

The Ecological Citizen

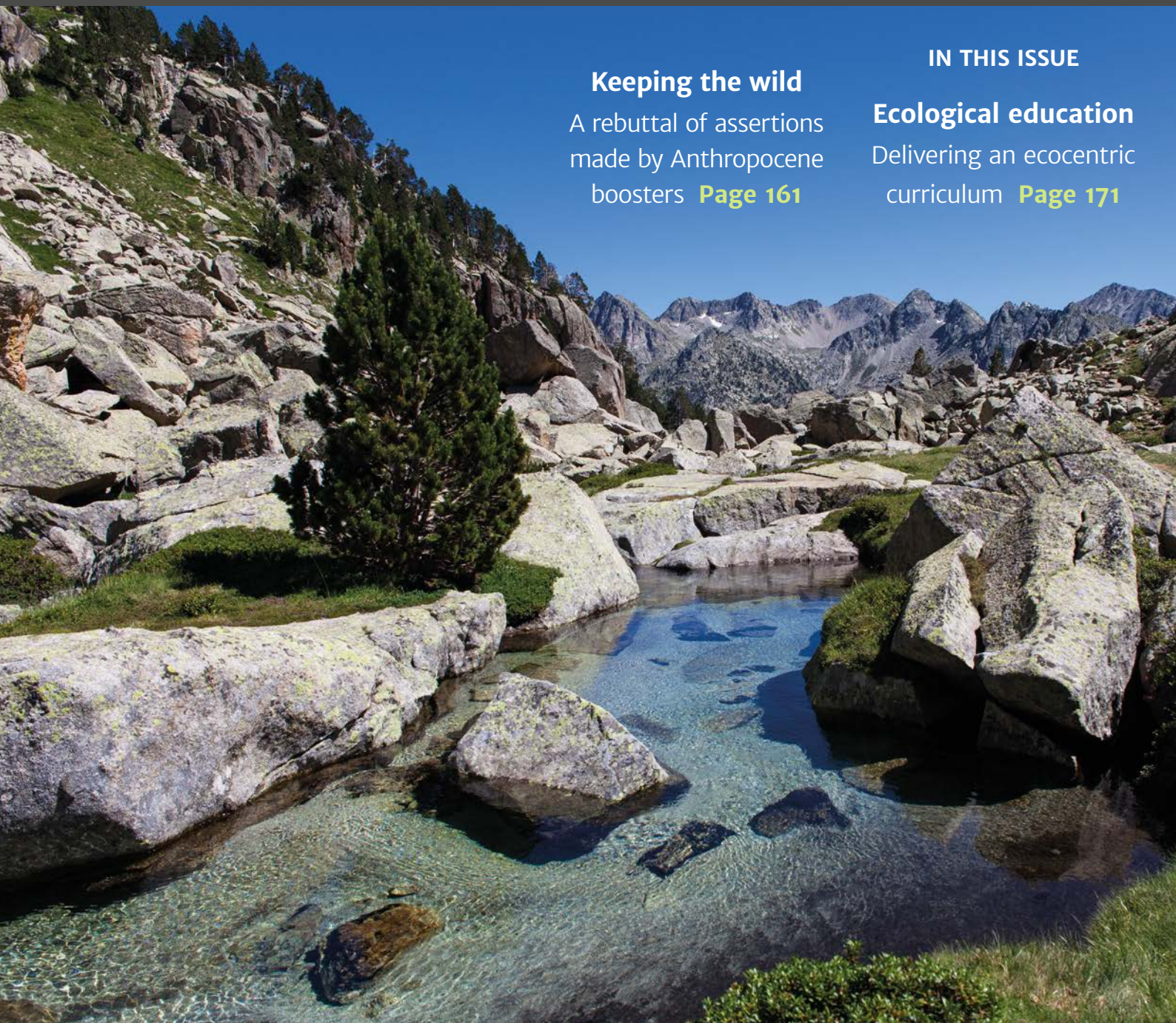
Vol 1 No 2 2018

ISSN 2515-1967

A peer-reviewed journal

www.ecologicalcitizen.net

Advancing ecological knowledge | Championing Earth-centred action | Inspiring ecocentric citizenship



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A rebuttal of assertions made by Anthropocene boosters **Page 161**

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An ecocentric, peer-reviewed,
free-to-access journal

ISSN 2515-1967

Aims

- 1 Advancing ecological knowledge
- 2 Championing Earth-centred action
- 3 Inspiring ecocentric citizenship
- 4 Promoting ecocentrism in political debates
- 5 Nurturing an ecocentric lexicon

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A note on terminology

Because of the extent to which some non-ecocentric terms are embedded in the English language, it is sometimes necessary for a sentence to deviate from a perfectly ecocentric grounding. The 'natural world' and 'environment', for instance, both split humans from the rest of nature but in some cases are very difficult to avoid without creating overly complex phrases. For usage notes relating to terms such as these, when they appear in the Journal, along with other language considerations, please visit: www.ecologicalcitizen.net/lexicon.html.

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“The priority we must begin to seriously consider
is Ecosphere before community, ecosystem
before organism, the whole before the part.
The planet is more than its people.”

Stan Rowe

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Cover photo

Mountain stream in Aigüestortes i Estany de Sant Maurici National Park, Catalunya, Spain (CC BY-NC-ND 2.0; <https://creativecommons.org/licenses/by-nc-nd/2.0/>).
Julien Lagarde

Featured artists

This issue also features artworks by Aino Leskinen, Andrea Williamson, Anna Walsh, Daksha Patel, Henneke Andreae, Lars Schmidt, Louise Morgan, Matthew Verdon, Mita Solanky, Nicholas Rodriguez, Rebecca R Burrill, Sarah Misselbrook and Vic McEwan.

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Green fidelity and the grand finesse: Stepping stones to the 'Pacocene'

"In arguing that an ecological ethics is not only desirable but urgently needed, I am aware that it could also be asked: but is it feasible? A number of answers come to mind. One, the simplest but not the least important, is: who knows? But it has got to be worth a try, because if we don't then the answer will certainly turn out to be 'no'. Even if we do try, there are no guarantees; but then there is a chance."

(Curry, 2011: 269)

In the card game of contract bridge, players must work with incomplete information. For instance, a player – let's call them Sam – might hold the ace and queen of hearts but not know which opponent has the king. Because of the order of play, the queen is only likely to win a trick for Sam if the king sits in the hand to the right rather than the one to the left. And so Sam might mentally place the king in the hand to the right and play as if it definitely is there. If it turns out to be, a bonus trick can be won; if it isn't, then there is no major cost. Such a strategy is called a 'finesse'. But how is this relevant to us?

Success for the deep green movement is ultimately contingent on an Earth-wide cultural change among industrialized society to ecological citizenship and ecocentric modes of governance.¹ Such a major shift will take time, if it happens at all. Yet, despite this uncertainty, there is much work that must be carried out now if life as we know it is to flourish for millennia to come. For example, we must act urgently to ensure a short-term future for species threatened with anthropogenic extinction in the hope that the culture shift necessary for long-term survival will occur. Here, as it was for Sam, the wise – and, I would argue, only – course of action is to assume the best and

act accordingly. I term this strategy a 'grand finesse'. The analogy is imperfect, of course. Sam has no influence at all on the position of the king; however, for us, while it may feel at times as if we are at the mercy of a celestial card dealer, we can at least do something to effect cultural change. But the task is gargantuan.

To get an idea of the scale of our challenge, it is worth reflecting on an observation made by John Michael Greer (2009: 187):

The successful efforts for change are usually those that pursue specific improvements or target specific injustices, while those that pursue grander agendas tend to fail the more completely and disastrously the more utopian their goals become.

While this point should not be ignored, what our 'ecotopian' mission – unlike many previous societal-change projects (Greer, 2009) – has going for it is a grounding in ecological reality.

Apportioning and building

Our movement is not just ecological but organic, being driven by spontaneously spawned efforts that are only loosely coordinated. However, let's assume for a moment that it would be possible to deliberately apportion our efforts. Should they be directed completely at societal change?

In the first issue of *The Ecological Citizen*, the piece that generated the most discussion was Ian Whyte's 'Life's defeat is imminent' (Whyte, 2017). It was pleasing to see the level of response to the article because it was perhaps the best example of a writer taking advantage of this novel forum unfettered by anthropocentric bias and censorship. On the subject of apportioning our efforts, the piece argued that we "don't need any more articles

Joe Gray

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Citation

Gray J (2018) Green fidelity and the grand finesse: Stepping stones to the 'Pacocene'. *The Ecological Citizen* 1: 121–9.

Keywords

Conservation movement; ecological ethics; sixth mass extinction; societal change

“The complexity of ecology is at once beautiful and humbling, and it would be dangerous, in this field, ever to conclude that we know enough.”

Artwork

Staying with 150 series

by Andrea Williamson

About the artwork:

Andrea's watercolours in this Editorial, and elsewhere in the issue, are taken from a series of 150 paintings of endangered species for Canada's 150th 'birthday'.

Higher-resolution versions: <https://is.gd/ecoartwork>

or research into the cause of the problem,” while its overall conclusion stated:

[W]e need to devote a maximum effort into the problem which has always beaten us: how to change humanity's operating paradigm.

I would agree that societal change is resoundingly the most important area for focus; however, I feel it is possible to interpret this article's message too literally. Yes, the dire problems that life as we know it faces are undoubtedly caused by the excesses of humanity, and no amount of research will change the conclusion that our most urgent and important task is to humanely scale back the industrial enterprise. On the other hand, I believe that now is not the time to withdraw, for instance, from collecting data on life's diversity, the very thing we are trying to save (Wilson, 2017).² Life has been forced onto a perverse anthropogenic course, and there are no guarantees that the knowledge we have gathered up till now to inform conservation biology and restoration ecology can be reliably extrapolated to the coming decades. The complexity of ecology is at once beautiful and humbling, and it would be dangerous, in this field, ever to conclude that we know enough.

As tempting as it is to go on with this defence, it would be hypocritical to do so within a broader discussion of apportioning our efforts, for I do not think it is an especially effective use of time. Indeed, it is easy to spend half a day writing responses that uphold a marginally different take on an issue to that of someone else within our camp, but all without doing anything that will materially benefit the ecosphere.

I also question, in practical terms, how much value there is in continuing to vigorously debate internal differences of opinion on ecological ethics. For me (admittedly a non-philosopher), ecological ethics is already sufficient to give us what we need: a robust justification for the moral standing of everything that has been created on Earth, from the biotic to the geomorphic (see Haydn Washington's piece starting on page 137), as well as, crucially, a means of prioritizing need and rights (Curry, 2011).

In any case, I doubt that five centuries of further wrangling will deliver us a perfectly unified consensus. Similarly – to cite a related but more specific debate – we may also still be arguing in 500 years about the level of capability for feeling in plants; but I do not believe that ecocentric and biocentric thinkers need to worry too much about this, relatively speaking, as *agency* and *interests* underwrite intrinsic value without a need for sentience (see Curry [2011: 74]).

Of course, I do not wish to completely stifle intellectual curiosity in these matters or nix the right to reply, but we really should be saving as much energy as we can for the fights that demand more urgent attention. These fights include those against neomodernists and 'Anthropocene boosters', a topic that George Wuerthner addresses superbly in an article beginning on page 161 of this issue. In the same piece, we are reminded why we also need to fight to defend and expand protected areas.

Our competitive ability in such fights is proportional to the strength of our movement, and thus it is our job to help build this power. There are several things that each of us can do in this regard:

- 1 promote the ecocentric (or biocentric) worldview and the public understanding of intrinsic value (potentially useful here



Burrowing owl

is the concise overview of ecocentrism I co-wrote with Patrick Curry and Ian Whyte, starting on page 130, which introduces a plain-language definition of the term ‘ecocentric’ that has already been translated into over ten languages: <https://is.gd/deepgreen>;

- 2 demonstrate consistently and broadly that our ideology is not anti-human (it is also important to avoid getting distracted by such accusations where they are ill-founded, which is one of the many points that Captain Paul Watson reflects on in our interview with him starting on page 152);
- 3 forge synergies with existing movements, but without compromising our non-anthropocentric foundations (I return to potential partnerships a little later).

What if collapse is inevitable?

A major potential challenge to what we are trying to achieve is that a grand collapse might be inevitable anyway, even if society starts to change in the right direction. Returning to the analogy I presented at the start, is there any point in attempting the ‘grand finesse’, or should we just throw in our hand?

John Michael Greer (2009) writes in *The Ecotechnic Future* of a seemingly unavoidable progression over the coming centuries, as we are forced to find alternatives to fossil fuels and reshape society. This transition, which moves from an age of scarcity, through an age of salvage, on to a truly ecological (or ‘ecotechnic’) future, he calls “the long road to sustainability” (Greer, 2009: 32).

I believe that what Greer describes is indeed the most likely course for humanity over the coming centuries. And I also foresee, on this “long road” ahead, much of the diversity of life that we find beautiful and enchanting – and that has the same right as us to carve out an existence on Earth – being irreplacably lost. The parallel human tragedy in this is that if a ‘reduced standard of living’³ is not voluntary but forced onto us – and if human numbers are not brought down humanely and willingly, rather than automatically through a shortage of resources – then the short- and medium-term prospects for humanity are grim.



Blue racer snake, Karner blues, blue lupines, drooping trillium and broad-banded forestsnail

Yet I do not despair. Even if there truly are no prospects to divert humanity from the collapse–rebound (or collapse–extinction) path, I believe that our mission should continue the same. No matter how severe the collapse, a proportion of species and ecological niches will survive, and we can contribute to boosting both, with every single species and unique niche saved being an ethical good. Everything is at stake for the Earth, but we have nothing to lose in trying our damndest. And, yes, life will radiate again on a geological timescale (and that rightly provides some solace for us as we witness the Earth’s horrific mistreatment by many humans), but this in no way justifies a dereliction of our ethical duty to the radiation of life with which we share the Earth today. As Eileen Crist recently commented (Mortillaro, 2017):

“Everything is at stake for the Earth, but we have nothing to lose in trying our damndest.”



Williamson's sapsucker

When you take care of your family, you don't do it because you're optimistic or pessimistic... it's because that's what you do. Our mandate is that we take care of Earth and earthlings and human beings because we're all family.

One further point I wish to make here is that hard work now in generating creative solutions will pay dividends for our allies in future generations who look to keep humanity from upending nature's tendency to thrive.

In this vein, Paul Ehrlich, in our interview with him starting on page 154, calls for "concerned citizens to work to soften the collapse and, perhaps more importantly, plan for a possible 'reset' that will not lead to another round of growth mania and collapse." Alex Lautensach, in his article on ecological education that starts on page 171, also sees scope to profoundly influence the nature of the collapse:

Instead of a grand collapse we might well face differentiated disintegration, a scenario which creates room for creative counter strategies based on alternative visions.

That we might be able to soften the collapse, even if it cannot be avoided entirely, is a cause for hope. In isolation that thought might be a little bleak; happily, though, there are additional reasons to be positive, as I shall describe below. These are relevant regardless of whether, like me, you think that we are unlikely to do better than a soft collapse, or whether you hold out genuine hope for a future brighter than that.

Reasons to be positive

As a first reason to be positive, I reiterate the importance of our mission being grounded in ecological reality. In other words, there is no need for us to dwell on the past failures of other movements that were not grounded in this way (Greer, 2009). We and the Earth are pushing in the same direction.

Secondly, some previous change projects, including movements for civil liberties and racial and gender equality, have had major (if incomplete) success. The results provide a firm – and, I would argue, necessary – groundwork for our movement. Of course, they are also hugely significant in their own right, and we should not lose sight of the importance of continuing to fight for them. Indeed, in this issue, Paul Ehrlich calls for the Journal to "fight all kinds of discrimination, especially by gender and race," noting that "we'll need cooperation to keep the collapse from being so severe that no reset is possible."

Thirdly, we have many potential allies in stronger movements than our own, including social justice,⁴ light-green environmentalism and animal rights. Partnerships here, if honest from the start, have real potential to deliver mutual benefits. For us, that benefit would be the kick-starting of a genuinely ecological revolution. If, instead, we distance ourselves from other groups, thinking that our viewpoints are too dissimilar, then we will greatly lessen the impact we can have (and possibly get nowhere at all).

Fourthly, I believe that, where there is the will to make the necessary adjustments, ecocentric ideas can be laid over many existing ideologies (e.g. Taylor, 2010). To put it differently, ecocentrism is a worldview that can be subscribed to by any individual, regardless of race, wealth, gender or nation

“Ecocentrism is a worldview that can be subscribed to by any individual, regardless of race, wealth, gender or nation.”

(although it is, perhaps, more likely to emerge in those fortunate enough to receive a comprehensive education [Noss, 2017]).

Lastly, as I touch on in 'A journey to Earth-centredness' (Gray, 2017), with escalating ecological destruction it becomes harder for the masses to ignore ecological injustice. Thus, while we should never stop reinforcing the message of ecological urgency, there will soon be little sand in which wilful deniers can hide their heads.

