



FUSION JOURNAL ISSUE 10

*LAND DIALOGUES: Interdisciplinary research in dialogue with land*

**A bushland view of an entrapped necessity.**

**Dr Bruce Fell**

Between our parkland fountains and the ancient soak in the hill above my shack, the reality of irreversible Climate Change has waded in, and in so doing challenges the very nature of our nature.

While the abundant flow from our city dams' has quenched our thirst for a civilised life, ironically, they have also masked the taste of change. As I travel from the edge to the centre, from bush to town, it has become increasingly obvious how our substantial infrastructure has become a two edged sword. For standing between our ability to embrace peer reviewed ecological data is the phenomenological seduction of an efficient machine — instant communication, solar panels, shelves overflowing with produce. Surely, we have surpassed the Gods!

Much of the past two decades has involved a hosing down of climate data as scientists, researchers and activists struggled to communicate factual information in the wake of an emotional marketplace. And while there has been a trickle of lip service in recent times, core global climatic systems are now irreversibly unstable due to the current atmospheric CO<sub>2</sub> density of 402.26 ppm — a minimum 52.26 ppm above what is required to preserve a planet similar to that on which civilization developed.

Within our contemporary moral ecology, notions of individualism and unfettered growth have burst their banks. Unable to hold back the flood, our ethical and moral infrastructure is increasingly muddied — clear thinking is required to address the rising ocean, the dust from the creeping desert and the legitimate cries for help, let alone the rights of the more-than-human world.

I argue that Acceptance is one raft we might cling too, and draw on the transformative language spoken in the face of mortal reality found in hospice environments, as one example of moving forward.

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The science is in

The word is out

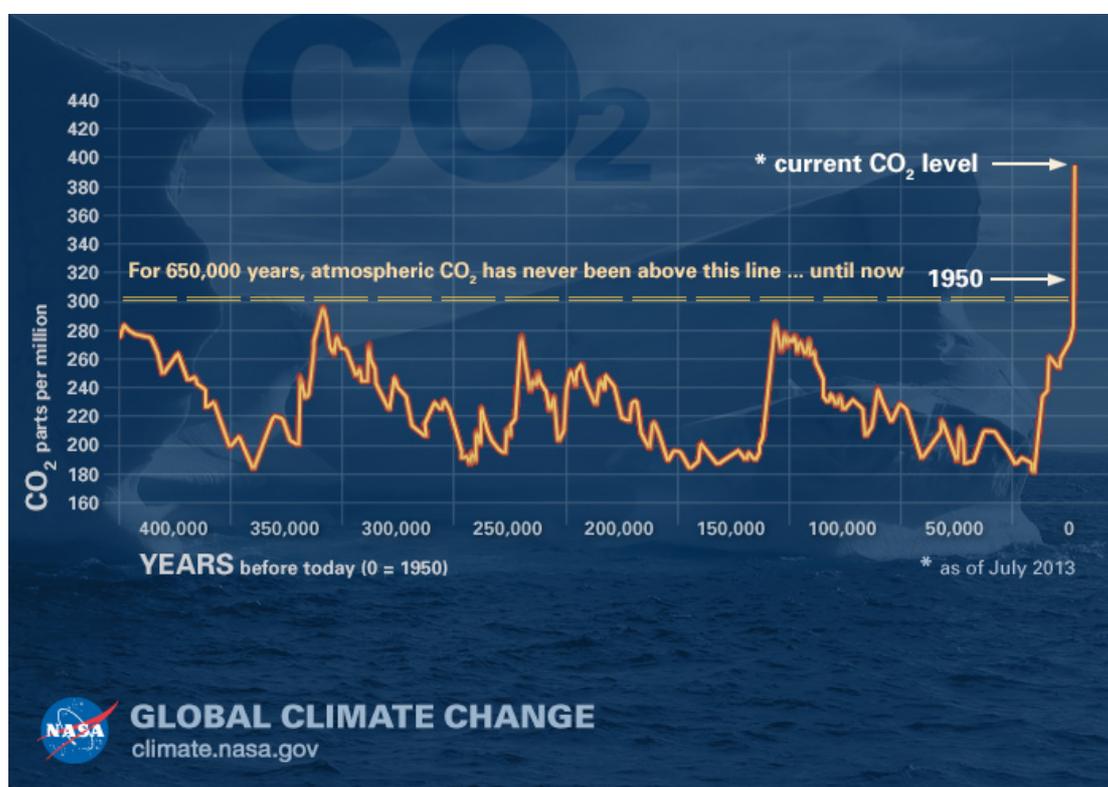
Don't matter if you whisper

No difference if you shout  
The weather has changed  
And with it, the land.

AS WE MOVE DEEPER into the 21st Century it has become clear that irreversible climate change is our new reality. What is not clear, is how best to adapt to ecological circumstances that are now out of our control.

When I began mapping out this paper in late March 2016, NASA had recorded the CO<sub>2</sub> levels in our atmosphere at 402.26 parts per million (ppm) of carbon dioxide molecules to all other molecules in the atmosphere<sup>i</sup>. As I read through my final proof, the reading has risen to 403.28 ppm.<sup>ii</sup>

The record high further emphasises the irreversible and increasing unstable global climatic conditions effecting present day human well-being.



