of categories of vegetation and life forms. I compared them to the undisturbed bush lists that I have from a lifetime of observing and ecological training. The rehabilitated land lists are short compared to the vastness of ‘undisturbed’ bush.

I wonder who primarily shapes the vegetation here? Kangaroos control some grasses by grazing, but the original soils, spread so thinly across the overburden, still exert control over what will grow and what will survive. I see that the rock that has taken the place of subsoils prevents deep rooting of trees, so that is some places twelve year old trees are blown over, their shallow root systems now exposed to the air. I see trees fighting with each other for limited resources and especially Acaia saligna where a little ring of phytotoxicity exists under the canopy. There is no couch or lucerne there and certainly no Eucalypts.

Changing my step as I venture over the hillside to the original land level, I see creeping pear, a nasty prickly pear plant; there are plants about every three steps as I descend down the long steep hill face. Flat teacup-sized leaves hug firmly to the
ground sporting very long spikes. This country could yet become impassible reminding me of the tension between the possibilities and risks that occupy a terraformed future. Impassability is a future that might already be chosen. Walking and wayfinding through the constructed-ness of the land allows me to become connected with this odd world struggling to find its way. Using my head, legs, heart and mind, I begin to see the strengths of Lot 100. Though terraforming has taken a terrible toll, this land has its own agenda, its own way of recovery. Evolutionally processes are afoot and as humans we have little understanding of the outcomes in the long term. Lot 100 will be a land of soils, rocks, trees, dust and kangaroos, all actors in the emergence of a new web of life (Rose). Soils are building through leaf litter, roots and plant growth. Even what would be now classified as weeds are there as colonizers, making passage for a future unknown. Lot 100 is a rich mesh of tracks – from the tremors of tiny ants to the pounding of kangaroo paws. They crisscross the hill in what seems like random patterns to a visitor. Following large tracks I am taken to places of importance for the kangaroos; grazing grounds, the water hole, resting places. I interrupt sleeping roos along the way and all the while the choughs are still scrutinizing me, the intruder. As I walk this landscape I am constantly reminded of the strangeness of it all, yet impressed by how it has been divided into kingdoms: kangaroo families, choughs and magpies.
Seeing through Art

Penny Dunstan, Digital copy of Lumen print of Thistle from Rix's Creek series, plant, dirt, sap, chlorophyll staining

Concurrent to my wanderings through Lot 100, I have been working on analogue photos called lumen prints, made by direct printing without a lens. This is where I sandwich a carefully selected plant or cutting between a glass sheet and a piece of black and white photography paper placing all face up in the sun. Long exposure times, and the sweating of the plant mess with the paper chemistry and the prints become coloured. The process produces an image that reminds me of the hours of work I put in preparing herbarium specimens to pass my undergraduate Agriculture studies, however in that case I had time to prepare and control the finished product. Working on site, under a picnic blanket to protect the photographic paper from the sun, gave me all of about 2 seconds to prepare a print. Pollen, insects, mine dust, plant sap and chlorophyll all become part of the print. I think of it as agency for the images passing from me to the land on which the image is made. This ‘cooperative’ art making technique forms part of my practice to present the relational world I am working with.
The Lumen technique also focuses my attention on the lack of species to choose. With sadness I notice that the community of plants is largely constructed on a few planted species alongside those species that would be found in the local version of the weed identification book.

I make rubbings of the trees that have died of borer attack, marking their transition from green life to resurrection as useful organic carbon. Borer paths form beautiful traceries but they have taken the lives of many young trees. As I look for more dead trees, I notice that almost every tree in the tree lot that covers the hillside is infected with borer. If I were to return in three years there will be many more dead trees to frottage. This is a land remaking itself away from the image prescribed in mining documents – at the moment the tree density is too crowded to be sustainable. Drawing my track behind me are three satellites that peer down me from the sky. They draw the red wobbly lines of my journey down kangaroo paths, across grasslands and under fences, and these lines appear on my phone in a navigation app giving me a record of my path. The satellite tracks record my mark, (in the drawing sense) made by footfall across the landscape, their shape and form record the performative act of walking for use later in studio works.