Green fidelity

There is a further reason for positivity that could be added to the list, and it relates to something in the control of the broader green community. Put simply: what if all those people making recommendations about ecological living were able to demonstrate consistently green behaviours themselves? After all, in order to inspire change against long odds, we will need a plethora of role models, ranging from celebrities to academics. However, I suspect that a large proportion of Western celebrities espousing the ecological cause have very big personal footprints. If these 'trailblazers' of a developed lifestyle could instead live truly green lives, then those looking to imitate them from 'developed' and 'developing' countries alike would have sound role models.

Even among the conservation community, the situation is far from perfect, according to a recently published study in *Biological Conservation*. The researchers found that the conservationists they sampled had only "a slightly lower overall environmental footprint than economists or medics" and called for them to "do far more" to reduce their ecological footprint (Balmford *et al.*, 2017). My view is that it can be highly detrimental to our cause if experts and other figureheads who are calling for change do not themselves show strong fidelity to green principles (or authentic green behaviour) in their everyday lives. Instead, I believe that anyone calling for change should be striving to live an ecologically sound lifestyle in relation to their own circumstances,⁵ even where it means cutting productivity (on account, for instance, of extra time spent travelling by public transport instead of driving).

There are many aspects to green fidelity, but I shall briefly list a few of those that I consider to be particularly important:

- **Population:** promoting small family size, including childless families, by example. (Population is a topic to which we will return again and again in the Journal; in this issue we feature some general insights from Paul Ehrlich, in the aforementioned interview, as well as Karin Kuhlemann's critique, in an article beginning on page 181, of one particular aspect of this, the fallacy of focusing on the rate of population growth as the central problem.)
- **Air travel:** being sure that each flight taken will deliver net ecological benefit and that no one more local to the destination could fulfil a similar role (see <https://is.gd/flyless> for a project encouraging academics to fly less).
- **Food and drink:** being a green consumer by avoiding industrial meat and also considering land usage per calorie, food miles, packaging, associated energy usage, wastage and the particular impacts of intensive farming and fisheries.

“Anyone calling for change should be striving to live an ecologically sound lifestyle in relation to their own circumstances.”



Rusty patched bumblebees and American water willow

“Each of us needs to achieve pragmatic balances in our own life, not least because influencing the system is easier from the inside.”

- **Household products:** reducing the output of toxic substances from the home into the wider ecosystem (by sourcing greener alternatives as much as possible).
- **Luxuries:** striving to reject ecologically harmful luxuries as much as possible.

The list continues to many other aspects of life, including energy consumption, water usage and the ways our finances are managed (see Shann Turnbull's piece on page 141 for how well-intentioned citizens could be helped on this last issue). In each of these areas, I am not calling for perfection (nor am I in a position to do so) and I am generally wary of advice pitched in such a way that setbacks might lead to discouragement and, ultimately, an abandoning of the will to change. But there is a lot of space to play in between our current typical lifestyles and an ascetic mode of living.

Continuing on the theme of green fidelity, I was heartened to find a series of points dotted around Alex Lautensach's above-mentioned article that complement the list that I have presented. The piece is applicable not just to educators in a formal sense but any one of us. Among other things, the author calls for those aiming to inspire an ecocentric transition to:

- accept some personal sacrifices and a renouncement of privilege;

- demonstrate a resistance against the dominant custom of commodifying nature (another fight worth fighting);
- reconcile one's personal freedom with the constraints of environmental justice and ecological limits;
- demonstrate empathy, fairness and friendship in relation to non-human animals, other life forms, ecosystems and landscapes;
- show a will to participate in acts of non-violent ecological resistance;
- accept the discomfort that can arise from discordant actions and dissent.

Helpfully, the author also acknowledges the need for pragmatism. In specific relation to formal education, he writes: “Political expediency demands that teachers who are committed to ecocentric transition education retain their jobs and therefore avoid confronting entrenched dominant ideologies head-on.” Each of us needs to achieve pragmatic balances in our own life, not least because influencing the system is easier from the inside.

Natural history

As a springboard to highlighting another area I believe to be of deep significance to our movement, there is a final point that I will draw on from Alex Lautensach's piece. He stresses the central importance of natural history within the science curriculum. This point is echoed by Haydn Washington, who, in his article starting on page 203, argues for greater emphasis in universities on field naturalist courses. A third author who has recently written in *The Ecological Citizen* about the importance of teaching and practising natural history is Reed Noss (2017: 32):

I'm increasingly convinced that the practice of natural history may be the key to the salvation of the fractured conservation–environmental movement, which no longer seems to share a set of core values [...]

The practice of natural history may be the key to restoring joy to conservation, and for helping people recognize intrinsic value in nature.



Newfoundland red crossbill

I could not agree more with Noss's words. On a personal note, my commitment to ecocentric action was recently given one of its periodically necessary boosts by a trip to northern Spain (using Europe's excellent train network). A particularly memorable moment came in Aigüestortes i Estany de Sant Maurici National Park, in the Catalan Pyrenees. 'Aigüestortes' translates, poetically, to 'twisted waters' and refers to the meandering streams and diversely shaped lakes that offer a waterscape of startling beauty (see [Figure 1](#) and this issue's cover image). The memorable moment came after a long walk up and down one of the park's stunning protected valleys, a wander punctuated by numerous pauses to search for salamanders, marvel at the signs and sight of mammals and point binoculars towards the canopy-feeding birds. Shortly after a timeless exchange of eye contact with a weasel, the serenity of mid-afternoon was broken by the boisterous noise of red crossbills, a species I had not seen before.

With vibrant flashes of colour signalling their movement from conifer to conifer as they fed above my head, I felt a sudden and intense feeling of solidarity with the park's living beings – I knew I was fighting for their cause.

The red crossbill on the previous page (a subspecies from Newfoundland) is from Andrea Williamson's series of watercolours depicting 150 taxa of conservation concern in Canada. A little research reveals a tragic story behind each one. In the case of the once-common Newfoundland crossbill, the anthropogenic introduction of pine squirrels to the island has driven the bird to the edge of extinction, plausibly as a result of being outcompeted for black spruce cones (Parchman and Benkman, 2002).

Towards the 'Pacocene'

To recap, I have so far covered the following:

- how a strategic 'grand finesse' – based on the notion that assuming the best can only benefit our cause – gets us around the danger of inaction out of despair;

“I felt a sudden and intense feeling of solidarity with the park's living beings – I knew I was fighting for their cause.”



Figure 1. One of the more than 200 lakes in Aigüestortes i Estany de Sant Maurici National Park, Catalunya, Spain (Julien Lagarde; CC BY-NC-ND 2.0).

“The ‘Pacocene’ – the Age of Peace – is pitched as a deliberate challenge to celebrations of the ‘Anthropocene’ and the war on wildlife and wild places that is seemingly implicit.”

- why we must strive to pick the right fights, build a bigger movement and sharpen our focus on societal change (although not to the point of excluding other vital activities);
- why concerns about collapse need not derail our efforts (and other reasons to be positive);
- how green fidelity could help us deliver more powerful calls for societal change;
- why a resurgence in natural history offers great promise for our cause.

Each one of these points, for me, provides a stepping stone to more ecological times, a possible future I like to think of as the ‘Pacocene’ – the Age of Peace. This is pitched as a deliberate challenge to celebrations of the ‘Anthropocene’ and the war on wildlife and wild places that is seemingly implicit.⁶

Journal developments

Another stepping stone to the ‘Pacocene’ is provided, I hope, by *The Ecological Citizen*, and it is with matters relating to the publication that I shall finish. The first thing to mention is that we have decided on a strapline to appear

under the logo on the website: “Striving for harmony with the rest of nature.” It is thus fitting that Haydn Washington has written an article, starting on page 203, on the topic of ‘harmony’. A second piece of news is that we have opted, for future issues, to encourage loose themes to emerge. Upcoming examples include food, water and religion. While no thematic constraints were in place for the present issue, a critique of ‘Anthropocene boosting’ emerged as an unofficial one. In addition to the article on this subject by George Wuerthner that has already been mentioned, a complementary argument appears in Helen Kopnina’s piece, beginning on page 191, and many pertinent points are also raised in the article by Haydn Washington described above.

We have also recently posted a brief history of the Journal and the roots of its founding (see www.ecologicalcitizen.net/history.html). In the same way that John Piccolo, one of our editorial advisors, has described being proud to be able to trace his educational lineage directly to Aldo Leopold (Piccolo, 2017), I am excited that the lineage of *The Ecological Citizen* can be routed back, for instance, to Edward Abbey. (I write about my love of Abbey in a piece starting on page 145, in the first example of a new article type that we have introduced called ‘Reflections’ [see www.ecologicalcitizen.net/submissions.html for more details on this and our other content types].)

A particularly important point made in the history of the Journal is that it has arisen to unite threads from different, equally important disciplines. But we are conscious that what we need is true interdisciplinarity, not just the token version that was cautioned against some years ago by Clive Spash (1999: 432), current Editor-in-Chief of *Environmental Values*:

An interdisciplinary approach to the environment can only be achieved by individuals being prepared to cross disciplinary boundaries and learn the language of other academic disciplines [...] In the past, much emphasis in environmental work has been placed upon rhetorical reference to interdisciplinary research



Loggerhead shrike

but in fact this has meant producing reports which are merely a combination of chapters written by mono-disciplinary groups and bound together without regard to the inconsistencies. Open debate and synthesis are essential...

True interdisciplinarity is something I feel the Journal has great potential to deliver on, and we would certainly welcome further submissions co-authored by representatives of two or more disciplines. With this and all other aspects of the Journal, we are happy to admit that we are feeling our way. The most important thing of all is that we now have a uniting vehicle for communications. It can adapt as we go and as the movement dictates. Our ears are open, but we only have a small voice. You can help us grow louder and amplify the impact of our work by spreading the message.

To close, I am delighted, on behalf of my fellow Editors, to extend sincere thanks to Stephanie Moran (Art Editor), Victor Postnikov (Poetry Editor) and all the other members of our Editorial Board who have contributed to this issue. Without their continuing hard work this enterprise would be impossible. And I wish to thank Patrick Curry, our Editor-in-Chief, for giving me the opportunity to write this Editorial. Happily, I can report that Patrick has invested his writing time elsewhere in the issue, with his Opinion addressing ecocentrism's position on the political spectrum and his review of *The Ends of the World* (Polity Press, 2016), which begin, respectively, on pages 134 and 212. We hope you enjoy this second issue and look forward to receiving your thoughts (www.ecologicalcitizen.net/contact.html). ■

Notes

- 1 Establishing what I call ecocentric democracy ('ecodemocracy'; Gray and Curry, 2016) will be an important part of decision-making within ecocentric governance.
- 2 I might be a little biased here. I spend much of my spare time during the northern hemisphere's spring, summer and autumn wandering the surviving scraps of wild nature and non-intensive land usage within the industrialized landscape that surrounds my home trying to document where biodiversity 'clings on'.

- 3 In my own experience, a voluntary reduction of material consumption and long-haul flights has made me happier, and not just because of the positive impact I know it is having on the rest of life.
- 4 Social justice could – and, in my opinion, should – be a part of ecological justice, coherent with the bigger picture (and ensuring a genuine long-term sustainability that social justice based on endless economic growth does not).
- 5 There is a bonus of living ecologically, when coupled with the practice of social egalitarianism, that is especially apparent for white males born in an affluent country: attempts to extinguish any arguments we might make based on claims of privilege are rendered fallacious if our lifestyles demonstrate genuine, hedonistically detrimental sacrifices (and not just in the name of spiritual enrichment).
- 6 The concept of the 'Anthropocene' is useful, I feel, as a warning that plastic pollution and the global defaunation are so severe that they will be leaving a stark signature in the geological record. However, to think that it might rise from warning metaphor to geological reality and thus rubber-stamp our destruction of the Earth is abhorrent to me.

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“Our ears are open, but we only have a small voice. You can help us grow louder and amplify the impact of our work by spreading the message.”

Ecocentrism: What it means and what it implies

**Joe Gray,
Ian Whyte and
Patrick Curry**

About the authors

Joe is a naturalist based in St Albans, UK, who is currently studying for a PhD in conservation. He is a Knowledge Network Expert for the United Nations' Harmony with Nature programme and is an Associate Editor of the Journal.

Ian is a naturalist who lives in Ottawa, ON, Canada. He is an Associate Editor of the Journal.

Patrick is a writer and scholar based in London, UK. His works include *Ecological Ethics: An Introduction* (Polity Press, 2011). He is Editor-in-Chief of the Journal.

Citation

Gray J, Whyte I and Curry P (2018) Ecocentrism: What it means and what it implies. *The Ecological Citizen* 1: 130–1.

Keywords

Anthropocentrism; geoheritage; intrinsic value; societal change; worldviews

In this short piece, we aim to provide a concise statement of what ecocentrism is (and is not) and to highlight some practical implications of the ecocentric worldview. We also present, in [Box 1](#), a plain-language definition of 'ecocentric' and a short set of questions for use in helping establish if an individual holds this worldview.

What ecocentrism means

Ecocentrism sees the ecosphere – comprising all Earth's ecosystems, atmosphere, water and land – as the matrix which birthed all life and as life's sole source of sustenance. It is a worldview that recognizes intrinsic value in ecosystems and the biological and physical elements that they comprise, as well as in the ecological processes that spatially and temporally connect them. So when human wants clash with the health of the Earth as a whole or any of its ecosystems, the former should, practically and ethically speaking, give way to the latter: human needs, like the needs of other species, are secondary to those of the Earth as the sum of its ecosystems.

Ecocentrism thus contrasts sharply with anthropocentrism, the paradigm that currently dominates human activities, including our response to ecological crises such as the sixth mass extinction. If you think that ecocide and anthropogenic extinctions are unethical for reasons greater than just depriving humans of resources, and if you see, for instance, the destruction of a mountaintop for mining as being a deeper wrong than merely reducing the amenity value of the landscape, then you are thinking ecocentrically.

If, as we hope, the term 'ecocentrism' becomes established in mainstream political and ecological discourses, we

believe it is crucial that it does so without dilution. By this we mean that ecocentrism should be understood as being at the end of the ethical spectrum of inclusiveness rather than serving as a 'catch all' for ecocentrism proper plus any other worldview (such as sentiocentrism and biocentrism) that grants intrinsic value more generously than does anthropocentrism.

Implications: Moving from the armchair to the front line

Ecocentrism offers a robust ethical analysis of the negative impact that humans are having on the community of life on Earth and the physical systems on which it is dependent. It shows that ecocide and the rapid diminishment of life are unethical in a way that is immeasurably more significant than the loss of goods that arises from depleting the pool of ecosystem services. Arising from an ecocentric awareness, therefore, is a far more compelling urgency for remedial actions and societal change.

The changes that the ecocentric worldview demand are many, but high up the priority list are humanely transitioning to a far smaller human population, dramatically curbing our voracious appetite for carbon, swiftly moving from industrial agriculture to genuinely sustainable and humane food systems, and greatly shrinking the world's economies. We can – indeed, are obliged to – play a part in the necessary changes, not only by considering our own ecological impacts as individuals, but also through activism. Knowing that this may not happen until we are even deeper into the sixth mass extinction – and witnessing even more severe ecological consequences than we are at present – we must nevertheless strive now to do all that can be done to see the necessary changes happen. ■

Box 1. Are you deep green?

A plain-language definition of the term 'ecocentric'

You are **deep green** (or, in more technical terms, 'ecocentric') if you feel that it is wrong for humans to have an unreasonably large, negative impact on the biological and geological natural world (e.g. causing other species to go extinct) AND you believe that it is a *deeper* wrong than just affecting the quality of life of other humans in some way. That is, it also does wrong to the Earth and to the rest of life.

Questions to help establish if you are deep green

Below is a tentative trio of questions (with answers rotated 180° in the bottom-right corner of this box) intended for use in helping establish if an individual sees the world in a deep green way. The authors would welcome comments to enhance these questions (via <http://ecologicalcitizen.net/contact.html>).

1 If a group of humans causes the extinction of a species that is unknown to us, and we never find out that it has gone extinct, have these humans done wrong in causing the extinction?

- A Yes
- B No
- C Not sure

2 There is one human left on Earth. For amusement, this person uses a toxic substance to kill all of the living things in a pond. They wanted to act this way, and there is no other human left on the planet to be negatively affected by their actions. Do you consider what the person has done to be wrong? [continues above right...]

- D Yes
- E No
- F Not sure

3 If the top of a mountain was blown off using explosives for the purpose of mining, but no living thing was harmed by this act, which one of the following statements would best describe your thoughts on this?

- G It is not wrong
- H I am not sure if it is wrong
- I It is wrong, but only because the mountain would be more ugly to look at for humans
- J It is wrong, whether or not anyone happens to see it, because the mountain as a whole has been violated

Note – Question 2 is inspired by Richard Sylvan's 'Last Man' argument. See: Sylvan R (1973) Is there a need for a new, an environmental ethic? In: *Proceedings of the XII World Congress of Philosophy* (no. 1). Varna, Bulgaria: 205–10.