Graphic: The relentless rise of carbon dioxide  
[http://climate.nasa.gov/climate\\_resources/24/](http://climate.nasa.gov/climate_resources/24/)

Since the beginning of human civilization our atmosphere contained about 275 ppm of CO<sub>2</sub>. With the advent of industrialisation there has been a steady incline in atmospheric levels of CO<sub>2</sub> with a marked increase from the mid-1900s reaching a spike in around 1950. As climatologists James Hansen <sup>iii</sup> points out:

If humanity wishes to preserve a planet similar to that on which civilization developed and to which life on Earth is adapted, paleoclimate evidence and ongoing climate change suggest that CO<sub>2</sub> will need to be reduced from [current levels] to at most 350 ppm.

The above quote was published in 2008 when the atmospheric CO<sub>2</sub> level was around 370 ppm — a number considered concerning.

In response to the current CO<sub>2</sub> level, NASA released a series of comments from leading climate scientists.<sup>iv</sup> Normally known for their measured statements, the excerpts highlight their concern:

It should be a psychological tripwire for everyone.

Dr. Michael Gunson: Global Change & Energy Program Manager.

CO<sub>2</sub> concentrations haven't been this high in millions of years. / Climate change is a threat to life on Earth and we can no longer afford to be spectators.

Dr. Erika Podest: Carbon and water cycle research scientist.

It will be a bumpy ride.

Dr. Gavin Schmidt: Climatologist and climate modeller at NASA's Goddard Institute for Space Studies.

Scary scorecard: catastrophic climate change 400, humanity zero.

Dr. William Patzert: Research Oceanographer.

Over time, this number takes on greater weight.

Dr. David Crisp: Principal Investigator, Orbiting Carbon Observatory-2 satellite mission.

Reaching 400ppm is a stark reminder that the world is still not on a track to limit CO<sub>2</sub> emissions and therefore climate impacts.

Dr. Annmarie Eldering: Deputy Project Scientist, Orbiting NASA Jet Propulsion Laboratory

These increases in atmospheric CO<sub>2</sub> are causing real, significant changes in the Earth system now, future increases will happen faster and will continue to be felt for centuries to come. Unless serious actions are taken immediately, we risk the next threshold being a point of no return in mankind's unintended global-scale geoengineering experiment.

Dr. Charles Miller: Researcher and Principal investigator.

Earth's climate [has] never had to deal with such a drastic change as the current increase, which is, therefore, likely to have unexpected implications for our environment.

Dr. Carmen Boening: Scientist, Climate Physics Group.

For me, as a teacher and researcher, the NASA quote I found most compelling is from Professor Laura Faye Tenenbaum:

As a college professor who lectures on climate change, I will have to find a way to look into those 70 sets of eyes that have learned all semester long to trust me and somehow explain to those students, my students – who still believe in their young minds that success mostly depends on good grades and hard work, who believe in fairness, evenhandedness and opportunity – how much we as people have altered

our environment, and that they will end up facing the consequences of our inability to act.

Laura Faye Tenenbaum: Oceanography Professor, Glendale Community College; Communications Specialist for NASA's Global Climate Change Website.

WHILE SCIENTISTS LAMENT that climate change is happening at such a rapid rate — the problem is, according to Harvard professor of psychology Daniel Gilbert,<sup>v</sup> it is not happening fast enough to make an impression on the general public. Gilbert says that when scientists call for action, it falls on deaf ears. In terms of the general public, Gilbert argues that global warming occurs so gradually that it goes undetected by the brain.

Arguably, this is not the case for scientists in the field or activists and artists at the coal face where the phenomenological interaction with a rising ocean, ravaged landscape, species decline, coral bleaching and ongoing crop failure make a lasting impression.

I have lived in a shack in the Australian bush for the past twenty-five years. Over the past ten years in particular, the land has become dryer, the rain harder — it bounces off the hard dry land and rushes down the nearest gully: gone before you know it. Trees, older than me, trees that should out see my grandchildren, are dying.

For those who regularly immerse themselves in the land, Climate Change is no longer perceived as happening gradually. As 89 year old Peter Cundall AM, horticulturalist, conservationist, author and broadcaster argues: <sup>vi</sup>

I'm a gardener, I've watched it occur over many years, I've seen the changes that take place in plants, and of course like most people that garden or spend the time in the open, your always looking at the weather, you see what's happening, see the changes that are occurring.

It's not surprising then that 'the world's best green journalist' (Time magazine) and Gandhi Peace Award recipient, the person Foreign Policy magazine named as one of the 100 most important global thinkers, Bill McKibben, has a history of trekking through the wilderness, of observing firsthand the more-than-human world; observations resulting in the first major popular work on Climate Change, *The End of Nature* (1989) <sup>vii</sup>. Equally, Australian Humanist of the Year (2010) and Climate Change crusader, Bob Brown, <sup>viii</sup> not unlike many grassroots activists', has observed over the past decades the changing climatic, changes that the majority of our population have not noticed, have not been able to notice due to the circumstances of their lifestyle — one in which being immersed within an infrastructure that provides 24/7 access to nutrition, shelter and security has impeded an embodied awareness of ecological reality.