Back in the studio, I examine my digital photographs. They help me recall the strange, engineered hill slope that is the same steepness all the way down and the giant soil conservation banks that hold the water across the slope. And the practice of covering up land with trees, even ones that prevent others from growing, and the use of engineered grass lands at the top. It’s a strange landscape, designed to look familiar and ordinary, and yet the angles of the slopes are wrong, the trees are growing in the wrong places, there are not enough of the right species and some species are missing altogether. This landscape is totally man made right to the bottom of the void side it fills. That’s around 800m of rock that hasn’t seen sun and air for 130 million years plus an imported topsoil from the other side of the pit. Really, considered through an engineering lens, the land reconstruction is not a bad job.
But the feeling of strangeness still pervades Lot 100. The colonial pastoral landscape is a familiar concept, the transformed ecological relations are a grey zone, but many animals and birds have recolonized the site. A lot of human effort has gone into making the rehabilitated land look ordinary and unremarkable and hidden from notice. On first examination, Lot 100 looks like a return to the nature of the Hunter Valley but it is something more complex and interesting, something quite other. But perhaps it is just the lens I look through – I can remember the original landscape. I am comparing it to my experiences in wild and agricultural places of the Hunter Valley. When there are 65,000 hectares of land similarly constructed, it will be normal. Completely normal.

Looking at the consequences of human meddling in the natural world is one theme of the work of Australian artist Patricia Piccinini (Catalogue), who imagines a future of engineered lifeforms that are human-animal amalgams. She envisages that the very young will have no trouble accepting changed lifeforms as normal, after all, in their lifetime such life forms have always been there. Young adults are shown accepting engineered beings into their houses and lives. In Piccinini’s work, fear of the unknown belongs to the older generations and although the audience viewing her art have mixed feeling about her envisioned blended life forms, it doesn’t seem to bother the humans who populate Piccinini’s work.

Taking the observations made by both Piccinini in her exhibition “Please Love Us”(web) and Donna Haraway (95) reviewing Piccinini’s work, parallels can be drawn between thinking about human-created beings whether they be engineered human/animal life or engineered landform/ecosystems. Piccinini asks us to examine this question: that if life forms are created through no fault of their own, should we effectively excommunicate them because of their difference to what we know as ‘normal’? Should they be counted them as strange because of their unfamiliarity, because we don’t ‘know’ them?

Some of Piccinini’s ideas have relevance to the future of terraformed lands in the Upper Hunter with all their missing parts and strangeness. These engineered lands are here, now, not part of an imagined future. There are 10,824 hectares now (NSW
Mining, 2014 figures) and it is envisaged that there will be 65,000 hectares when mining has finished. Piccinini (web) asks about her human /animal amalgams, we need to ask, “.can we love them”? My work in Lot 100, with all the tangled emotions of joy and loss, is an attempt to answer that question, by engaging with terraformed terrains along with their contradictions, unruliness, strangeness and perhaps lovability.

**Roo Challenge**

Walking Lot 100 has filled my head with the new and the strange. Returning to my day camp, I spread out my picnic blanket on the dry tufty grass, find my lunch and drink bottle, and flop down. The earth is hard and pebbly and my legs are tired. I stand up to get a better signal on my phone for my emails and I am caught in a gaze. A very large, very unhappy male kangaroo extends himself to full height only 8m from me. I can see his muscles rippling under his fur and his posture is aggressive. I feel myself in free fall from observer to observed, from the arrogance of thinking myself outside the system to being very much at the bottom of importance. Except none of these thoughts are relevant. This is about my survival. I am out the back of a mine and a long way from help.

My first thought is ‘I’m going to die’. I imagine myself gutted on the ground. And my second thought? ‘I didn’t put this in my risk assessment’. Then, as I wonder about the possibility of being found before I bleed to death after disembowelment, sense takes over and I freeze. The next move is his and he’s not impressed with me. He puffs out his chest even further and takes a hop forward. He’s only 5 m away. I consider the trees. Can I climb them? No. They are only twelve years old and planted tightly together so they don’t grow side branches. Should I run away? No. He can move a lot faster than me. What about hiding behind a tree? The spotted gums are only a hand width wide but I try anyway. Bits of me stick out both sides. I keep watching and my ears take on a supernatural sharpness, listening for his advance.
There’s a pain in my chest and it’s not just because I’m holding my breath. Mine dust is interacting with the remains of my cold. I try to suppress a cough. I try to keep as quiet as possible. But out it comes, a wheezy cough. And again. And again. And he drops his shoulders and waggles his ears. He looks at me. I look at him from behind the tree. Again the wheezy cough breaks the silence. He stands down. Watching me, ever watching me, he slowly makes his way back down the hill, the way he came. I continue to hide behind the tree even after he is gone. I measure my heart rate. It is 88 beats per minute and he’s nowhere in sight.