Further reading – For fuller, academically grounded scales of environmental attitudes, see:

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Answers – You are seeing the world in a deep green way if you answered A, D and J

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Melt series

by **Louise Morgan**

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About the artist: Louise is currently based in Sydney, NSW, Australia, where she is researching the 'Anthropocene' and deep ecology.

About the artwork: Drawings made using melted ice and carbon (2017).





Ecocentrism: Left or right?

Patrick Curry

About the author

Patrick is a writer and scholar based in London, UK, and his works include *Ecological Ethics: An Introduction* (Polity Press, 2011). He is Editor-in-Chief of *The Ecological Citizen*.

Citation

Curry P (2018)
Ecocentrism: Left or right?
The Ecological Citizen 1: 134.

Keywords

Anthropocentrism;
eco-socialism; human
supremacy; Marxism

It might be helpful, for those who want to think through ecocentrism politically, to be able to situate it in relation to those vague but pervasive terms, 'left wing' and 'right wing'. They originated in French revolutionary politics, when monarchists sat on one side of the National Assembly while supporters of the Revolution placed themselves on the other. Since then, in a broad and relative way, 'left' has come to mean progressive, liberal or radical, while 'right' denotes reactionary or conservative. (In Ambrose Bierce's sardonic summary, a Conservative is enamoured of existing evils, while a Liberal wishes to replace them with new ones.)

There is truth in both definitions, but also huge problems. Marxism–Leninism is supposed to be on the left, but how could its development under Stalin, Mao or Pol Pot possibly be considered progressive? Neo-liberalism has practically come to occupy the right but it is certainly radical, even revolutionary. 'Move fast and break things' is not exactly a conservative position, and the touchstone conservatism of Ruskin, Burke and Oakeshott has disappeared from political parties that today go by that name.

Nevertheless, these terms continue to be used and I'm afraid they are not going to vanish. So the best remedy is probably to try to use them carefully. In which case, we may ask: where does ecocentrism go? I would say that it is irreducibly ambiguous. For

example, in locating final value in the Earth and its creatures, not only human beings, it is progressive – indeed, progressive beyond the parochially human dreams of the left. But in being passionate about protecting life and what supports it – places, ecosystems and evolutionary integrity – it is deeply conservative, and rightly so.

In the most important respect of all, however, ecocentrism is neither left nor right. As commonly understood, both are completely anthropocentric: concerned finally, or even only, with human welfare. The only value they recognize in the non-human world is instrumental, restricted to what our narrow, short-term and short-sighted views of our own needs dictate. In stark contrast, the very point of ecocentrism is to go beyond that limit – a limit that is often taken to justify human supremacy, lethal speciesism, and an imperialistic appropriation of non-human nature. Does that make it revolutionary (like the new right) or the ultimate socialism (a new version of the old left)? Both, perhaps. But it's not really our job to perfectly clarify the political map when the terrain is burning. ■

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An ecocentric reworking of the Deep Ecology eight-point platform

Stan Rowe

1 The well-being and flourishing of the living Earth and its many organic/inorganic parts have value in themselves. These values are independent of the usefulness of the non-human world for human purposes.

2 Richness and diversity of Earth's ecosystems, as well as the organic forms that they nurture and support, contribute to the realization of these values and are also values in themselves.

3 Humans have no right to reduce the diversity of Earth's ecosystems and their vital constituents, organic and inorganic.

4 The flourishing of human life and culture is compatible with a substantial decrease of human population. The creative flourishing of Earth and its multitudinous parts, organic and inorganic, requires such a decrease.

5 Present human interference with the non-human world is excessive, and the situation is rapidly worsening.

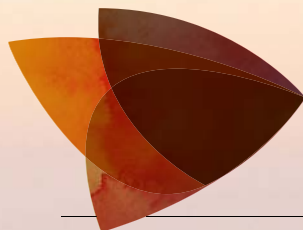
6 Policies must therefore be changed. These policies affect basic economic, technological and ideological structures. The resulting state of affairs will be deeply different from the present.

7 The ideological change is mainly that of appreciating life quality (dwelling in situations of intrinsic value) rather than adhering to a high standard of living. There will be a profound awareness of the difference between big and great.

8 Those who subscribe to the foregoing points have an obligation directly or indirectly to participate in the attempt to implement the necessary changes.

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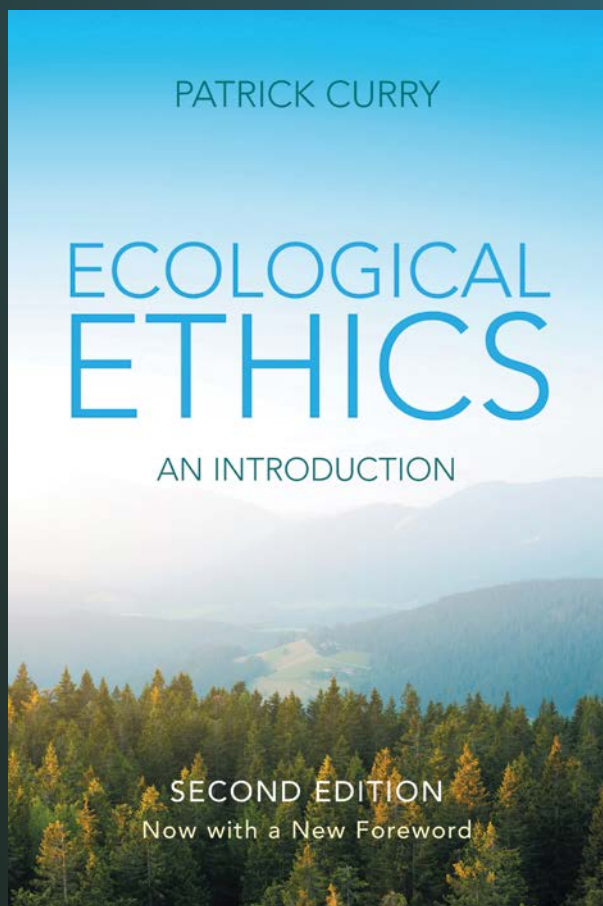
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The intrinsic value of geodiversity

Society used not to extend value to all sections of humanity or to both genders, but our ethics evolved. Later, ethics was extended by philosophers (e.g. Singer, 1981) to sentient living beings, and later to all of life (Taylor, 1986) in the term 'biocentrism'. However, for many years society's 'moral circle' got stuck; it failed to extend value to the non-living part of ecosystems, or what is called 'geodiversity'. This is despite Leopold (1949) extending the land ethic to *the land itself*. Indeed, the term 'geodiversity' is where 'biodiversity' was 30 years ago, with many not understanding it. Just as 'biodiversity' is a good term to cover various aspects of the richness in life, 'geodiversity' is a useful one to describe geological, geomorphological and soil features of interest (Gray, 2013). Because the components of geodiversity have heritage value, geodiversity therefore has *geoheritage* significance and plays a role in *geoconservation*. So geodiversity covers the diversity of geological strata and formations, the landforms created through weathering (geomorphology), the soils formed from weathering, and the landforms created by rivers.

Why should these have value in themselves? First, they are the substrate that supports life, for plants and animals live on (and in) geodiversity, and cannot survive without it. Secondly, while not 'alive' in the normal sense, geodiversity can be unique and can be degraded and destroyed. Consider the delicate calcite flowstone sculptures of caves, delicate fossil structures, highly erodible soils, or the thin projecting ironstone banding in the unique 'platy pagoda' rock formations I have written about (Washington and Wray, 2011). These are fragile structures, and many of them have great beauty.

Should intrinsic value be limited only to the living world? Those who argue for the broadest extension of our ethics speak of 'ecocentrism', which attributes value to both the living and non-living aspects of ecosystems. Rolston (2011: 118) argued:

Some values are already there, discovered not generated by the valuer because the first project here is really the natural object, nature's project; the principal projecting is nature creating formed integrity.

Surely that 'formed integrity' includes both the land and sea itself, as well as the life that is only possible owing to that land and sea? Society's ethics has evolved to acknowledge that women and people of all races and ethnicities have value. Later it evolved (largely) to accept that some animals, and then life itself, had intrinsic value. It is time for the next step: to accept that geodiversity, the non-living part of our world, also has intrinsic value, and hence must be treated with respect. Geodiversity is not just a bunch of 'resources' for human use, possessing only instrumental value. Rather, it makes up the wondrous fabric of the world around us. Now, ascribing intrinsic value does not mean you cannot necessarily 'use' something – indigenous cultures do both – but it does mean using geodiversity *with respect*, acknowledging the value of rocks, landforms and rivers for themselves. Which is as it should be. ■

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[Continued in right-hand column]

Haydn Washington

About the author

Haydn is an environmental scientist, writer and activist based at the PANGEA Research Centre, UNSW, Sydney, NSW, Australia.

Citation

Washington H (2018) The intrinsic value of geodiversity. *The Ecological Citizen* 1: 137.

Keywords

Ecological ethics; geoconservation; geodiversity; geoheritage; intrinsic value

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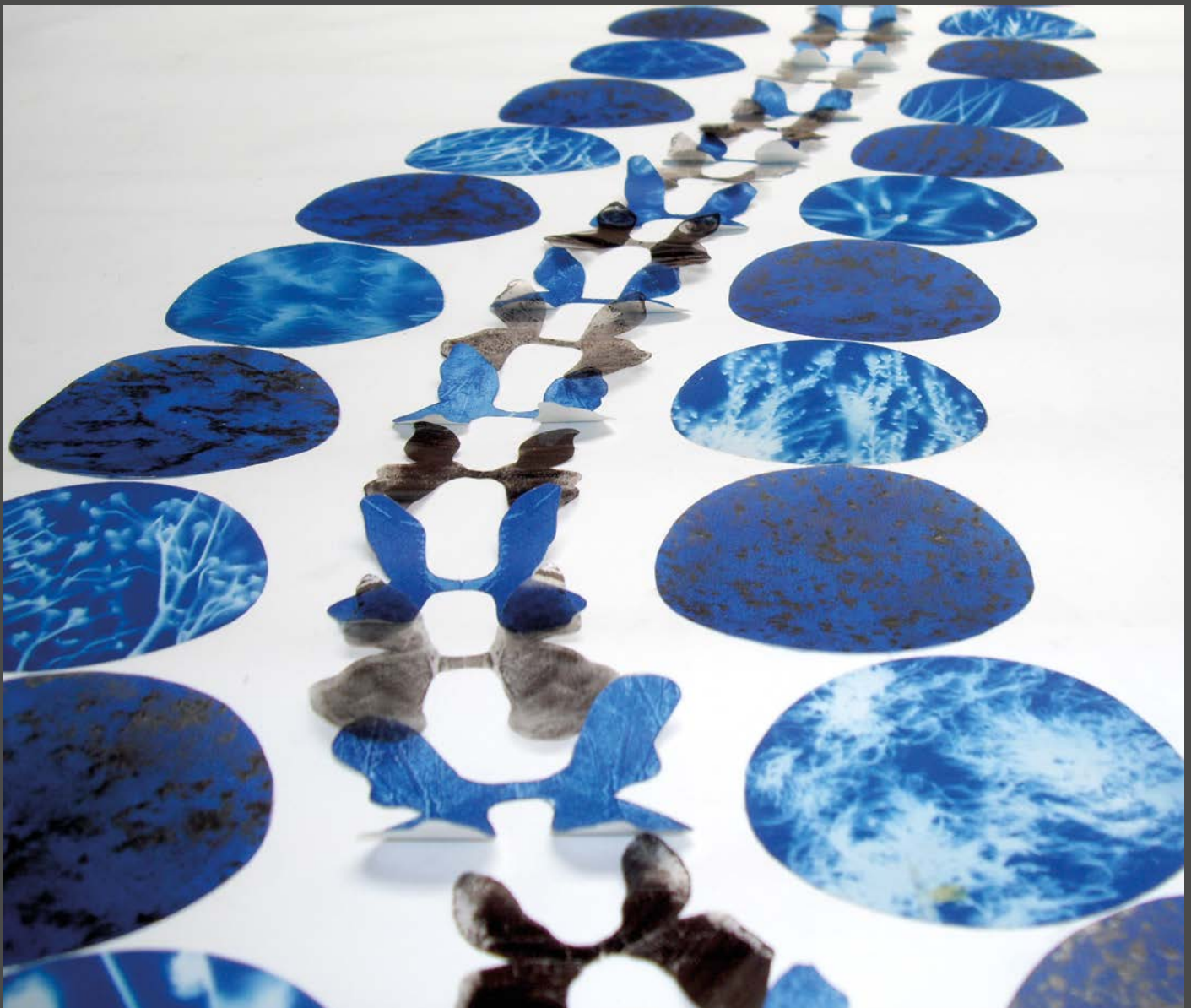
Details from Spine Walk

by **Mita Solanky**

Higher-resolution versions: <https://is.gd/ecoartwork>

About the artwork: Cyanotype print on paper, graphite and acrylic on paper, canvas and adhesive support (2015).

From the artist: *Spine Walk* relates to walking the Pennine Way, along the Pennines – a backbone of mountains in the UK. Living elements have been captured using sunlight and water, through the process of cyanotype prints. The rocks have been captured through frottage, using the mineral graphite. The walker is represented by footprints, a series of connected moments experienced one step at a time.





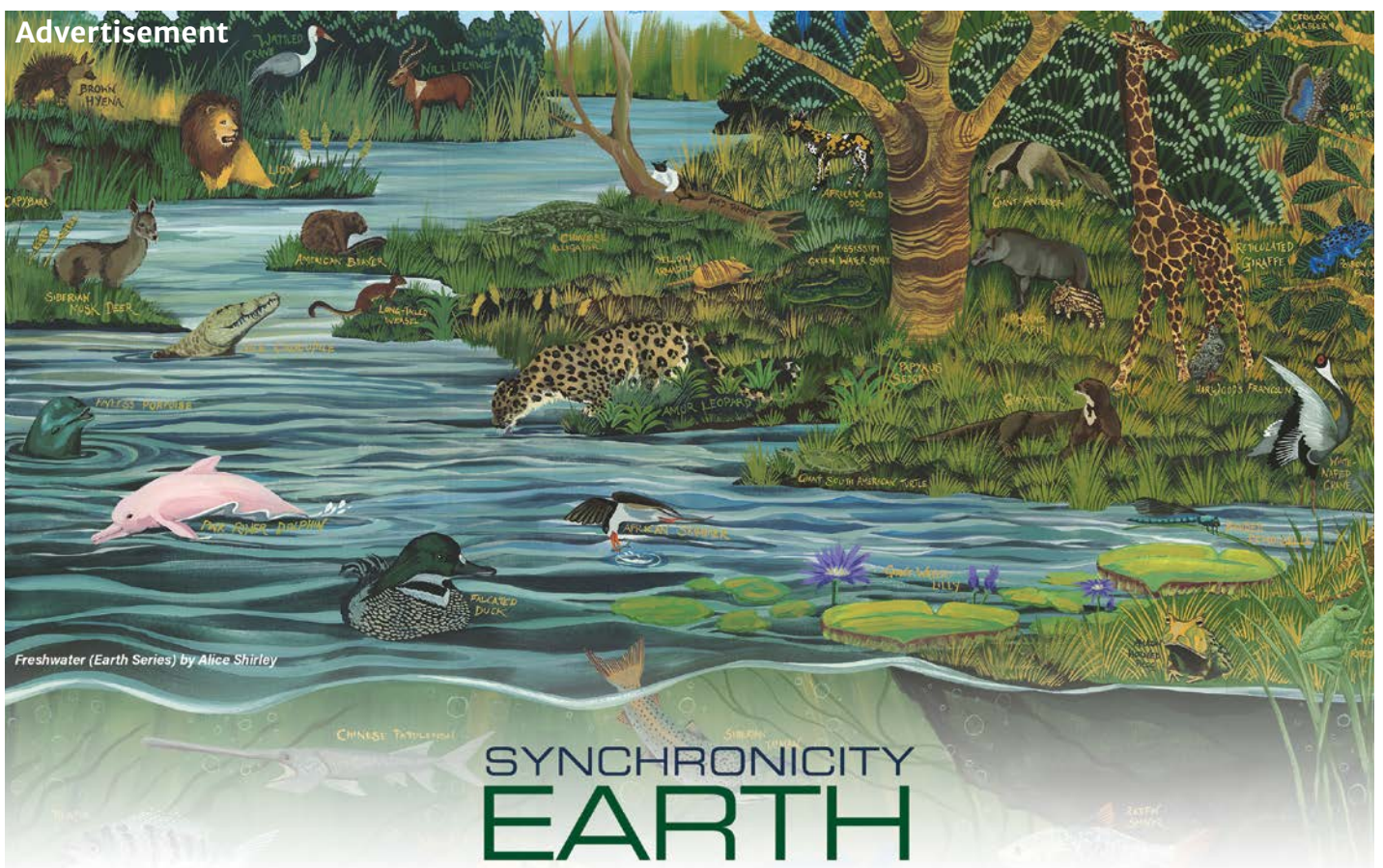
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A vision for an ecocentric society and how to get there

The survival of society may depend upon it becoming governed by the nature of its host bioregions, as occurred in pre-modern times with Australian Aboriginals.