While no one theory can explain what underpinnings the general complacency surrounding Climate Change, Gilbert's argument has traction when applied to systems where infrastructure is able to shield inhabitants from the ecological depletion taking place at home and abroad. Gilbert lists four reasons why 'we' aren't acting quickly enough:

- 1) Global warming isn't tied to social intention or plotting.
- 2) It doesn't violate our moral intuitions.
- 3) Humans are masters at responding to immediate threats, but are novices at acting to resolve worries of the distant future.
- 4) Global warming occurs so gradually that it goes undetected by the brain.

IT'S NOT ALL DOOM AND GLOOM, polling undertaken in Australia by Essential Media Communications (EMC) <sup>ix</sup> in March 2016 would appear to speak counter to Gilbert's argument. EMC asked:

Do you believe that there is fairly conclusive evidence that climate change is happening and caused by human activity or do you believe that the evidence is still not in and we may just be witnessing a normal fluctuation in the earth's climate which happens from time to time? <sup>x</sup>

Of those polled, 63% said they believed there was fairly conclusive evidence that climate change is happening and caused by human activity — up on the previous EMC poll high of 57% in 2014.

The second EMC question asked:

As far as you know, do you think Australia is doing enough, not enough or too much to address climate change?

For 57% of the respondents, Australia is not doing enough — up from 53% in 2015.

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Activists and Scientists can be encouraged by the EMC poll, if for no other reason than it opens the possibility to have nuanced discussion concerning the implications of Climate Change, knowing that climate change denial is, theoretically, in the minority.

Yet research by *Isentia*,<sup>xii</sup> a media monitoring and analysis services, and winner of a CODiE Award for Best Media and Information Monitoring, places a more nuanced understanding of the EMC Poll. For example, when in early 2016 the following news broke: **‘Ocean acidification is already harming the Great Barrier Reef’s growth’**(February 25)<sup>xiii</sup>, followed by: **‘Great Barrier Reef in grip of worst bleaching event’** (March 29),<sup>xiv</sup> the response to such News reports is counter intuitive to the EMC poll.

Drawing on data from *Isentia*, journalist Peter Hartcher<sup>xv</sup> reports that in the first week of the news about the Great Barrier Reef, it ranked as the ninth most reported subject. The most reported topics for that week in Australia didn’t mention the Great Barrier Reef, rather they spoke of tax reform, the Twenty20 World Cup, the Socceroos, the Australian Building and Construction Commission and the Egyptian airline hijacking. At the time, the bleaching of the Great Barrier Reef did not make the

five most read on-line articles in The Age, the Sydney Morning Herald, The Western Australian and the Courier Mail.

It would appear, on the surface at least, there is a disconnect between Australian's believing Climate Change is happening, and our need to stay abreast of the issue.

Peter Hartcher's article resonates with my research into media coverage of Climate Change. I've been reviewing freely available News sources such as The Melbourne Age/Sydney Morning Herald, The Conversation, The Guardian, the Australian Broadcast Corporation and National Geographic News. All the news articles in my research draw on peer reviewed journals and/or credentialed environmental scientists and/or on-the-spot reporting. A sample of the articles can be found in the appendix.

The key words used by research scientists interviewed in the articles I've researched are:

Abruptness / bleak / catastrophic / dangerous / drastic / instability / irreversible / scary / serious / shocked / severe / threat / unabated / unprecedented / unstoppable and urgent.

Not unlike the NASA scientists, the scientists quoted in the articles have stepped away from speaking cautiously about the effects Climate Change.

ONE POSSIBLE WAY of gaining further insight into the conundrum between the type of data provided by the likes of EMC and *Isentia*, while taking into account Gilbert's argument that 'Climate Change is happening to slow', is to step away from talking about Climate Change for a moment and interrogate what underpins our contemporary worldview — what David Brooks names as our moral ecology: the set of norms, assumptions, beliefs, and habits of behaviour and the institutionalized set of moral demands that emerge organically.<sup>xvi</sup>

Brooks argues that our contemporary moral ecology was born as WWII (World War Two) was winding down. At the time, there were legitimate concerns about economic stability and potential political unrest; that a failure to address such concerns could lead to further economic and political instability, and possibly World War (WWIII).

In an attempt to address these issues, financial emissaries from the Allied nations formed the famous Bretton Woods System,<sup>xvii</sup>. They agreed that economic growth equated to human well-being. Pertinent to this discussion, at the opening of the 1944 session Henry Morgenthau, U.S. Secretary of the Treasury and president of the conference read a welcoming message from President Roosevelt in which the purpose of the System was named as creating: ... a dynamic world economy in which the peoples of every nation will be able to realize their potentialities in peace and enjoy increasingly the fruits of material progress on an earth infinitely blessed with natural resources.<sup>xviii</sup>

In part, a solution was sought through substantially stimulating internal Western domestic markets. To this end, the problem faced by governments and corporations was one of domestic confidence, that is, for the individual citizen to become a mass consumer, persons needed to have confidence in the future, a concept that didn't sit well with a civilization reeling from the living memory of two world wars and the Great Depression. For the world economy to grow, citizens had to learn how to go into debt to purchase non essential as well as essential commodities. We needed to learn to Buy Now and Pay Later, a mantra that is, in terms of Climate Change, prophetic. Hence, the post WWII general public needed permission to sanction and justify the idea 'that the hedonistic approach to life is a moral one, not an immoral one'.<sup>xix</sup>

With the above in mind, retail analyst on the time, Victor Liebow,<sup>xx</sup> proclaimed:

Our enormously productive economy ... demands that we make consumption our way of life, that we convert the buying and the selling of goods into rituals, that we seek our spiritual satisfaction, our ego satisfaction in commodities ... We need things consumed, burned up, worn out, replaced, and discarded at an ever increasing rate.