Some months later, when I recount this story to a colleague, she tells me that when challenged by a kangaroo, you should make yourself smaller and cough as sign of submission. It’s the first time I am grateful for having a cold.

My encounter with the old man kangaroo plays on my mind for some time. Even with my academic appreciation of new materiality, and a genuine desire to apply the concepts, it has taken an encounter with a large, territorial male kangaroo to put me firmly in my place. I had broken the rules of being in Lot 100 and was corrected for my presumptions that I was the only one who had “cognitive abilities, intentionality, and freedom to make autonomous decisions.” (Coole 10). I was firmly placed as only one agent in the social structure of Lot 100. No privileges were afforded me by my species. Nature is not benign, and humans are not granted special dispensation. Rehabilitated land belongs to many, and judged through the eyes of a bull kangaroo this terraformed land is worth fighting for. Perhaps it is this that is the ultimate act of rehabilitation that I witnessed on my single day walking. I am left wondering what mining closure documents would look like if they were written to account for the opinions of non-human other.

Estelle Barrett (9) drawing upon Donna Haraway in her book Material Inventions: Applying Creative Arts Research, writes about the collection of knowledge through being-in or immersion in an environment.

This mode of knowledge production acknowledges the particular, the subjective and the personal as important aspects of enquiry; it articulates the notion of ethical or
embodied forms of observation – ways of looking and being accountable for knowledge claims that do not deny the agency of the objects of research – in particular human participants; it is a mode that replaces traditional notions of objectivity with the idea of situated knowledge and partial objectivity; finally it asserts the potential of situated and partial knowledge for forging webs of connections – identifying for whom, how and where else knowledge can be put to use.

A single day walking in on terraformed land has produced new knowledges from a mix of scientific and artistic observations, drawing newly rehabilitated land into a web of relating through walking as respectful wayfinding and art making. Or perhaps it is the other way around. Lot 100 has drawn me into understandings and territories of non-human others. It has made its own patterns upon my photographic paper and opened my eyes to the order of a place governed by kangaroos and birds. Both Lot 100 and myself are changed by this encounter and the record of our encounter is preserved as works of art to be shown at seminars, conferences and galleries, a legacy of a day of walking.

Conclusion
Lot 100, at Rix’s Creek mine in Singleton, New South Wales, is a terraformed, post mining site in the Upper Hunter Valley. Piles of open cut mining waste have been reconfigured into a flat topped hill, covered with topsoil and planted with a mix of trees and pasture plants according to the requirements of mining documents. Animal and bird systems self-establish in over the top of the human designed landscape. My initial encounters revealed a resemblance to the general vegetation of the Hunter Valley but on closer examination an odd mix of familiar and strange become evident in the landscape. Points of familiarity dissolve in to discord. Shallow soils divested of their origins create difficult environments inhabited by colonizers we might call weeds. There are hilltop swamps. Trees fall over due to soil depth constraints. The landscape is recognizably Hunter Valley and yet alien in quality. Such strangeness and familiarity in a landscape is both reassuring and disturbing at the same time.
Using a new materialism framework, in this paper has expanded the vision of what constitutes landscape beyond the constraints of engineering and mine closure documents. In the case of Lot 100, rocks, trees, dust, kangaroos, mine documents, views from outside the mine site, letters to the editor of the local paper, economics predictions and artworks are all actors-participants in the emerging terraformed landscape. An interaction with one territorial male kangaroo provides a lesson in seeing the world as seamlessly integrated, where all elements are active and participate in the making of Lot 100, even if it is a newly terraformed land.

Art works produced in-situ explore a collaborative creative technique, reducing the controlling input of the artist and increasing the agency of land to effect a change in the constituted art work. Here the work of art is to weave ties between the arts and mining companies, and between those who view the art and the newly terraformed land. The exploration of Lot 100 through respectful wayfinding, thinking, feeling, seeing, doing, and just being in the space, ties humans to a newly constructed strange and unfamiliar landscape.

There are many participants to be honoured and much to be pleased with in the rehabilitated world of Lot 100, despite the losses and sadness of vanished lands and the oddities and unfamiliarity of a reconstructed world. Yet, there are signs that the future may not conform to the vision of mine closure documents. Lot 100 appears as a new world balanced on a knife edge, capable of tipping towards recovery or disaster. Both seem as likely as each other. Have we underestimated the regenerative powers of nature or overestimated them? The long term future of such large scale land terraforming is unknown.

References