The three most important requirements for establishing a decentralized, locally governed ecocentric society are to:

- 1 adopt a framework of ecological property rights for land, buildings, enterprises and money;
- 2 adopt an ecological form of 'network governance' as was practised in pre-modern societies, and as re-invented in stakeholder-controlled entities;
- 3 encourage a decline in the global population through education and through providing universal basic incomes (UBIs) to remove the need for children to provide care and income for citizens.

These three requirements are mutually reinforcing. Ecological property rights create a way to provide citizens with income-producing assets to fund UBIs and in turn facilitate degrowth. Property rights become ecological, I contend, when rules of ownership adopt the 'use it or lose it' processes that emerge in squatter settlements, for instance (Turnbull, 1983). Ecological governance arises when network-governed social organizations introduce distributed decision-making to create distributed intelligences, enabling a comprehensive management of complexity. The John Lewis Partnership is an example of this, as are ants and bees who collectively decide where, when and how to construct and maintain their complex dwellings. Ecological governance would insure that income was: (a) appropriately distributed; and (b) not captured by the greedy.

Ecological property rights would counter inequality in three ways that economists generally neglect. These are: (i) overpayment of investors in a way not reported by accountants; (ii) windfall gains in urban land created by public investment and by others; and (iii) interest paid on money.

Tax incentives can be used to divert overpayments of investors to stakeholders and others to fund a 'community dividend' or UBI (Turnbull, 2015). Bottom-up decision-making with citizen referendums can provide a way to democratize the wealth of cities from self-financing infrastructure investment (Turnbull, 2017). It requires all windfall gains to be captured by a suburban real estate investment trust owned only by resident voters to eliminate the cost of land for commercial investors and homeowners. This was illustrated by the case of First Garden City Limited, which financed the town of Letchworth, 35 miles north of London in the UK (Purdom, 1913). As land is typically half the price of a dwelling, such self-financing would halve the cost of new homes to generate a virtuous self-reinforcing sustainable process.

Money that has a negative interest rate is ecological because it follows the 'use it or lose it' rule. It would avoid inequality generated from the unfair process of money being able to make more money through earning interest. Ecological money would be highly attractive. It would reduce the current excessive costs of the financial system by eliminating bank and credit card transaction fees. These are ten times greater than the costs of privately issued negative interest rate money used during the Great Depression (Turnbull, 2016). Ecological money would not carry out the conventional roles of money to be a store of value or a unit of value. It would simply become a medium

Shann Turnbull

About the author

Shann is Principal of the International Institute for Self-governance.

Citation

Turnbull S (2018) A vision for an ecocentric society and how to get there. *The Ecological Citizen* 1: 141–2.

Keywords

Ecological economics; ecological governance; societal change

“An ecocentric society would enrich democracy with a more humanistic mix of governance mechanisms.”

of exchange to avoid the inconvenience of barter. A stable index of value should be established independently of the financial system. Real assets, mortgages and equities would provide stores of value.

There are a number of other ways of allocating resources than using markets. These include families, clans, tribes, communities, associations, networks and hierarchies in the private and government sectors. An ecocentric society would enrich democracy with a more humanistic mix of governance mechanisms. A more detailed outline of this vision and how to get there is presented in Turnbull (2015). ■

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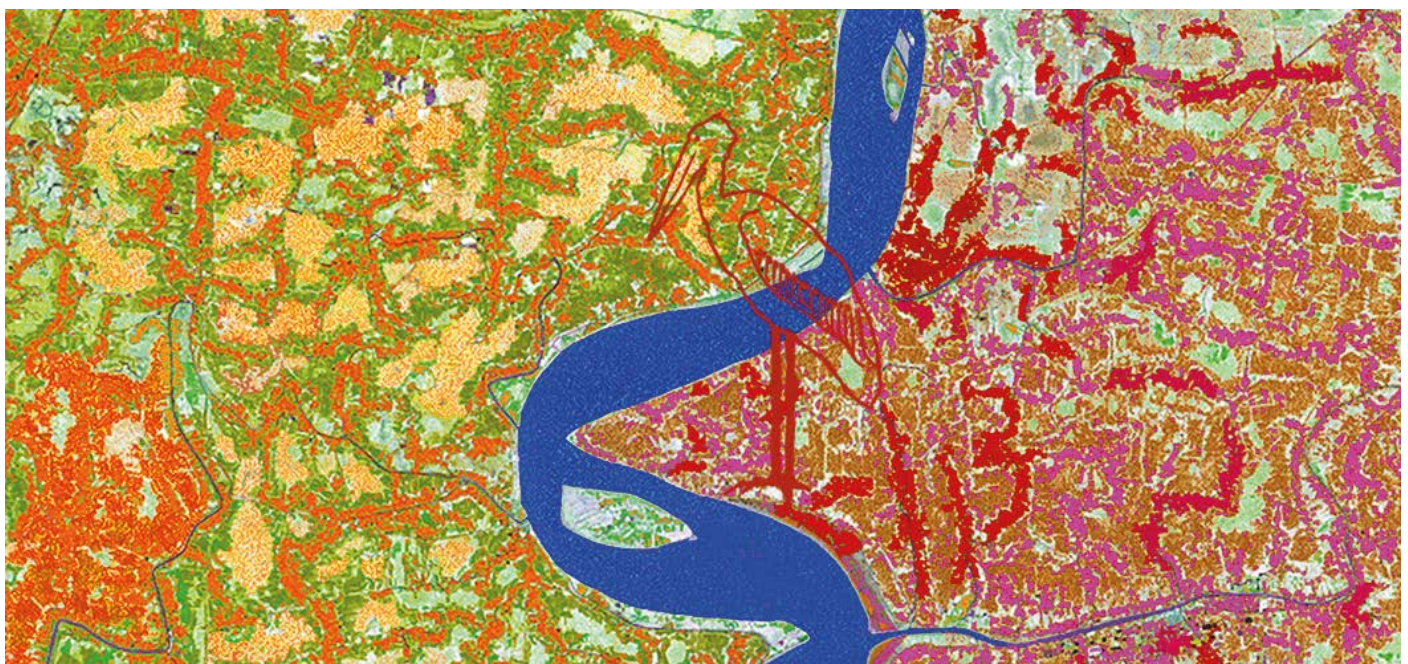
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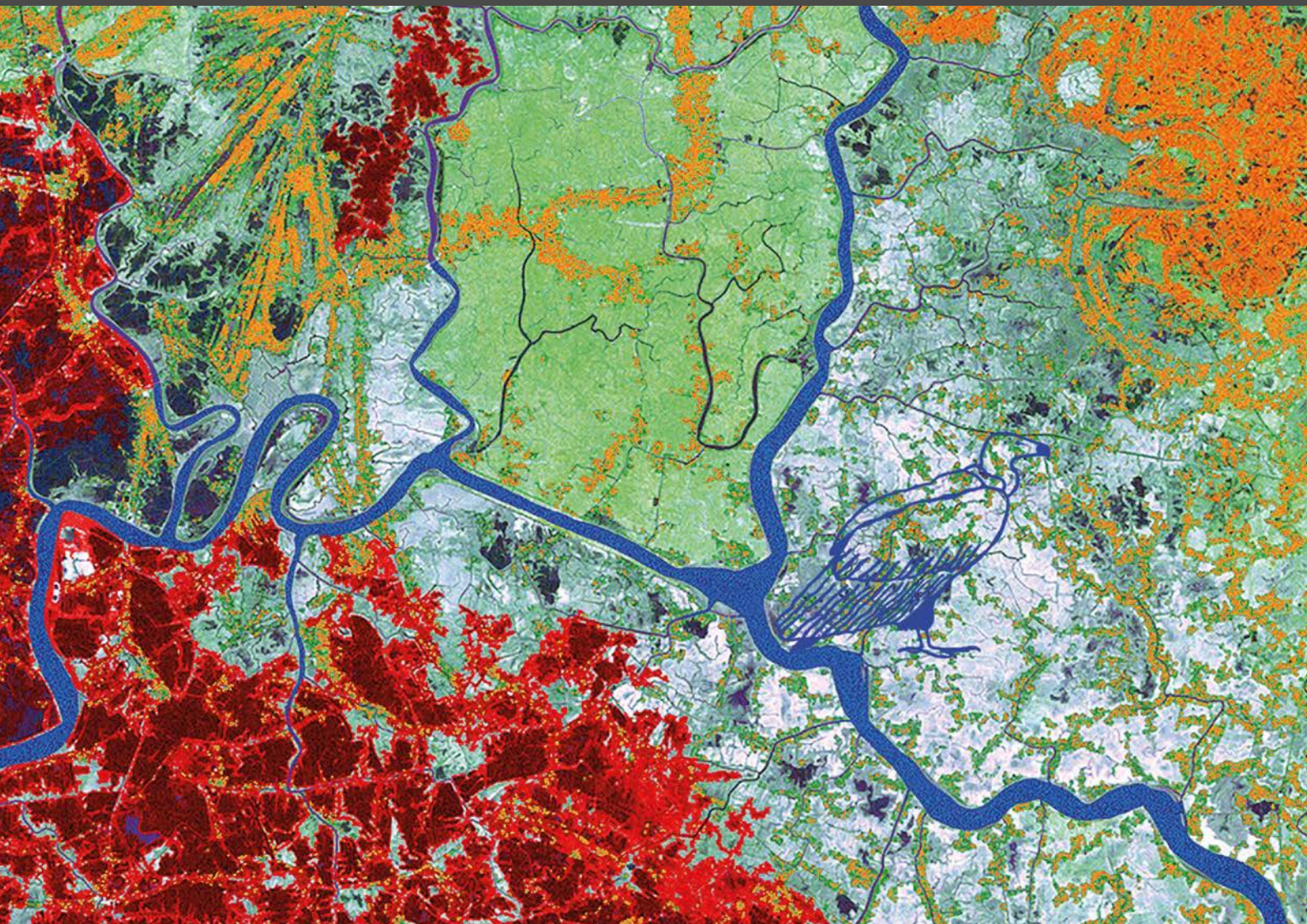
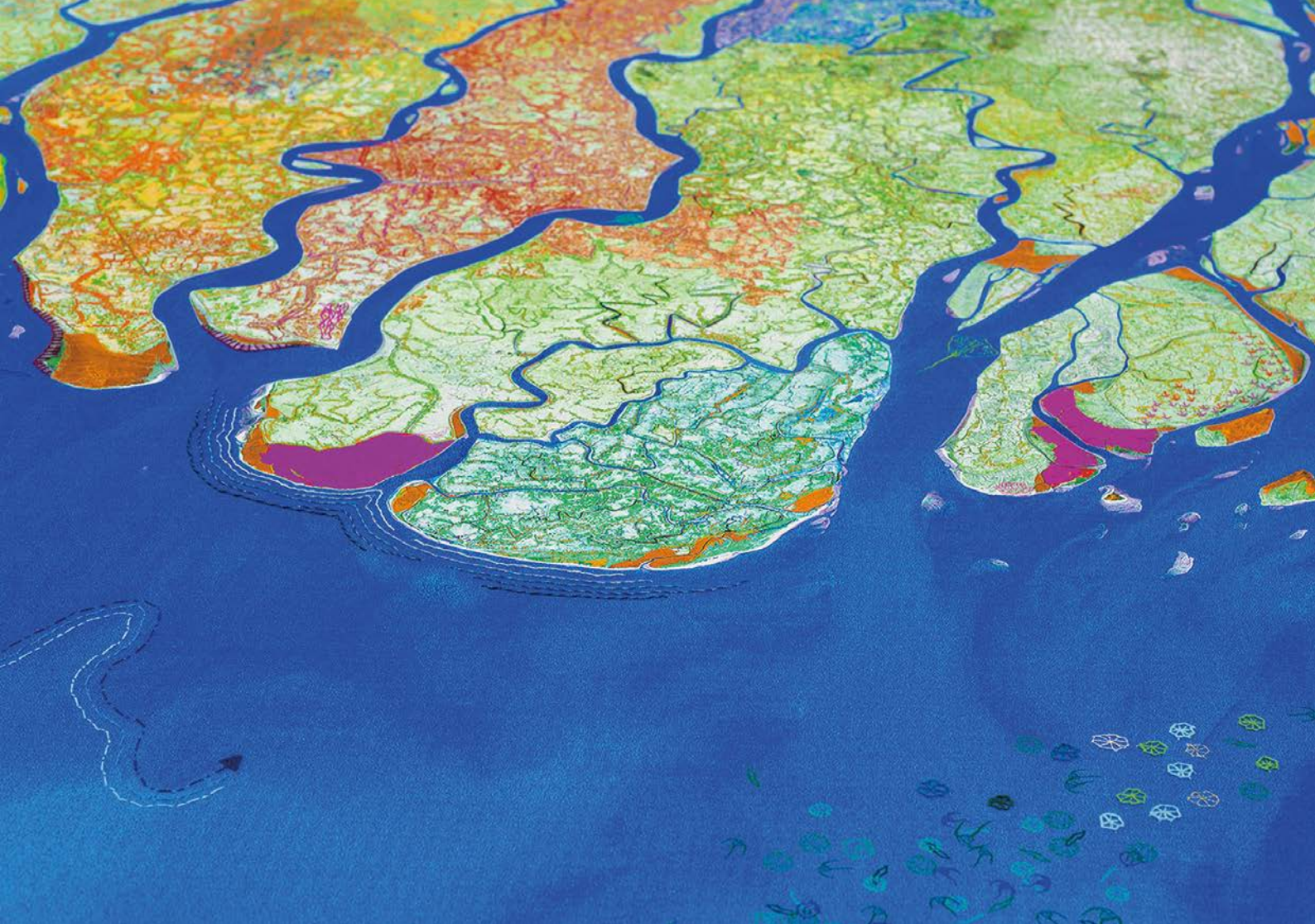
Details from Pani

by **Daksha Patel**

Higher-resolution versions: <https://is.gd/ecoartwork>

About the artwork: *Pani*, a word for water in many South Asian countries, is a new commission for the Horniman Museum, London, UK (2017). The large print merges satellite imagery of coastal planes with drawings of flora and fauna partly hidden in the landscape (they are literally disappearing as a result of water pollution) and traces of embroidery. The colours and threads evoke craft traditions of the region, and they are sewn into the map, suggesting the interconnections between nature and culture: the loss of natural habitat is also a loss to the fabric of human culture. A group of terracotta pots are displayed next to the print, their designs based upon traditional water carrying vessels. Here they are misshapen and deformed, with drawings of chemical pollutants etched into the clay.





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Philosophy Activism Nature is a journal publishing articles, short prose pieces and poetry exploring cultural aspects of environmental crisis and cultural perspectives on resistance and renewal. PAN seeks in particular to provide a forum for the exploration of the interface between ecology and environmental philosophy, on the one hand, and religion, mythology and Indigenous thought on the other. Dialogue between modern science and ancient or more traditional understandings of reality is also encouraged. Recent themed issues include features on Ontopoetics, Plant Ethics, Fungi, Indigenous Ecological Knowledges, and Place, with an issue on Mythopoesis forthcoming. Regular features include an Ontopoetics Forum, Correspondents' Reports, and Book Reviews. PAN is published by Informit Press (<https://is.gd/searchPAN>), but content from back issues is also available at <http://panjournal.net/>.

Armchair ecotourism: A tribute to Edward Abbey

Ecotourism. Can you feel something happening to your neck? No? I'll try again. *Eco – tourism*. Anything now? Well, for me at least, the awkward juxtaposition of our sacred three-letter shorthand and a mega-industry rarely fails to trigger a nervous throbbing above the right shoulder. As the immediate sensation wanes, hyper-critical resolve slowly fills my mind. What about the emissions from the long-haul flights? What about the large financial cut taken by wealthy facilitators? What about the negative ecological impacts of the requisite infrastructure? And are there any measures in place to prevent the introduction of alien organisms – lurking, for instance, in the treads of shoes? Finally, how much benefit is really being delivered to the conservation cause?¹

For any tourist looking for false reassurances that they are doing the right thing without actually restricting their holiday habits, 'ecotourism' is a convenient term. Call it a 'silent conspiracy' or a 'cowardly collusion' – greenwash abounds, and with it emerge wilful recipients. Conversely, those tourists looking for help in tracking down a holiday that is genuinely eco-friendly – from the perspective of all life – will be rightly riled by such obfuscation.

I have no problem with a flow of financial aid from rich to poor countries as a stopgap means of incentivizing conservation activities, but, ultimately, a bright future for the Earth must surely depend on love of nearby nature. In other words, the future of conservation is local. By this I mean people, wherever they are in the world and at whatever stage of 'development', living in harmony with their own ecosystems and challenging

anyone who is causing local ecological harm. In the same vein, I firmly believe that the future of ecotourism, too, must be local.