For the majority of the seventy years since Morgenthau delivered Roosevelt's message it has seemed, in the West at least, that the Earth is infinitely blessed with natural resources. The earlier statements by NASA and other research scientists are responding to the worldview set in train at Bretton Woods (and subsequent iterations), research that is telling us that such a worldview has run its race.

Historian, George Lipsitz <sup>xxi</sup> argues that the Bretton System came to the conclusion that Western economic powers had to find ways to maintain economic growth as well as world peace. How to encourage a world to over-consume, a World that had experienced years of trauma, was a massive and nuanced undertaking. 'Commercial' television was seen as one device that could help set over-consumption in train. Lipsitz reminds us that commercial television, as we know it today, began as an agenda item, a legislated act orchestrated by the USA Government and corporations that dates back to the 1944 Bretton Woods System. The resources required to develop the fidelity needed by commercial television came out of tax concessions and government funding. To this end, Lipsitz provides a number of examples where early post WWII commercial television developed scripts directed directly at the type of over consumption that now dogs Climate Change.

In an early episode of the popular weekly soap opera *The Goldbergs* (1949 -1956), the central character, Molly (a wise mother of two, who had successfully negotiated the Great Depression and the WWII), expresses disapproval at her daughter-in-law's plan to buy a washing machine on the updated version of the Instalment Plan (one in which all forms of instalment credit disappeared).<sup>xxii</sup>

Molly: 'Papa and me never bought anything unless we had the money to pay for it'.

Sammy (Molly's son): 'Listen, Ma, almost everybody in this country lives above their means and everybody enjoys it'.

Lipsitz says that Molly is expressing the concerns of a nation, while her son Sammy is expressing the hopes of government and industry. As the episode unfolds, Molly comes to learn about the new, Post-WWII, versions of the Instalment Plan. The episode finishes with Molly announcing to her family that she is going to buy two automobiles on the Instalment Plan in order to 'live above our means, the American way'.

THERE WERE OTHER ASPECTS of the 'American way' born out of Bretton Woods that would come to dominate our contemporary moral ecology. At the time of *The Goldbergs*, television was still in its infancy. Text held sway for the general public, it is here that David Brooks research adds weight to Lipsitz observations.

Brooks, like Lipsitz, argues that there was a need to put the horrors of the war behind, and as such people were ready to read literature that offered a more positive vision of life. *Peace of Mind: Satisfaction Guaranteed* by Joshua Loth Liebman (1946) encouraged a new morality based on setting aside the idea that you shouldn't repress any part of yourself. It remained on the top of the New York Times bestseller list for fifty-eight weeks. By the time it started slipping down the list, *The Power of Positive Thinking* by Norman Vincent Peale (1952) was poised to climb, it sat atop the bestseller list for ninety-eight weeks: "The self-esteem movement was born" (Brooks).

Each moral climate, argues Brooks, is a collective response to the problems of the moment: 'When people shift from one moral ecology to another, they are making a trade-off in response to changing circumstances'. For Brooks, excess consumption and self-esteem found themselves in the same bed as the new economy kicked in.

OUR MORAL ECOLOGY, argues Brooks, sees seen certain virtues cultivated (such as going into debt), while certain beliefs can go too far, (such as unsustainable development) and certain important truths and moral virtues can be forgotten (such as ecological and community sustainability).

It is important to acknowledge that the initiatives coming out of Bretton Woods had many positive outcomes, all be they short lived. Brooks argues: 'it helped correct some deep social injustices. The culture of self-esteem encouraged members of oppressed groups to believe in themselves, to raise their sights and aspirations'.

Research, such as Andrew Smart's *Auto Pilot*,<sup>xxiii</sup> support Brooks argument that the cumulative result of the past seventy years has seen most of us spending excess time, energy and attention climbing toward success (often equated with acquisition) and less time, energy, and attention devoted to the internal world, a world where one is more able to make contact with community and more-than-human world:

The much-vaunted work ethic is, like slavery, a systematic cultural invention that resulted from a commonly held, but mistaken, idea about human beings.

The marriage between economic growth and human well-being proposed by Bretton Woods and its subsequent iterations has run its ecological race, our potentialities for peace can no longer rely on increasingly consuming the fruits of material progress; for in the context of global population and the availability of remaining resources, the Earth is no longer infinitely blessed. Hence Victor Liebow's proclamation has contributed towards taking us above safe levels of CO<sub>2</sub> in our atmosphere — our success at creating a productive economy, one demanding that we make consumption our way of life has facilitated the CO<sub>2</sub> to rise to irreversible levels, causing unstoppable shifts in our environment. As we became ordained into the buying and selling of goods, as our spiritual ceremonies shifted towards the consumption of commodities, the psalms for the Earth fell silent — we consumed, burned up, wore out, replaced, and discarded at ever increasing rates from around 1950 onwards. As the January 2016 article in the Melbourne Age: **Humanity's impact on Earth opens Anthropocene epoch**,<sup>xxiv</sup> reported:

Earth's system as a whole wasn't noticeably affected until the second half of the 20th century and beyond due to rapid human population growth, technological advances and economic growth altering the environment. Enough plastic is produced each year to wrap the planet, and enough aluminium to cover Australia, enough concrete has been produced to thinly pave the entire surface of the Earth. Half of which has been poured in the past 20 years. Half of the world's land surface has been transformed for humanity's use.