Peak-oil commentators (e.g. Greer, 2009) predict a future with a dramatic decline in global transport of both people and goods. I find their arguments compelling and, in this way, see an obvious temporal limit on the effectiveness of long-distance ecotourism, even if it can be made to run with net ecological benefit.² Thus, as the predictions of these commentators start to become reality, we will find our 'travel fixes' granted not by an airport but in an armchair.

* * * * *

For no reason that I can describe, I have a deep yearning to visit the desert south of Arizona. However, this would involve an eleven-hour flight each way – bypassing so many other places *en route* – and then lots of driving, and I'd be exerting ecological pressure on an ecosystem from which it would be unfair to expect support for large numbers of non-desert humans. So I've opted, instead, for an armchair surrogate in the form of a second-hand copy of the Time-Life natural history book *Cactus Country*.

The book arrives in the post and, as the words are by Edward Abbey, I must make coffee. Despite the bean-miles,³ this is essential for my immersion in any work by this great writer. The beans are dark-roasted: black, smoking, rich and murderous, as Abbey might have said – indeed, did (1982: 14). I grind them at the last possible moment (it seems sinful to do otherwise). And I do it not with a fancy machine but by hand. Why let a computer chip come between me and the roast, just

Joe Gray

About the author

Joe is a naturalist based in St Albans, UK, who is currently studying for a PhD in conservation. He is a Knowledge Network Expert for the United Nations' Harmony with Nature programme and is an Associate Editor of the Journal.

Citation

Gray J (2018) Armchair ecotourism: A tribute to Edward Abbey. *The Ecological Citizen* 1: 145–7.

Keywords

Conservation;
ecotourism; peak oil

“Abbey travelled far and wide but was in love with the US’s desert south-west – his nearby nature.”

as the entrancing first-sip approaches? Do I sound obsessed with the black stuff? Well so was Abbey.⁴ In *Desert Solitaire* – a series of recollections on his time as a ranger in Arches National Park – he writes (Abbey, 1971: 17–18):

Before beginning the morning chores, I like to sit on the sill of my doorway, bare feet planted on the bare ground and a mug of hot coffee in hand, facing the sunrise.

What more earthly connection could there be?

With the coffee stimulating me in more than a simple chemical sense, I find my consciousness being consumed by the words and photos of *Cactus Country*. While I cannot physically smell the fragrance of burning mesquite or hear the song of the canyon wren, such is the skill of the writer that it hardly matters.

I learn about Gila monsters, javelinas, teddy bear chollas and giant saguaros (education that, incidentally, will enhance my re-reading of other Abbey books, such as his post-collapse *Good News*). On the surface, *Cactus Country* is simply a natural history book, but it effuses Abbey’s philosophy. Describing the elephant tree, for instance, he writes (Abbey, 1973: 73):

Another useless plant, no doubt [...] without anything of economic value for man or beast. It looks like a monstrous turnip trying to struggle up out of the ground. What good is it? You can’t eat it, use it or sell it. True—but there it is.

I am so moved by what I read that I make a donation to the Arizona Wilderness Coalition. This act, and the sense of awe that has inspired it, creates a real connection between me in the UK and the wildlands of Arizona and completes an experience that I proudly label ‘armchair ecotourism’.

* * * * *

Abbey travelled far and wide but was in love with the US’s desert south-west – his nearby nature. Like other ‘desert rats’, as Abbey remarks in *Cactus Country*, he

could not properly describe his captivation with this landscape, but then this is part of its attraction. And, in a similar way, I find myself unable to fully unpick my captivation with Abbey. He was far from perfect,⁵ but he was capable of true ecological humility – of knowing his place in the grand order. In support of this, I cite an anecdote from a trip Abbey made to the Pinacate region – “the final test of desert rathood” – which he describes in *Cactus Country*’s closing chapter (Abbey, 1973: 152–65). Returning from a climb of a volcanic peak in the “awful heat of May,” Abbey and a companion pass La Tinaja Alta, the arid region’s highest natural water tank. They are out of water with two hours’ walking still to go, and so they fill a canteen, almost draining what is left in the basin. From this, a dilemma emerges:

La Tinaja Alta is a very small *tinaja* to begin with and this was the dry season. The bees crawled over the damp rim of the basin, bedraggled and puzzled. Now the bird cries seemed forlorn.

Out in the rocks and brush somewhere crouched other small animals waiting for us to leave, waiting their turn for a drink. We didn’t see them, we didn’t hear them, but we felt them [...]

All the water we had was in the one canteen. We emptied it back into the little stony basin. Not in charity but out of caution. It seemed, after all, no more than a prudent sacrifice to the spirit of the desert.

In ecotourism of the non-armchair variety, we should be striving to emulate this humility. ■

Notes

- 1 For some examples of the conflicts and controversies that exist in ecotourism, see Higham (2007). The text is primarily focused on the development agenda but also presents insight into the ecological predicament, with the chapter on biosecurity being a good example of this.
- 2 Even more significantly, the predictions of peak-oil analysts call into question conservation strategies that are pinned on development. Put

simply, ecological limits make it impossible to get everyone in the world (even assuming that there is no more population growth) anywhere close to the current average standard of living of westerners. Yet, ecotourism, for some at least, goes hand-in-hand with development (see Higham, 2007).

- 3 This has parallels with Abbey's character Doc Jarvis, who – as we learn in *Hayduke Lives!*, a sequel to *The Monkey Wrench Gang* – has been boycotting bananas, beef and even some beer for years, but would not give up coffee, no matter how noble the cause.
- 4 In *The Brave Cowboy*, a relatively short novel, Abbey mentions “coffee” 54 times, frequently pivoting entire sentences around the word.
- 5 Eric Schlosser notes, in his introduction to the 2004 Penguin edition of *The Monkey Wrench Gang*, that Abbey “was a deeply complex, often contradictory person [...] An outspoken opponent of gas-guzzling, air-polluting automobiles, he drove a red Cadillac convertible and enjoyed tossing empty beer cans out of the car.” In his preface to the same book, Robert Redford reflects on an experience on horseback he had with Abbey: “Riding a narrow part of the trail that would overlook a gorge, he would suddenly dismount and pry loose some giant boulder with his feet and send it arching into the deep space below.”

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“Abbey was far from perfect, but he was capable of true ecological humility – of knowing his place in the grand order.”

Shortly after writing this article, the author was thrilled to spend time in a landscape in northern Spain (much more local to his home) with certain ‘Abbey country’ qualities, including ancient rock faces and hidden, seasonally dry *barrancos*. Pictured is the canyon carved out over millions of years by the Rio Vero in the Parque Natural de la Sierra y Cañones de Guara (photo: Joe Gray).

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Adapation and Mitigation

by **Matthew Verdon**

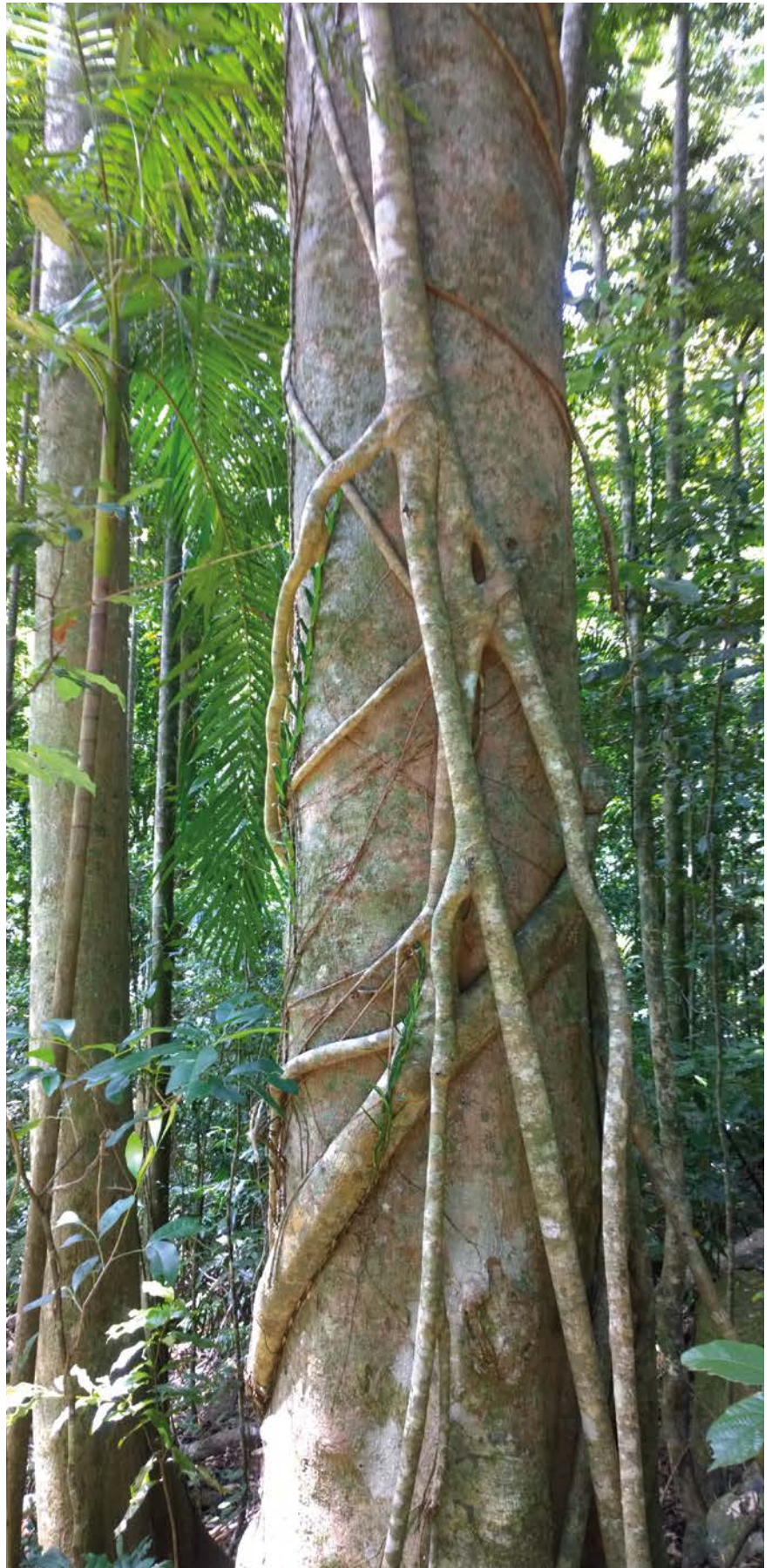
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About the artwork: Photos taken in Kondalilla National Park, Queensland, Australia.

From the artist: The rainforests of the world act as vital carbon sinks and thus are a key component in climate change mitigation.

They convert carbon dioxide into oxygen whilst locking away carbon in the soil. A key species in rainforest ecology is the strangler fig. Seed germination usually takes place high in the canopy of a host tree and the seedling lives as an epiphyte, feeding off the host until its roots reach the ground. It then enlarges and its roots graft together to form a lattice-like structure that envelops the host. The fig outcompetes the host for light, steals its nutrients from the ground and strangles it, eventually becoming a knotted, hollow, freestanding tree that is unsuitable for logging. The abundant fruiting of the fig is thought to sustain more birds and other animals than any other species in the rainforest, and thus the survival of many plants whose seeds are also spread by the same animals are in a sense dependent on the fig. The fig's ongoing survival is itself dependent on a tiny wasp that pollinates the flowers, and these wasps are, in turn, dependent on the fig as the fruits are the only ones in which they can lay their eggs. Just a small increase above current temperatures might shorten the wasp's lifespan to the point that there's insufficient time to find figs and pollinate their flowers. The consequence will be a reduction in population size of a keystone plant and the capability of the overall system to lock away carbon.

Ensuring the survival of the wasp through preserving the rainforests where the figs grow enhances our ability to mitigate against climate change. And survival of the rainforests can only be ensured through the adaptation of our habits in line with economic and social capacities. One thing is systemically and mutually dependent on another.

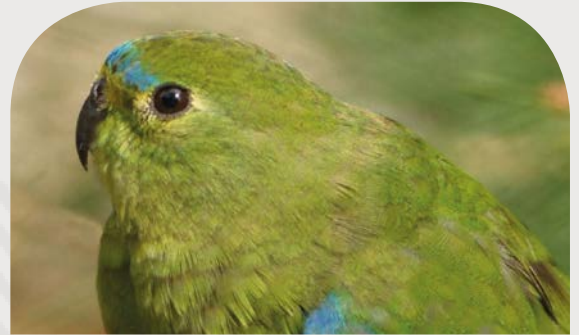




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Singing into the Unknown
by Aino Leskinen



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Original: Pencil, wax
pastel and felt pen
(2017; 210 x 297 mm).

Interview with Captain Paul Watson

About the interviewee

Captain Paul Watson is a Canadian marine conservation activist, who founded the direct-action group Sea Shepherd in 1977. He has been described as “the world’s most aggressive, most determined, most active and most effective defender of wildlife.”

About the questions

The questions were posed by the Journal’s editorial team.

Citation

Watson P (2018) Interview with Captain Paul Watson. *The Ecological Citizen* 1: 152–3.

Keywords

Conservation; direct action; protected areas

Q: What keeps you going? Is it hope, is it uncertainty, or is it courage (or is it perhaps sheer bloody-mindedness)? Or is it a matter of concentrating on our amazing fellow-creatures and their desperate circumstances?

A: In 1973 I was a medic for the American Indian Movement (AIM) during the occupation of Wounded Knee, South Dakota. We were hopelessly outnumbered and surrounded, and the Federal agents were firing thousands of rounds into the village every night. There was zero possibility of us winning. I went to AIM leader Russell Means and I asked him why we were continuing to resist because we could not possibly win. His answer stayed with me the rest of my life. He said, “we are not concerned about winning or losing. We are not concerned about the overwhelming odds against us. We are here taking a stand because it is the right thing to do and the right place to do it.” An expression that sums it up is *Hoka hey* – taken by many as meaning “it’s a good day to die!” in the Lakota language. We must be prepared to take a stand in the present to make it a better world for tomorrow. I am always optimistic because I believe that the answer to a seemingly impossible problem is to find an impossible solution and I believe that imagination and courage driven by passion is the path to finding impossible solutions.

Q: Do you see any or much hope for an ecologically viable Earth, including the oceans and their life?

A: We either learn to live in harmony with other species by living in accordance with the basic laws of ecology or we go extinct. The

laws are diversity, interdependence and finite resources. If we continue to steal carrying capacity from other species, we will diminish both diversity and interdependence and our life support systems will crash.

Q: In a related fashion, do you see an ecocentrically viable way forward for humans to take collectively? If so, what does it look like? And how could we try to promote it? To put it another way, is there a path forwards (or back) that leads to life, rather than our current death spiral?

A: We must save our primary life support system, the ocean. To do that we need to give the ocean time to repair itself and that means a moratorium on all commercial exploitation of the sea for at least 50 years. We can take a lesson from the Polynesians, who declared areas *kapu* for 20–30 years. Bays were declared to be off limits for fishing to allow the ecosystems to recover. The penalty for breaking *kapu* was death because they knew that if the fish died, they would die also. There are no *kapu* areas in the world today. Phytoplankton populations have been diminished by 40% since 1950. No phytoplankton means diminished oxygen and that means mass extinction. My guiding slogan is a simple one: if the ocean dies, we all die.

Q: How do you respond to the charge that has been put against you of misanthropy? [The Editors note how unjust it is in this case.]

A: I am a biocentric. I view humanity as part of the diversity of life. We are not, have never been, nor can we ever be dominant over other life forms.

Plankton, worms, trees, fish and bees are more important than humans for the very simple reason that we cannot live in a world without them but they can live quite successfully without us. We need them and they don't need us and that is a fact. I do not view humans as more important than other species. People may call it 'misanthropy' if that is what they are inclined to do and that does not bother me because I expect such distractions and reactions from anthropocentric minds.

Q: A commitment to the integrity of the Earth and its ecosystemic health can clash with a commitment to saving the lives of individual creatures. This happens most obviously in cases such as invasive species on islands, but an overriding concern with the former could also be seen as taking time and energy away from the latter. Do you see this contradiction – or at least, difference in emphasis – as a problem? If so, how could it be resolved or at least reduced in practice?

A: As an ecologist, I understand that the rights of a species to survive take priority over the rights of exotic individuals or individuals that threaten the survival of indigenous species. If exotics can be captured and relocated that is best, and, if not, they should be removed

as humanely as possible. If it is a choice between the survival of Galapagos tortoises and introduced goats, the goats should be removed by capture or lethal means. Of course the ultimate exotic is humanity and I do support setting aside large tracts of wilderness as human no-go areas.

Q: What advice do you have for other ecological activists and campaigners?

A: Be passionate and let loose your imagination and have the courage to do so. Don't be discouraged by negativity or criticisms. Be respectful of diversity within social movements. There are many approaches – litigation, legislation, education or direct action. Each approach should complement the other approaches.