Brooks argues that we have undermined the “realist tradition that emphasized limitation and moral struggle, first by the romantic flowering of positive psychology”, transmogrifying into the competitive pressures of contemporary meritocracy.

Brooks draws on Google ngrams to point out that there has been a sharp rise in the usage of individualist words and phrases like “self” and “personalized” over the past few decades. Whereas there's been a sharp decline in words like “community,” “share,” “united,” and “common good.”

The Google ngram argument goes some way to explaining our media consumption habits, the articles we read and those we merely scan, what we purport to be interested in, as opposed to what we act upon.

Clearly, the forces that encourage our shift to positive thinking and debt driven well-being were arguably necessary and liberating in a post-WWII environment – we have now moved into excess. As the NASA data reveals, we are now out of balance.

Lipsitz, Brooks and Smart provide insight into our contemporary moral ecology, one that has, generation by generation, brought into focus a worldview that over emphasises self at the cost of community and the more-than-human world, resulting in our remove from nature to the point that we've allowed, voted for, and invested in national and global bodies that place quantity and profit ahead of quality and the biosphere — resulting in our tolerance and/or ignorance of the CO<sub>2</sub> concentration in the Earth's atmosphere. We are left with a moral ecology that creates an imbalance

— we are now vulnerable due to the contemporary misunderstanding of the biosphere's impact on our being-in-the-world.

ONE WAY TO ADDRESS OUR Climate Change dilemma is to consider Acceptance. The argument behind accepting climate change is not one directed towards *winning*, 'to beat Climate Change' — that is no longer possible. If we were to have cut all CO<sub>2</sub> emissions yesterday, the effects of the past seventy years would be felt for something in the order of the next two centuries, at a minimum. Our goal now is to accept individually and culturally what has happened, what is happening and what current research says will happen if we do nothing or what might possibly happen if we accept the data.

The challenge is substantial, the unsustainable moral ecology we find ourselves in is, for most Australian's, the *natural* order of things. It has been seventy years (three generations) since not going extensively into debt, and prudent consumption, have been a natural component within our moral ecology. Yet both research and activism tell us that a moral ecology of restraint, one counter to our contemporary *natural* understanding of being-in-the-world is what is required in order to find some resemblance of ecological equilibrium.

Significantly, in 2005, distinguished Australian Scientist Frank John Fenner, AC, CMG, MBE, FRS, FAA (1914 – 2010) oversaw a unique multidisciplinary two-day Symposium at the Australian Academy of Science titled: '*Science and Ethics: Can Homo sapiens Survive?*' Following the Symposium, with the endorsement of the organising committee, Fenner wrote to the Editor of The Canberra Times:

Drawing upon the expertise of speakers in a variety of fields including law, economics, medicine, politics, journalism, aboriginal affairs, earth sciences, religion, education, nuclear armaments, defence studies and ecology, [The Symposium, organising committee came to the following conclusion] civilization as we know it will not survive beyond a few decades unless there is a radical change in human culture,

from a society driven by the pursuit of material wealth to one focused on human well-being.

Fenner went on to say:

Although advances [in science and technology] open doors for improvements in human health, well-being, and an increasingly open society, they also increase imbalances in wealth and power, raise barriers and foster exploitations in societies, and cause major changes to ecosystems and global systems.

Excerpts from Fenner's Letter <sup>xxv</sup>

Some ten years on from Fenner's description of our contemporary moral ecology, Pope Francis wrote to the world *On Care For Our Common Home*. In the second paragraph of the Encyclical, Pope Francis described our contemporary moral ecology, using the language of his faith:

This sister now cries out to us because of the harm we have inflicted on her by our irresponsible use and abuse of the goods with which God has endowed her. We have come to see ourselves as her lords and masters, entitled to plunder her at will. The violence present in our hearts, wounded by sin, is also reflected in the symptoms of sickness evident in the soil, in the water, in the air and in all forms of life. This is why the earth herself, burdened and laid waste, is among the most abandoned and maltreated of our poor; she "groans in travail" (*Rom 8:22*). We have forgotten that we ourselves are dust of the earth (cf. *Gen 2:7*); our very bodies are made up of her elements, we breathe her air and we receive life and refreshment from her waters.

Shortly before his death in November 2010 Fenner was interviewed by Cheryl Jones from THE AUSTRALIAN.<sup>xxvi</sup> By then Fenner had consolidated the concerns raised at 2005 Symposium:

Climate change is just at the very beginning. But we're seeing remarkable changes in the weather already. The Aborigines showed that without science and the production of carbon dioxide and global warming, they could survive for 40,000 or

50,000 years. But the world can't. The human species is likely to go the same way as many of the species that we've seen disappear.

Homo sapiens will become extinct, perhaps within 100 years, a lot of other animals will, too. It's an irreversible situation. I think it's too late. I try not to express that because people are trying to do something, but they keep putting it off.

In the same article, Jones interviewed Fenner's colleague and long-time friend Stephen Boyden, a retired professor at the ANU and co-convenor of the Symposium:

There is deep pessimism among some ecologists, but others are more optimistic. Frank may be right, but some of us still harbour the hope that there will come about an awareness of the situation and, as a result, the revolutionary changes necessary to achieve ecological sustainability, ... I don't accept that it's necessarily too late. While there's a glimmer of hope, it's worth working to solve the problem. We have the scientific knowledge to do it but we don't have the political will.

Time will tell if Fenner, or his long time friend Stephen Boyden, are correct. My ongoing experience with the land and observations of our urbane culture helps me appreciate the challenges identified by Brooks, the 2005 Symposium, and the collective observations by a myriad researchers in the field.

As we have seen, the Climate Change challenge before us requires more than wanting the Government of the day to do something about it. I argue that we have to accept the readings from scientific instruments — the challenge being that those instruments are now speaking counter to our contemporary moral ecology, an obstacle that can't be underestimated.

One of the most poignant moments in my academic life came towards the end of the 2005 *Science and Ethics: Can Homo sapiens Survive*, symposium when Fenner stood at the podium of the Shine Dome and pleaded to the audience to do whatever is in their power to bring about change, as the Government wasn't paying attention.

At the quickly convened gatherings over coffee and cake the attendee's feverishly networked — they had the data, they had the expertise; what they didn't have was the secret ingredient, the means by which change can take place.

I walked out of the Dome realising that the answers Science has accumulated via rigorous measurement will be hard pressed to compete with a moral ecology that believes consumption is our natural way of life, a culture that has converted the buying and the selling of goods into rituals, one that seeks its spiritual satisfaction, its ego satisfaction in acquisition.

ACCEPTANCE IS CENTRAL to many faith, meditation and philosophical practices. The term "Kabbalah" means 'receive, accept'. The [first noble truth](#) of [Buddhism](#) says "All life is suffering", it speaks of accepting that [suffering](#) is a natural part of life. Kübler-Ross places acceptance as the fifth stage of dying, and *Alcoholics Anonymous* sight acceptance as central to the treatment of alcoholism. In short, acceptance means opening up and making room for what is — acceptance 'accepts' that we go through stages of denial.

*Acceptance*, as defined here, is the act of taking or receiving something offered — in this case scientific data. My approach to acceptance has its roots in acceptance and commitment therapy where [acceptance](#) and [mindfulness](#) strategies are used to increase psychological flexibility.

Institutionally, there are a range of examples in which corporate and Government bodies have moved somewhat towards the acceptance of Climate Change. For example, the Melbourne Botanical Gardens are now planting tree species that they envisage will be able to cope with the climatic conditions of Melbourne as climate changes becomes more pronounced.<sup>xxvii</sup> Similarly, the proposed Melbourne underground rail network has planned for the entrances to its underground network to have a 0.8 meter rise above ground level in order to combat excess inundation due to future storms in an environment in which rising sea levels will add too the

height of flash flooding.<sup>xxviii</sup> (Though suggestions are emerging that the entrances should be a minimum of 1.5 meters above street level).

Embracing the scientific reality of Climate Change is perhaps the greatest challenge each and everyone of us will have to face as we move through the 21<sup>st</sup> Century. How we will cope as each season becomes more extreme is an open book. How the thinking within our moral ecology erodes or flourishes is anyone's guess! Finding insight into how we might cope (are coping) as our contemporary moral ecology comes face to face with bio-ecological reality is challenging — perhaps we need look now further than our own mortality for an indication of how we will respond.

IN THE OUTSTANDING BOOK, *Life In A Hospice: Reflections on Caring for the Dying* by Ann Richardson,<sup>xxix</sup> we can see the raw naked reality of acceptance; how acceptance can shift our worldview. For many of us, in the face of our personal mortality comes the realisation that many of the aspects of our enculturation are misplaced.

Richardson's work observes how those that have accepted their mortality gain a particular clarity, while those that are unable to accept their mortality, even in the face of imminent death, hold steadfast to the dictums of our contemporary moral ecology.

The lesson coming out of Richardson's work is that our ability to deny, even when faced with the immediate prospect of death (within days if not hours), is as equally insightful as those that accept their mortality.

The power and influence of our contemporary moral ecology does, for some, stay with us until our last breath. For those that are able to accept their mortality, their worldview changes dramatically. What comes through in Richardson's research is that acceptance brings about an understanding beyond the limitations of our contemporary moral ecology. Acceptance facilitates an awareness that one doesn't need to work so hard, that excess success is, in the end, superficial. That material

possessions are equally superficial compared to loved ones, community and the pursuit of emotional maturity.

Richardson's work reveals that the conversations within a discourse of acceptance moves away from talking about the material, away from concerns about superannuating and real estate, away from career and acquisition, away from overseas holidays and renovations. Such adherence to our moral ecology is seen as having taken up too much of life, to have cost us our living. It is as if acceptance in the face of mortality discovers what Fenner's symposium saw as the path we need to take if we want to develop a sustainable culture, as Fenner said, as Pope Francis intimated, we need a radical change in human culture, from a society driven by the pursuit of material wealth to one focused on human well-being.

How to sow the seeds of acceptance in the barren fields of our contemporary moral ecology is a challenge — ecological scientists, like ecological activist, artists and enlighten observers have made little to no real headway — the recent Paris Talks fell short in terms of the Science.<sup>xxx</sup> The likes of Boyde have hope, Fenner had none by the time he died, their standpoints are reflected within the science and activist community.