Q: How can *The Ecological Citizen* and its readers support your work?

A: We have the largest non-governmental navy on the planet and these ships are expensive. We need contributions, we need volunteers both on the ships and on shore, and we need the skills, abilities and commitment of people around the globe in this great endeavour to save humanity from ourselves. ■

“Plankton, worms, trees, fish and bees are more important than humans for the very simple reason that we cannot live in a world without them but they can live quite successfully without us.”



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Interview with Paul Ehrlich

About the interviewee

Paul is President of the Center for Conservation Biology and Bing Professor of Population Studies at Stanford University, Stanford, CA, USA. His books include the 1968 bestseller *The Population Bomb*.

About the questions

The questions were posed by the Journal's editorial team.

Citation

Ehrlich PR (2018) Interview with Paul Ehrlich. *The Ecological Citizen* 1: 154–5.

Keywords

Biodiversity; overpopulation; societal change; sustainability

Q: To what extent did your early research training in populations of non-human species, such as butterflies, inform the development of your view on the threats posed by human overpopulation?

A: It informed them very much, since the basic rules of ecology apply to human beings as well as all other animals. My training in population dynamics (how population sizes change) and population genetics (evolution) were especially valuable.

Q: How would you counter the arguments presented by latter-day techno-cornucopians (such as the Breakthrough Institute) that neo-Malthusians will continue to be 'proved wrong'?

A: There are several ways. First of all, humanity still has hundreds of millions of hungry people despite the brags of the techno-twits, it is rapidly reducing the populations of other organisms with which it shares space and resources (half of wildlife has gone in the last 40 years) and upon which it depends for critical ecosystem services, increasing human numbers are altering the climate in ways that may end civilization, and, of course, the second law of thermodynamics tells us there are definite limits to growth.

Q: Do you think that the 'Netherlands Fallacy' (the incorrect assertion that ecological impacts of a nation are limited to impacts within the nation's borders only) has become more common in recent years?

A: Rather than there now being a better understanding of the issues, it has become more widespread,

at least in the US, as Americans fail to see the global environmental impacts of the American empire.

Q: Do you feel that ecocentrism and biocentrism as worldviews are waxing or waning?

A: Sadly, I feel that such worldviews are waning, at least in Trump-world.

Q: What do you believe to be the most promising means of curbing global population growth? And, in this regard, where do you think foreign aid should best be directed?

A: There needs to be a great drive towards giving women equal rights and opportunities with men everywhere and providing modern contraception and back-up abortion to all sexually active individuals. Foreign aid should be aimed at the latter in a context of improving healthcare overall for everyone. We must take good care of all people already here, while working to reduce the size of the human population to one that is sustainable in the foreseeable future. In rich countries we should promote the idea that having more than two children is unethical, and that two is now ethically marginal.

Q: What are your thoughts on migration from poorer to richer countries?

A: This is something that is inevitable and it will greatly increase as long as large international inequities are maintained.

Q: How do you see the debate about 'optimum population size' evolving over the coming decades? And

how can concerned citizens best influence that debate?

A: It will probably become moot as the collapse worsens. Time has come for concerned citizens to work to soften the collapse and, perhaps more importantly, plan for a possible 'reset' that will not lead to another round of growth mania and collapse. Above all, we must fight the ubiquitous insanity that economic growth is a cure – it is the disease.

Q: **What should *The Ecological Citizen* do to help promote population reduction and ecological footprint reduction?**

A: You should push the slogan of 'stop at two', fight all kinds of discrimination, especially by gender and race (we'll need cooperation to keep the collapse from being so severe that no reset is possible), push a discussion of consumption control among the rich, and promote redistribution rather than growth to improve civilization's chances.

Q: **What – if anything – gives you hope for the immediate future of life on Earth?**

A: I'll have no hope unless I see major politicians start talking about the need to shrink the size of the human enterprise. ■

“In rich countries we should promote the idea that having more than two children is unethical, and that two is now ethically marginal.”



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We are inviting artists to submit artworks to *The Ecological Citizen*. We are looking for a range of artworks that fit with the ecocentric ethos of the Journal. Artworks may relate to the Journal's topic areas (see www.ecologicalcitizen.net/about.html), or be images of animals and other nature including but not limited to: observational drawings, landscapes of all kinds, macro and cosmic perspectives, and animal vision. We are also looking for artists to respond to written articles with smaller drawings; please contact the Art Editor, via the contact form linked to below, if you would be interested in making work specifically in response to submitted articles.

Artworks must be suitable to place in an online journal format, to fit onto A4 pages, and should be provided in high resolution (300 dpi) at intended size for the A4 page.

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Entering the Forest

by **Lars Schmidt**

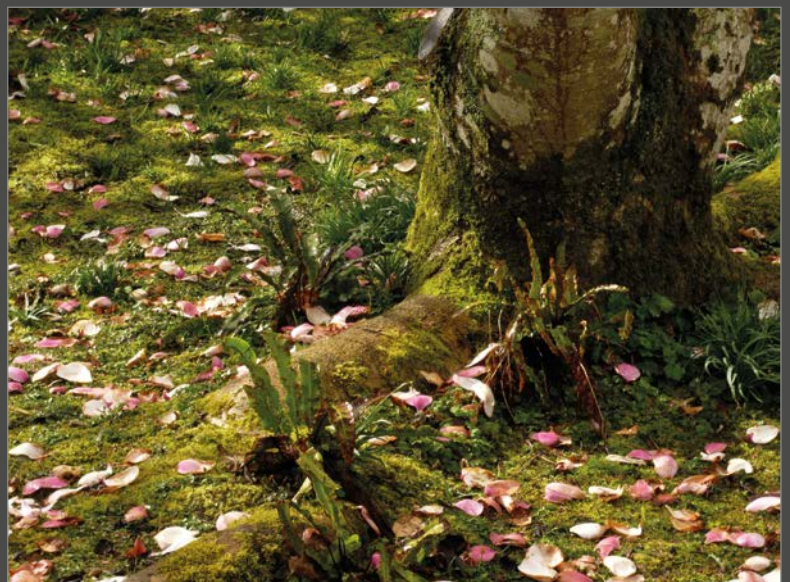
*Entering the forest he moves not the grass
Entering the water he makes not a ripple*

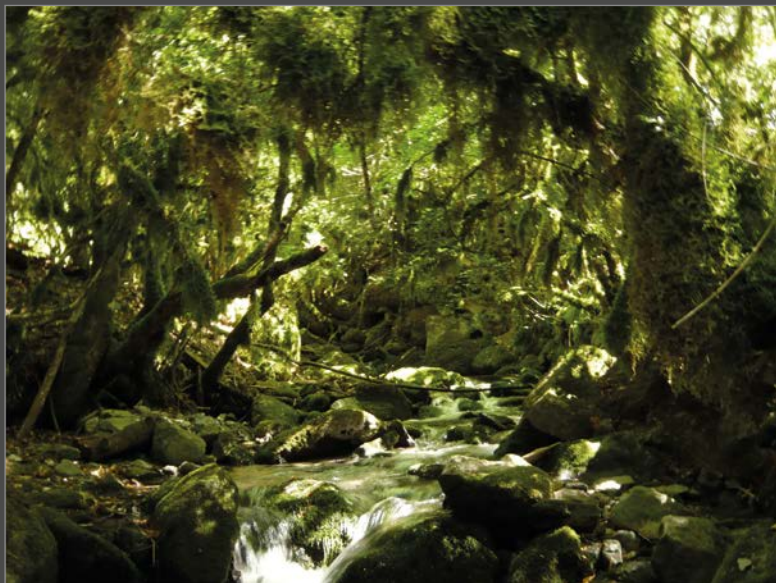
Zenrin Kushu

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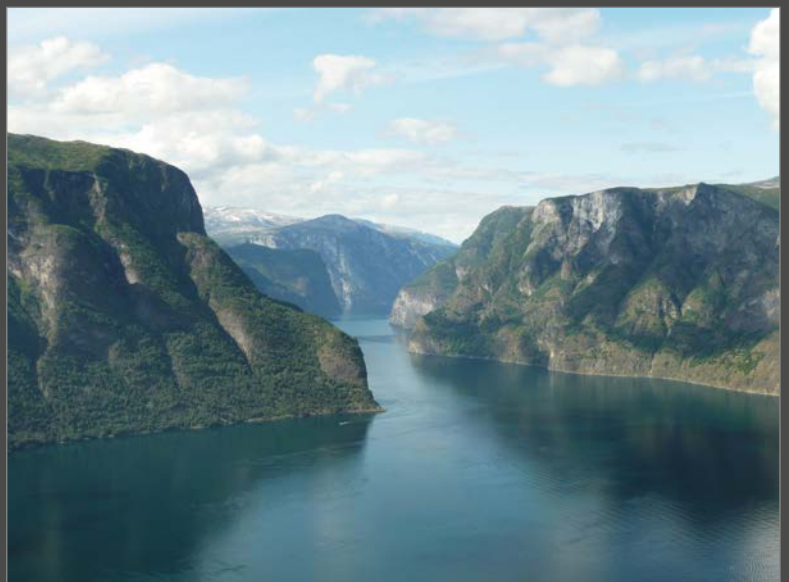
About the artist: Lars is a multidisciplinary artist who describes himself as a builder of bridges at the margins of art and ecological thinking. He holds a Diploma of Applied Permaculture Design.

About the artworks: Photos printed on Hahnemühle FineArt Photo Rag (21.7 x 16.2 cm).









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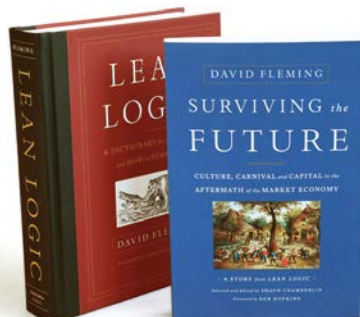
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A dictionary unlike any other, *Lean Logic: A Dictionary for the Future and How to Survive It* leads readers through renegade economist David Fleming's exploration of fields as diverse as culture, history, science, art, logic, ethics, myth, economics and anthropology.

The choice of this all but bygone form—a written dictionary—to express his views of a future beyond industrial capitalism was characteristic of Fleming's wit, whimsy and rebellion. Its more than 400 entertaining essay-entries include **Boredom, Community, Debt, Growth, Harmless Lunatics, Land, Lean Thinking, Nanotechnology, Play, Religion, Spirit, Trust and Utopia**, and are complemented by a foreword by Jonathon Porritt.

Alongside *Lean Logic* sits a paperback version, *Surviving the Future: Culture, Carnival and Capital in the Aftermath of the Market Economy*, edited by Shaun Chamberlin and with a foreword by Rob Hopkins. This presents Fleming's rare insights and uniquely enjoyable writing style in a more conventional read-it-front-to-back format. And the book's subtitle hints at Fleming's compelling alternative.

Fleming died unexpectedly in 2010, and *Lean Logic* represents a masterpiece more than thirty years in the making. Together, these books examine the consequences of an economy that is destroying the very foundations—ecological, economic and cultural—upon which it is built. Knowing that collapse is the only possible outcome, he asked, and envisioned, "What could follow?"



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Anthropocene boosters and the attack on wilderness conservation

In the past few decades, a group of wilderness critics inside and outside of academia have argued that humans have so completely modified the Earth that we should give up on the notion that there is any place wild. Instead, the argument of these 'Anthropocene boosters' goes, we should recognize that we have already domesticated, in one fashion or another, the entire planet for human benefit. This article details and refutes the assertions made by the Anthropocene boosters against wilderness and protected areas. In it, the author also explores what individuals can do to defend the ideas of wilderness and protected areas against this attack. The ultimate rationale for 'keeping the wild', observes the author, is the realization that there is intangible and intrinsic value in more-than-human nature.

There is a growing debate that has serious consequences for our collective relationship to nature. Beginning perhaps 20 years ago, a number of academics in disciplines such as history, anthropology and geography began to question whether there was any genuine wilderness or wildlands left on Earth. These academics, and others, have argued that humans have so completely modified the Earth that we should give up on the notion that there is any place wild and instead recognize that we have already domesticated, in one fashion or another, the entire planet for human benefit.

These individuals and groups are identified under a range of different labels, including 'green postmodernists', 'neo-environmentalists', 'neo-greens', 'new conservationists' and 'pragmatic environmentalists', but the most inclusive label to date is 'Anthropocene boosters' and so that is the term I will use in this article.

The Anthropocene boosters' approach does not account for the intrinsic value of non-humans, and following such anthropocentric ideology risks further escalating loss of biodiversity. The basic premises of their argument are that humans have lived everywhere except Antarctica and that it is absurd to suggest that nature exists independent of human influences.

Wilderness was, just like everything else on Earth, a human cultural construct that does not exist independently of the human mind (Cronon, 1995). With typical human hubris, Anthropocene boosters suggest that, instead of the outmoded term 'Holocene', we need a new name for our geological epoch that recognizes human achievement.

These critics argue not only that humans now influence the Earth to the point there is no such things as an independent 'nature', but that we have a right and an obligation to manage the Earth as if it were a giant garden waiting for human exploitation (Marris, 2011). Of course, there are many others, from politicians to religious leaders to industry leaders, who hold the same perspective, but what is different about most Anthropocene boosters is that they suggest they are promoting ideas that ultimately will serve both humans and nature better.

Others, however, argue that we need to consider more than just human interests, and that all species have an intrinsic value that must be honoured. If a species, or even an ecological process, has value then we have a moral obligation to protect and preserve it (Rolston, 2015; Batavia and Nelson, 2017).

From this beginning, numerous other critiques of wilderness and wildness have added to the chorus. Eventually these ideas

George Wuerthner

About the author

George is a photographer, author and activist who has had more than 30 books published on America's wild places. He lives in Bend, OR, USA.

Citation

Wuerthner G (2018) Anthropocene boosters and the attack on wilderness conservation. *The Ecological Citizen* 1: 161–6.

Keywords

Anthropocentrism; conservation; nature; protected areas; wildlands

found a responsive home in some of the largest corporate conservation organizations such as the Nature Conservancy, as well as think tanks like the Breakthrough Institute, the Long Now Foundation, the Reason Foundation and others.¹

Rebutting the Anthropocene boosters' assertions

The Anthropocene boosters make a number of assertions (Kareiva *et al.*, 2012):

- 1 Pristine wilderness never existed; or if it did, it is now gone. Making wilderness protection the primary goal of conservation is a failed strategy.
- 2 The idea that nature is fragile is an exaggeration. Nature is resilient.
- 3 Conservation must serve human needs and aspirations, and it must do so by promoting growth and development.
- 4 Managing for 'ecosystem services', not biodiversity protection, should be the primary goal of conservation.
- 5 Conservation efforts should be focused on human-modified – or 'working' – landscapes, not creating new strictly protected areas such as national parks and wilderness reserves. Wildlands protection is passé.
- 6 Corporations are the key to conservation efforts, so conservationists should partner with corporate interests rather than criticize capitalism or industry.

Furthermore, in order to garner support for these positions, conservation strategies like creation of national parks and other reserves are attacked as 'elitism', 'cultural imperialism' or 'colonialism'.

Many holding these viewpoints seem to relish the idea that humans are finally 'masters of the Earth'. They celebrate technology and the 'path of progress' and believe it will lead to a new promised land where nature is increasingly bent to human desires, while human poverty is alleviated. For instance, Stewart Brand, of Whole Earth Catalog fame, embraces the idea of altering evolution with genetic modifications of species by 'tweaking' gene pools (Brand, 2015). Geographer Ernie Ellis is optimistic, writing that "[m]ost

of all, we must not see the Anthropocene as a crisis, but as the beginning of a new geological epoch ripe with human-directed opportunity" (Ellis, 2011).

These trends and philosophical ideas are alarming to some of us who work in conservation. The implications of these goals and observations imply no limits upon the consumption that is destroying the planet's ecosystems and contributing to a massive extinction of species. Whether intentional or not, these ideas justify our current rapacious approach that celebrates economic and development growth. These ideas represent the techno-optimism of a glorious future, where biotech, geoengineering and nuclear power, among other 'solutions' to current environmental problems, save us from ourselves.

Many Anthropocene boosters believe that expansion of economic opportunities is the only way to bring much of the world's population out of poverty. This is a happy coincidence for global industry and developers because they now have otherwise liberal progressive voices leading the charge for greater domestication of the Earth. But whether the ultimate goals are humane or not, these proposals appear to dismiss any need for limits on human population growth, consumption and manipulation of the planet.

Many of those who are advocating the Anthropocene Booster worldview, either implicitly or explicitly, see the Earth as a giant garden that we must 'steward'. In other words, we must domesticate the planet to serve human ends. But the idea of commodifying nature for economic and population growth is morally bankrupt. It seeks only to legitimize human manipulation and exploitation and ultimately is a threat even to human survival.

Keeping the Wild, a book that I co-edited (Wuerthner *et al.*, 2014), explains why this is so. It advocates a smaller human footprint where wild nature thrives and humans manage ourselves rather than attempt to manage the planet.