Acceptance doesn't buy into pessimism or optimism, doom or hope, faith or denial. Acceptance accepts the science, accepts that it can be interpreted, acceptance takes one moment at a time, it has more in common with the observations of Richardson research, it accepts that some of us deny while some of us embrace.

Acceptance is located in a less material, less positivist mind set. Acceptance accepts that we might adapt, or that we might not adapt — either way:

The science is in

The word is out

Don't matter if you whisper

No difference if you shout

The weather has changed

And with it, the land.

## Appendix

Eighteen samples of Headlines used in my research from March 2, 2015 through to March 29, 2016:

March 2, 2015.

**Climate Change Helped Spark Syrian War, Study Says.** National Geographic. <http://news.nationalgeographic.com/news/2015/03/150302-syria-war-climate-change-drought/>.

April 30, 2015

**Adapt now to prevent poor health from climate change: report.** The Conversation. <https://theconversation.com/adapt-now-to-prevent-poor-health-from-climate-change-report-40958>

May 28, 2015

**Meet the Australian wildlife most threatened by climate change.** The Conversation. <https://theconversation.com/meet-the-australian-wildlife-most-threatened-by-climate-change-42310>

November 3, 2015

**Abrupt changes in food chains predicted as Southern Ocean acidifies fast: study.** The Age. <http://www.theage.com.au/environment/climate-change/abrupt-changes-in-food-chains-predicted-as-southern-ocean-acidifies-fast-study-20151030-gknd2g>

November 9, 2015.

**World**

**Bank warns climate change could add 100 million poor by 2030.** The Age.

<http://www.theage.com.au/environment/climate-change/world-bank-warns-climate-change-could-add-100-million-poor-by-2030-20151108-gktwwa>

December 3, 2015.

**Most**

**Kiribatian households are mulling climate migration – and that’s just the start.**

The Conversation. <https://theconversation.com/most-kiribatian-households-are-mulling-climate-migration-and-thats-just-the-start-51627>

December 5, 2015.

**Greenland's melting ice: the scary truth.**

**The**

Age. <http://www.theage.com.au/good-weekend/-gl297u.html>

December 17 2015.

**This is what happens when the Arctic warms twice as fast as the rest of the planet.** The Age. <http://www.theage.com.au/world/this-is-what-happens-when-the-arctic-warms-twice-as-fast-as-the-rest-of-the-planet-20151216-glop60>

January 5, 2016.

**What scientists discovered in Greenland could be making sea-level rise yet worse.** The Age. <http://www.theage.com.au/environment/climate-change/what-scientists-discovered-in-greenland-could-be-making-sealevel-rise-yet-worse-20160104-glzf7j#ixzz42YbHgdXj>

January 8, 2016.

**Humanity's**

**impact on Earth opens Anthropocene epoch, scientists say.** The Age.

<http://www.theage.com.au/environment/humanitys-impact-on-earth-opens-anthropocene-epoch-scientists-say-20160107-gm1nwt>

January 21 2016.

**Rising global temperatures: when will climate change deniers throw in the towel.** The Age. <http://www.theage.com.au/environment/climate-change/rising-global-temperatures-when-will-climate-change-deniers-throw-in-the-towel-20160121-gman2a>

January 21, 2016.

**Paris**

**climate limit will see some parts of world warm by 6 degrees: Nature paper.**

Sydney Morning Herald. <http://www.smh.com.au/environment/climate-change/paris-climate-limit-will-see-some-parts-of-world-warm-by-6-degrees-nature-paper-20160119-gm9lgb>

February 2, 2106.

**Seas are rising faster now than any time in the last 2800 years, say researchers.** The Age. <http://www.theage.com.au/environment/climate-change/seas-are-rising-faster-now-than-any-time-in-the-last-2800-years-scientists-say-20160223-gn1s8j>

February 3, 2016.

**Climate**

**change will remove birds' control over hatching eggs: study.** The Sydney Morning Herald. <http://www.smh.com.au/environment/climate-change/the-early-bird-catches-the-worm-gets-a-new-twist-with-climate-change-study-20160202-gmjjiy.html>

February 25, 2016.

**Ocean**

**acidification is already harming the Great Barrier Reef's growth.** The Conversation. <https://theconversation.com/ocean-acidification-is-already-harming-the-great-barrier-reefs-growth-55226>

March 12, 2016.

**Scorching start to autumn smashed national heat records, Bureau of Meteorology says.** The Sydney Morning Herald. <http://www.theage.com.au/environment/weather/scorching-start-to-autumn-smashed-national-heat-records-bureau-of-meteorology-says-20160312-gnha5q>

March 14, 2016.

**True**

**shocker': February spike in global temperatures stuns scientists.** The Sydney Morning Herald. <http://www.smh.com.au/environment/climate-change/true-shocker-spike-in-global-temperatures-stuns-scientists-20160313-gni10t.html>

March 29, 2016.

**Great Barrier Reef in grip of worst bleaching event.** Sydney Morning Herald. <http://www.smh.com.au/environment/great-barrier-reef-in-grip-of-worst-bleaching-event-20160328-gnsqrc.html>

References

- <sup>i</sup> The relentless rise of carbon dioxide recorded cited April 26, 2016
- <sup>ii</sup> NASA <http://climate.nasa.gov/vital-signs/carbon-dioxide/>
- <sup>iii</sup> Hansen, James, et al. Target Atmospheric CO<sub>2</sub>: Where Should Humanity Aim? *Open Atmos. Sci. J.* (2008), vol. 2, pp. 217-231.
- <sup>iv</sup> NASA scientists react to 400 ppm carbon milestone. Cited April 9, 2016 <http://climate.nasa.gov/400ppmquotes/>
- <sup>v</sup> Daniel Gilbert. (2010) Harvard Thinks Big 2010 - 'Global Warming and Psychology' cited April 26, April 2016. <https://vimeo.com/10324258>
- <sup>vi</sup> Peter Cundall interviewed on Late Night Live, ABC Radio March 23, 2016. <http://www.abc.net.au/radionational/programs/latenightlive/australia's-favourite-gardener/7270952>
- <sup>vii</sup> McKibben, B. (1989) *The End of Nature* London : Bloomsbury
- <sup>viii</sup> Brown, Bob (1999) Bob Brown On Climate Change cited April 26, 2016 <http://australianpolitics.com/1999/09/02/bob-brown-on-climate-change.html>
- <sup>ix</sup> Essential Media Communications (EMC) <http://www.essentialmedia.com.au>
- <sup>x</sup> <http://www.essentialvision.com.au/climate-change-13>
- <sup>xi</sup> <http://www.essentialvision.com.au/doing-enough-to-address-climate-change-2>
- <sup>xii</sup> *Isentia*  
<http://www.isentia.com/tools/mediaportal?gclid=CM2p2MKjq8wCFZAsvQodOBcO9A>
- <sup>xiii</sup> Ocean acidification is already harming the Great Barrier Reef's growth (February 25), *The Conversation*. Cited February 25 2016 <http://theconversation.com/ocean-acidification-is-already-harming-the-great-barrier-reefs-growth-55226>
- <sup>xiv</sup> Great Barrier Reef in grip of worst bleaching event (March 29). Cited March 29, 2016 <http://www.smh.com.au/environment/great-barrier-reef-in-grip-of-worst-bleaching-event-20160328-gnsqrc.html>
- <sup>xv</sup> Hartcher, Peter (April 5, 2016) Peter Tony Abbott's harmful legacy lives on in climate silence cited April 5, 2016 <http://www.theage.com.au/comment/tony-abbotts-harmful-legacy-lives-on-in-climate-silence-20160404-gnxvfy.html>
- <sup>xvi</sup> Brooks, David (2016) *The Road to Character*. Penguin Random House.
- <sup>xvii</sup> What was decided at the Bretton Woods summit <http://www.economist.com/blogs/economist-explains/2014/06/economist-explains-20>
- <sup>xviii</sup> Coward, Harold & Maguire, Daniel. C. (Eds.). (2000). *Visions Of A New Earth: religious perspectives on population, consumption, and ecology*. Albany: State University of New York Press.
- <sup>xix</sup> Lipsitz, George. (1990). *Time Passages: collective memory and American popular culture*. Minneapolis: University of Minnesota Press.
- <sup>xx</sup> Durning, Alan. (1991). *How Much Is Enough? The Consumer Society and the Future of the Earth*. In Lester Brown et. al. (Eds.). *State Of The World*. New York: W.W. Norton.
- <sup>xxi</sup> Lipsitz, George. (1990). *Time Passages: collective memory and American popular culture*. Minneapolis: University of Minnesota Press.
- <sup>xxii</sup> Instalment Buying, Selling, and Financing cited, April 23, 2016 <http://www.encyclopedia.com/doc/1G2-3401802094.html>TOOLS
- <sup>xxiii</sup> Smart, Andrew (2013) *Autopilot: The Art & Science of Doing Nothing*. OR Books

---

<sup>xxiv</sup> Humanity's impact on Earth opens Anthropocene epoch, scientists say. Cited January 8, 2016 <http://www.theage.com.au/environment/humanitys-impact-on-earth-opens-anthropocene-epoch-scientists-say-20160107-gm1nwt>

<sup>xxv</sup> Fenner, Frank. (2005) Letter to the Editor of 'The Canberra Times' following the symposium 'Science and Ethics: Can Homo sapiens Survive?'

<sup>xxvi</sup> Frank Fenner sees no hope for humans. Cited April 15, 2016 <http://www.theaustralian.com.au/higher-education/frank-fenner-sees-no-hope-for-humans/story-e6frgcjx-1225880091722>

<sup>xxvii</sup> Melbourne's Botanic Gardens set for new climate-tolerant face in 2090. Cited March 22, 2016 <http://www.smh.com.au/technology/sci-tech/melbournes-botanic-gardens-set-for-new-climatetolerant-face-in-2090-20160321-gnner4.html>

<sup>xxviii</sup> Protect Melbourne Metro against rising seas or pay heavy price, expert warns. Cited March 3, 2016. <http://www.theage.com.au/victoria/protect-melbourne-metro-against-rising-seas-or-pay-heavy-price-expert-warns-20160302-gn91v0.html>

<sup>xxix</sup> Richardson Ann (2007) *Life In A Hospice: Reflections on Caring for the Dying* by Ann Richardson. Radcliffe Publishing Ltd.

<sup>xxx</sup> Historic Paris climate pact reached – experts react. Cited December 13, 2015. <http://theconversation.com/historic-paris-climate-pact-reached-experts-react-52091>