Next, let us examine the assertions in more detail.

“The idea of commodifying nature for economic and population growth is morally bankrupt. It seeks only to legitimize human manipulation and exploitation and ultimately is a threat even to human survival.”

'Pristine wilderness'

First is the Anthropocene boosters' assertion that 'pristine' wilderness never existed, and, even if it did, wilderness is now gone. Boosters never define what exactly they mean by wilderness, but their use of 'pristine' suggests that they define a wilderness as a place that no human has ever touched or trod on (Marris, 2012).

That sense of total human absence is not how wilderness advocates define a wild place. Rather, the concept of a wilderness is related to the *degree* of human influence. Because humans have lived in all landscapes except Antarctica does not mean that human influence is uniformly distributed. Wilderness should be viewed as those places largely influenced by natural forces, rather than dominated by human manipulation and presence. Downtown Los Angeles is without a doubt a human-influenced landscape, but a place like Alaska's Arctic National Wildlife Refuge is certainly not significantly manipulated or controlled by humans. Though, certainly, low numbers of humans have hunted, camped and otherwise occupied small portions of the refuge for centuries, the degree of human presence and modification is small. The Arctic Refuge lands are, most wilderness advocates would argue, self-willed. By such a definition, there are many parts of the world that are to one degree or another largely self-willed.

Proponents of the Anthropocene often have a ready rejoinder that wild nature is a myth: "We create parks that are no less human constructions than Disneyland" (Kareiva *et al.*, 2012). But such a response seeks to ignore that there is a real nature out there, which exists irrespective of whether we wish to acknowledge it as independent of humans (as hurricanes, earthquakes and wildfires prove).

'Nature is resilient'

Peter Kareiva, the Nature Conservancy's former Chief Scientist, is one of the more outspoken proponents of the idea that nature is not fragile, but resilient. Kareiva says: "[i]n many circumstances, the demise of formerly abundant species can be inconsequential to ecosystem function" (Kareiva *et al.*, 2012). He

cites as an example the loss of the passenger pigeon, once so abundant that its flocks darkened the sky, whose demise, according to Kareiva, had "no catastrophic or even measurable effects" (Kareiva *et al.*, 2012).

Stewart Brand also sees no problem with extinction. Brand recently wrote "[t]he frightening extinction statistics that we hear are largely an island story, and largely a story of the past, because most island species that were especially vulnerable to extinction are already gone" (Brand, 2015). Indeed, Brand almost celebrates the threats to global species because he suggests that it will drive evolution and increase biodiversity in the long run. Such a cavalier attitude towards the demise of species, and the normalizing of species declines, undermines the efforts of many conservation organizations to preclude these human-caused extinctions.

Many biologists disagree with Brand and the authors he references. They believe we have entered, or are on the verge of, a sixth mass extinction. There have been other mass extinctions, but this is a preventable one. We know it is occurring and that its cause is human domination of the Earth and its resources.

There is something callous in asserting that it is acceptable for humans knowingly to drive species to extinction. There seems to be no expression of loss or grief that we are now pushing many species towards extinction. Humans have survived the Black Plague, the Holocaust and many other losses over the centuries, but one does not celebrate these.

'Conservation must serve human needs'

Another pillar of the Anthropocene boosters' platform is that conservation's main purpose must be to enhance and provide for human needs and desires. Of course, one consequence of conservation is that protected landscapes nearly always provide for human needs – contributing clean water, biodiversity conservation (if you think that is important) and moderation of climate change, to name a few examples. However, the main rationale for conservation should

“There is something callous in asserting that it is acceptable for humans knowingly to drive species to extinction.”

“The general scientific consensus is that parks, wilderness reserves and other lands where human exploitation is restricted provide greater protection of ecosystems and biodiversity.”

surely be much broader and more inclusive. Despite the fact that most conservation efforts do have human utilitarian value, the ultimate measurement of value ought to be how well conservation serves the needs of the other species we share the planet with.

The problem with Anthropocene boosters' promotion of growth and development is that most species losses are due to habitat losses. Without reigning in human population and development, plants and animals face a grim future with less and less habitat, not to mention the changes in any remaining habitat that makes survival difficult if not impossible. Even when species do not go extinct, the diminishing of their ecological effects can also lead to biological impoverishment – for instance, when top predators are eliminated from ecosystems.

‘Conservation should focus on “working landscapes” not creation of more parks and wilderness’

The term ‘working landscapes’ was invented by the timber industry to put a positive spin on their rapacious operations. Americans, in particular, look favourably upon the ‘work ethic’, and industry coined the phrase to capitalize on that cultural perspective. Working landscapes are typically lands exploited for economic development including logging, livestock grazing and farming.

While almost no conservationists would deny that there is vast room for improvement in these exploited landscapes, the general scientific consensus is that parks, wilderness reserves and other lands where human exploitation is restricted provide greater protection of ecosystems and biodiversity (Wuerthner *et al.*, 2015). For this reason, many scientists, including such eminent biologists as Harvard biologist EO Wilson, are calling for protecting at least half of the Earth's terrestrial landscapes as parks and other reserves (see www.natureneedshalf.org).

‘Conservationists should stop criticizing corporations’

Some Anthropocene boosters believe that conservationists should stop criticizing corporations and work with them to

implement more environmentally friendly programmes and operations.

Almost all conservationists would argue that corporate entities should adopt less destructive practices. However, it is overdevelopment that is the ultimate threat to all life, including our own. Implementing so called ‘sustainable’ practices may slow the degradation of the Earth's ecosystems and species decline, but most such proposals only create ‘less unsustainable’ operations. At a fundamental level, the promise of endless growth on a finite planet is a dead-end street, and it is important for conservationists to harp on continuously about that message. To halt criticisms of corporations invites greenwashing and precludes any effective analysis of the ultimate problems of development and growth.

‘National parks and reserves are a form of cultural imperialism’

Many Anthropocene boosters, in order to validate their particular view of the world, go beyond merely criticizing environmental and conservation strategies. They seek to delegitimize parks and other wildland protection efforts by branding them with pejorative terms like ‘cultural imperialism’ and ‘colonialism’.

The creation of parks and protected areas began with Yellowstone National Park in 1872 (or arguably Yosemite, which was a state park earlier). The general theme of the Anthropocene boosters is that this model has been ‘exported’ and emulated around the world, and that Western nations are forcing parks upon the poor at the expense of their economic future. Notwithstanding that nearly all cultures have some concept of sacred lands or places that are off limits to normal exploitation, to denigrate the idea of parks and wildlands reserves as ‘imperialism’ because it originated in the US is crass. It is no different than scorning democracy as ‘Greek imperialism’ because many countries now aspire to adopt democratic institutions. Western countries also ‘export’ other ideas like human rights and racial equality, and few question whether these ideas represent ‘imperialism’.

Of course, one of the reasons protected areas are so widely adopted is because they ultimately are better at protecting ecosystems and wildlife than other less protective methods. But it is also true that strictly protected areas have not prevented the loss of species and habitat, although in many cases they have slowed these losses. When parks and other reserves fail to safeguard the lands that they are set aside to protect, it is typically due to a host of recognized issues that conservation biologists frequently cite, including small size, lack of connecting corridors, lack of enforcement and underfunding. To criticize parks for this is analogous to arguing we should eliminate public schools because underfunding, lack of adequate staffing and other well-publicized problems often result in less than desirable educational outcomes. Just as the problem is not with the basic premise of public education, the oft-cited difficulties for parks are not a reason to jettison them as a foundation for conservation strategies.

Another criticism is that strictly protected parks and other reserves harm local economic activities and sometimes subsistence activities too. In reality, that is what parks and other reserves are designed to do. We create strictly protected areas precisely because ongoing resource exploitation does harm wildlife and ecosystems – if it did not we would not need parks or other reserves in the first place. While park creation may occasionally disrupt local use of resources, we regularly condone or at least accept the disruption and losses associated with much more damaging developments. The Three Gorges Dam in China, for example, displaced millions of people. Similar development around the world has displaced and impinged upon indigenous peoples everywhere. Indeed, in the absence of protected areas, many landscapes are ravaged by logging, ranching, oil and gas extraction, mining and other resource development practices, often to the ultimate detriment of local peoples and, of course, the ecosystems they depend upon.

In the interest of fairness, I would agree that people severely impacted by park creation should be compensated in some way. However, it should also be recognized that the benefits of parks and other wildlands reserves are nearly always perpetual, while logging the forest, killing off wildlife and other alternatives are usually less permanent sources of economic viability.

What you can do

The threat to wildlands from Anthropocene boosters is real. The best antidote to their critiques is education and context. Wherever you read critiques of parks and wildlands, write a response addressing their misinformation, using the information in this article and the books I have helped to publish, including *Keeping the Wild* (Wuerthner *et al.*, 2015) and *Protecting the Wild* (Wuerthner *et al.*, 2015). Both books have essays that challenge and refute all the fundamental assumptions commonly asserted by Anthropocene boosters.

However, the real answer, perhaps, is more personal involvement with nature. So encourage Anthropocene boosters to spend a little time in a wild place. I find it difficult to believe that anyone who has spent serious time in a wild place could maintain that wilderness and wildness are not real and just a human cultural construction. A few weeks in the Arctic Refuge, or even the backcountry of Yellowstone, might cure such naysayers of their myopic perspective.

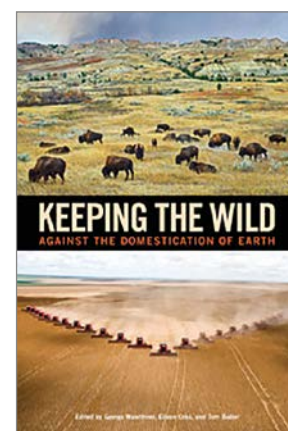
Conclusion

The wild does have economic and other benefits for human well-being. However, the ultimate rationale for 'keeping the wild' is the realization that there is intangible and intrinsic value in protecting nature. Keeping the wild is about human self-restraint and self-discipline. By setting aside parks and other reserves, we, as a society and a species, are making a statement that we recognize our moral obligation to protect other life forms (Piccolo, 2017). And while we may have the capability to influence the planet and its biosphere, we lack the wisdom to do so in a manner that does not harm. ■

Recommended books

The books mentioned by the author in the "What you can do" section, and detailed below, are both on the Ecocentric Alliance's list of recommended ecocentric reading, which can be accessed via the following link:

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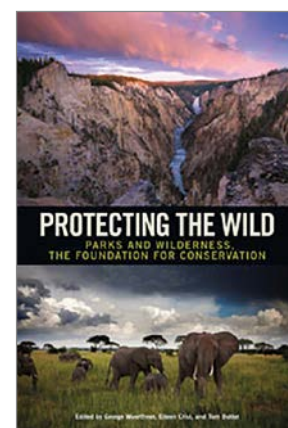


Year: 2014

Publisher: Island Press

Paperback ISBN:
978-1610915588

E-book ISBN:
978-1610915595



Year: 2015

Publisher: Island Press

Paperback ISBN:
978-1610915489

E-book ISBN:
978-1610915519

“The threat to wildlands from Anthropocene boosters is real. The best antidote to their critiques is education and context.”

Notes

¹ For more information, see <https://www.nature.org>, <https://thebreakthrough.org>, <http://longnow.org> and <http://reason.org>, respectively.

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Patrick Curry, Editor-in-Chief

We are inviting authors to submit contributions to *The Ecological Citizen*. The pieces that we are seeking include: Long Articles (in general, 2500–3000 words plus up to 30 references, but please see the note below about the possibility for lengthier pieces*); Opinions (400–500 words plus up to five references); Reflections (1000–1250 words plus up to ten references); Book and Culture Reviews (500–1000 words); and Meeting Reports (500–750 words). And we are interested in receiving contributions from a wide spectrum of authors, including philosophers, scientists, naturalists, indigenous thinkers, theologians, activists and poets. We are particularly interested in pieces with practical messages offering a ‘way forward’.

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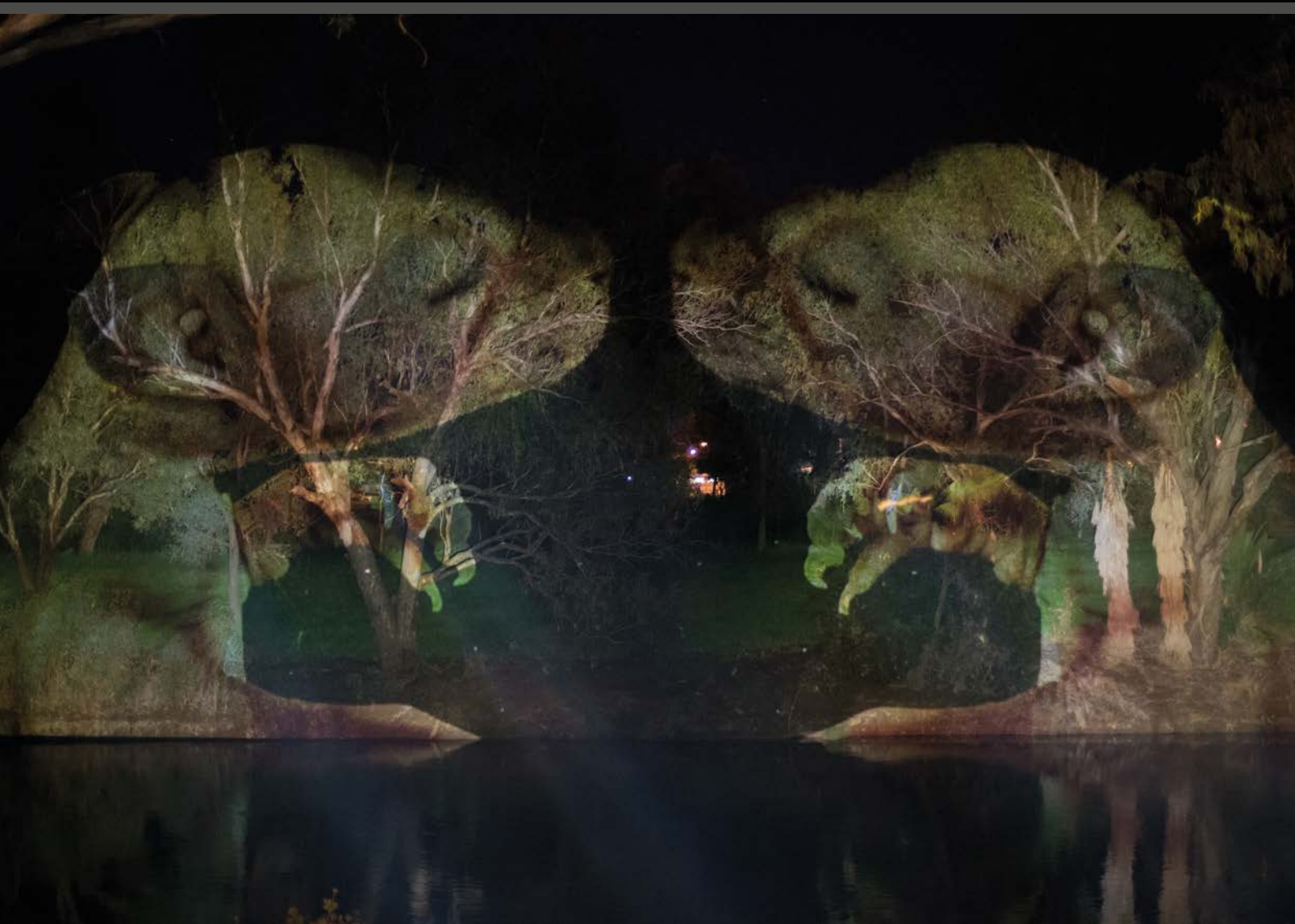
Specimen

by Vic McEwan

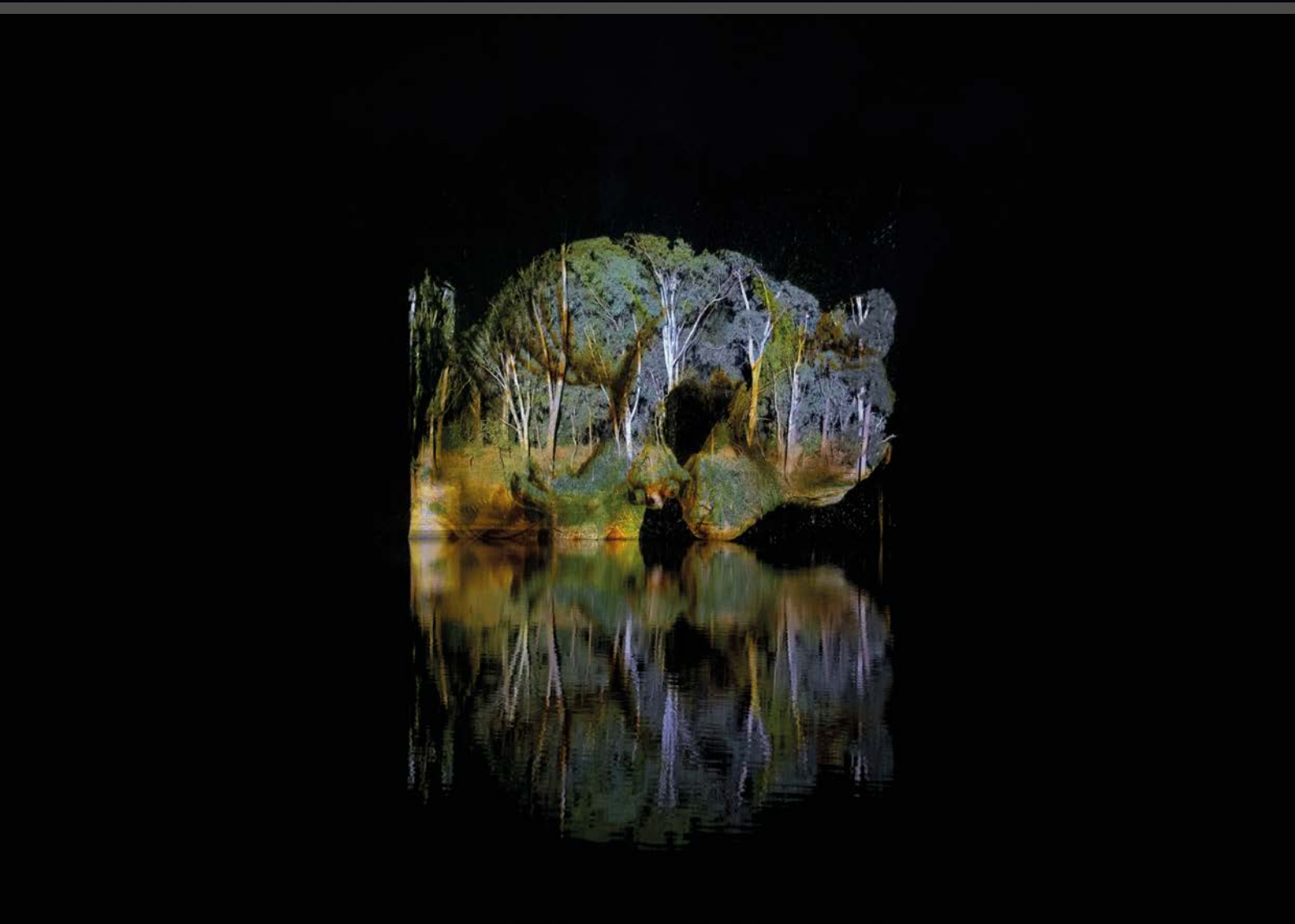
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About the artwork: *Specimen* is a collaboration project with the National Museum of Australia's Institute of Anatomy Collection.

The artist projects specimen collection objects back onto a living landscape, prompting us to consider the non-human world around us and the shadows and consequences that arise from our actions and decision-making processes.







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Learning for biosphere security in a crowded, warming world

Among all the pressing needs for educational innovations that humanity faces today, arguably the most imperative is the need to elicit the learner's active involvement in a 'Great Transition' that addresses the global ecological overshoot and the unraveling ecological situation within the biosphere. An effective Transition curriculum must transcend the conventional discourse about 'security', 'sustainability', 'progress' and 'growth' and counteract the anthropocentric conditioning that pervades mainstream educational practice. This paper outlines some major learning outcomes that such an ecocentric curriculum would entail. Political expediency demands that this difficult course change be accomplished with a minimum of friction and confrontation and a maximum of pedagogical efficacy. Strategies include: paying explicit attention to ethics by starting with widely shared values; encouraging critical questioning; proactively extending a scientific worldview that embraces empathy and beauty in nature; and openly and critically engaging with the hidden curriculum – the implicit messages that learners receive through discourse, media and social environments inside and outside of school. Thus, the anthropocentric notions of property, entitlement and superiority can be subverted and displaced thorough a gradual process of questioning and extending of ideas by the learner. Learning environments that are becoming increasingly multicultural offer challenges and opportunities in this endeavour.

With the advent of the so-called 'Anthropocene' there has come unprecedented upheaval on a global scale. Anthropogenic warming and its effects on regional climates are changing planetary environments in ways that we are just beginning to understand. From the anthropocentric perspective, the complex challenges in our crowded, warming world range from increased susceptibility to natural disasters through ever-increasing collective demands on ecological support structures, to a decrease in the capacity of those structures due to their ongoing deterioration (WWF, 2016). The availability of 'resources' per capita is severely limited in some regions and is decreasing further globally. Global climate change will reduce agricultural productivity, biodiversity and public health, and rising sea levels will flood coastal lowland (many of them fertile and densely populated) driving unprecedented numbers of displaced people to find shelter in host communities with vastly different cultural traditions. Knock-on effects will further weaken socio-

political structures, national and regional economies and healthcare systems. Against the backdrop of those negative trends, many of the goals enshrined under the concept of human security are receding out of reach (Lautensach and Lautensach, 2013).

From the biosphere's perspective, countless species are being driven into extinction and unique ecosystems are deteriorating into wastelands or are being converted into industrial monoculture plantations. Entire taxa that took millions of years to evolve are being endangered for the sake of questionable projects in the name of 'sustainable development'. The seventeen Sustainable Development Goals (SDGs) of the United Nations were conceived purely for the benefit of one single species, without any precautionary consideration of the unknown complexities in our environmental support structures, let alone genuine concern for the intrinsic value of non-human nature. Not surprisingly, they are receding from our grasp as well; in fact, they worsen our ecological overshoot (Wackernagel *et al.*,

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Citation

Lautensach A (2018) Learning for biosphere security in a crowded, warming world. *The Ecological Citizen* 1: 171–8.

Keywords

Anthropocentrism; climate change; education; overpopulation

2017), being based on the same exploitative ethic that has led to this situation.

From human security to biosphere security

The magnitude of this crisis has given rise to the notion that a 'Great Transition' is necessary to lead humanity into a sustainable future that is secure and acceptable within the widely subscribed terms of human security and its underlying anthropocentric ethic (Raskin, 2016). Diverse scenarios and strategies offered in the literature mostly neglect the importance of ecological support; worse, they ignore the influence of pervasive but implicit cultural conditioning towards a hegemonic anthropocentrism. As abundantly documented by the contributors to this Journal, the dominant anthropocentric ethic suffers from internal contradictions as well as from destructive consequences, rendering it unable to deliver on the very aspirations it enshrines. Because of its anthropocentric grounding, human security in its mainstream conception under the four pillars of socio-political, economic, environmental and health-related security offers little help to improve either policy or curriculum.

Corrective attempts to revise our understanding of human security have taken three approaches. First, in recognition of the overriding importance of environmental security it was awarded principal status over the other pillars (Myers, 1993). Secondly, specialists in international relations spatially expanded it into the idea of global ecosecurity, as the essential life-supporting 'space suit' for humanity (e.g. Floyd and Mathews, 2013: 9). Thirdly, ecosecurity was reconceptualized into a holistic security model that prioritizes the well-being of the entire biosphere, not only as the prime requirement for the security of its component species and ecosystems but also on the basis of its own intrinsic value. This third approach alone not only addresses all the shortcomings of conventional human security as stated above, but also takes into account the comparisons of complexity, of evolutionary past and potential, and of levels of synergy that have led people to recognize

the intrinsic value of the biosphere (or ecosphere) as the most inclusive of systems (Curry, 2011). In its ecocentric orientation, biosphere security goes beyond a revision of means to a revision of ends.

Biosphere security implies a new understanding of sustainability as the collective, just and collaborative efforts by humanity to keep our resource use, population dynamics and waste processing below the boundary thresholds that delimit the secure well-being of the biosphere (Heinberg, 2010).¹ Regionally and locally, sustainability is similarly refocused onto the continued flourishing of key ecosystems and biodiversity. Progress, as well as 'development', is to be understood as our success in those efforts, rather than as some misguided quest for perpetual economic growth. Biosphere security informs the normative ethics of a 'reductive modernity' (Welzer, 2016: 220; Mastini, 2017), a vision of progress without growth, relevant for all aspects of public life, including education.

Education for biosphere security

A transition of the biosphere to some sustainable state is inevitable and can no longer be painless for humanity, but some strategic choices and opportunities remain (Rees, 2014; Wahl, 2016) – including education for sustainability. Instead of a grand collapse we might well face differentiated disintegration, a scenario which creates room for creative counter strategies based on alternative visions. Under the ecocentric perspective, a reductive modernity aims to protect, conserve, strengthen and restore ecosystems and biodiversity. All of those goals depend on a suitably educated humanity. Many anthropocentrists share this agenda (witness the explosion of literature on 'resilience' and 'social-ecological systems'), which renders such political and educational efforts more widely palatable. Unfortunately, only a small fraction of ecocentric advocates of sustainability address the potential contribution of education (Senge, 2014).

Conversely, numerous anthropocentric proposals to revise education towards a Great Transition have appeared since the Club

“Because of its anthropocentric grounding, human security in its mainstream conception under the four pillars of socio-political, economic, environmental and health-related security offers little help to improve either policy or curriculum.”

of Rome sounded the alarm in 1972. These proposals range from half-hearted efforts to disseminate the morally bankrupt ideology of economic growth (e.g. in UNESCO's 'Decade of Education for Sustainable Development' [Lautensach and Lautensach, 2014]) to truly innovative programmes that prepare learners to contribute constructively to the Transition and to help avoid the worst consequences of reductive chaos (Orr, 2004; Stone and Barlow, 2005; Shallcross and Robinson, 2006; Parkin, 2010). Those innovative curricula cover the educational environment, methods, materials, resources, design and planning, and, most importantly, aims, priorities and outcomes. Sadly, only a minority of sustainability-minded educationists recognize the importance of ecocentrism, if they recognize value education at all. Most do not clearly acknowledge the intrinsic moral standing of ecosystems and the biosphere. Addressing the scarcity of educational plans to strengthen ecocentric ethics is one aim of this paper. The other aim is to provide some concrete curriculum pointers for educators with ecocentric ambitions.

Only the most insightful curricula pay enough attention to the cultural roots of behaviour on the individual and collective levels (Rees, 2010), and to the diversity of cultural norms that inform the affective determinants of behaviour. In many situations it is cultural contingencies and entrenched ideologies, particularly those that form the dominant anthropocentric culture of consumption and growth, that stand in the way of effective and large-scale behaviour change (Lautensach, 2010; Johansson, 2012; Welzer, 2016). This minority of value-focused curricula for Transition education, which includes a growing number of textbooks (Tracana and Carvalho, 2010), takes it upon itself to confront and change those dominant values, including anthropocentrism, and to promote humility along with empathy and respect for non-human nature.

Focusing on those curricula I will, in the next two sections of this paper, provide a compilation of assessable learning outcomes, followed by key strategies for achieving them. Both sections are derived from the literature and from my own experience.

Curriculum for ecocentric value change Content and priorities

The learning outcomes are organized here under six major educational aims (see Box 1), hallmarks of a Transition curriculum that I have been involved with for some years (Lautensach, 2010). From the wider literature only outcomes that can address the shift to ecocentrism have been selected (Potter, 1988; Orr, 2004; Stone and Barlow, 2005; Oakes and Lipton, 2007; Bowers, 2009; Parkin, 2010; Cloud, 2014; Senge, 2014; Welzer, 2016). The six aims can and should apply also to teacher education, with a special emphasis on epistemological skills, philosophical foundations, comprehensive content knowledge, well-rounded professional and environmental ethics (ecocentric and comparative) and active participation in professional communities of practice focusing on sustainability education (Cotton and Winter, 2010; Lloyd *et al.*, 2011; Cloud, 2014).

Special challenges and strategies

Given the pervasive dominance of anthropocentric sentiments that exists, getting ecocentrism past the curriculum watchdogs often amounts to a tall order. The struggle against the obstacles of cultural hegemony and status quo bias can trigger political backlash, sometimes from powerful groups with hidden agendas. Particularly vehement opposition can be expected when religious dogma is critiqued for its often radical anthropocentrism (Kivel, 2013). Political expediency demands that teachers who are committed to ecocentric Transition education retain their jobs and therefore avoid confronting entrenched dominant ideologies head-on. Likewise, learners would be ill-served by a curriculum that did nothing more than bury them in moral contradictions and damnations of life as they know it. One challenge for the committed teacher is thus how much, and to whom and at what time, they should advertise their intentions. A justifiable compromise is to be found between minimizing deception and recognizing where subterfuge temporarily serves the pedagogical purpose better than total openness. Another challenge lies

“In many situations it is cultural contingencies and entrenched ideologies, particularly those that form the dominant anthropocentric culture of consumption and growth, that stand in the way of effective and large-scale behaviour change.”

in the minds of the learners themselves, where it pays for the teacher to temporarily circumvent certain alarm triggers while pretending to pursue nothing more than logic, science and less controversial kinds of ethics, such as the justice principle. Of course at some point teachers will need to place their cards on the table. In medical bioethics the justification of deceiving a patient, and what exactly constitutes deception, continues to be discussed (Mappes and DeGrazia, 1996: 84).

The strategies presented in **Box 2** have achieved some success.² They are context dependent and best selected according to the learning outcomes of the day. They are learner centred and inquiry based; that is, they do not rely on the teacher to point out crucial ideas but rather allow learners to discover those ideas for themselves.

Framed in age-appropriate form, the educational strategies presented find application at all grade levels including the

Box 1. Six major educational aims that can underpin a curriculum for ecocentric value change.

A Adopt a concept of progress that is informed by sustainability

Beginning with critically analysing manifestations of the growth paradigm, learners are encouraged to apply ecological principles and the theory of adaptive systems to the dynamics and sustainable well-being of ecosystems, extending the four principles of bioethics (Mappes and DeGrazia, 1996: 35) to ecosystems. Parkin's (2010: 73) question of "what is growing, where, for whom, and at what cost?" is expanded to a notion of progress under the ecocentric perspective. Potter's (1988) notion of acceptable survival defines the ideal human population size and its healthcare within ecocentric contingencies. Respect for nature, for precaution and for sufficiency in the interest of all life forms and of Mother Earth, or Gaia, is shown.

B Replace anthropocentrism with an ecocentric ethic

This aim is obviously central, as are the following inherent learning outcomes: **distinguish** between statements of value and of fact; **distinguish** ontologically subjective concepts (e.g. the right to a clean environment) from ontologically objective ones (e.g. the limits of carrying capacity); **progress** from 'systems thinking' to 'systems valuing'; **adopt** a perspective of holistic valuing of nature and of regarding humans as part of nature (as is evident in many indigenous belief systems); **describe** the function of ecological communities inside and outside of the human body; **demonstrate** resistance against the dominant custom of commodifying nature (and almost everything else) and exploiting it purely for human ends; **learn** how to convince others to adopt sustainable ecocentric values; **reconcile** one's personal freedom with the constraints of environmental justice and ecological limits; **describe** the natural environment using metaphors of personhood and moral standing, connecting these with indigenous mythologies; and **demonstrate** empathy, fairness and friendship for non-human animals, other life forms, ecosystems and landscapes.

C Acquire the cognitive and affective skills of eco-literacy to collaboratively meet the challenges

Practise ethical reasoning and meta-ethical analysis; **develop** ecological vision and emotional relationships with nature; **recognize and revise** those unquestioned assumptions and habits of thinking that lead well-intentioned people into ecologically catastrophic decisions; **acquire** learning skills at the individual as well as social levels, learn how to learn better, and extend this skill to teaching others; and **prepare** to act on one's values.

D Acquire a vision for, and awareness of, the future that includes change and sustainable solutions

Visualize utopias that transcend the 'present-plus' pretences of anthropocentric, 'futuropathic' voices; **experience** self-efficacy in activist 'communities of practice' committed to ecocentrism; **cultivate** informed courage over defeatism; **recognize** and appreciate quality over quantity in human endeavours; and **become aware of** anthropogenic environmental change and ecological overshoot and how they affect biosphere security.

E Adopt a non-parochialist view of environmental values and academic inquiry

This begins with adopting a practice of caring for entities beyond the 'home group' (Noddings, 2007), which requires 'social-emotional' learning (Schonert-Reichl and Hymel, 2007). **Reconcile** moral pluralism with ecocentric priorities, i.e. the need for behaviour change according to biosphere security norms; **show** your affiliation to your home place, its resident life forms and ecosystems, but temper it with appreciation for the rest of the human and non-human world, and describe it in terms of interpersonal relations; **adopt** a global vision of causes, effects and interdependences, and pay attention to local implications; and **apply** Earth systems thinking and valuing to all academic endeavours.

F Become liberated from exploitative dependencies

Analyse the reasons for the failure of mainstream education to bring about substantial Transition reforms to date (obstacles include anthropocentric value priorities, materialistic consumption ideals, scientific illiteracy and inattention to taboos of overpopulation and overshoot; see Lautensach [2010]); **explicate** the hidden curriculum and its messages (especially dispositions that perpetuate dependency and the anthropocentric 'prison of separateness' [Albert Einstein]); **critique** status quo attitudes, norms, beliefs and ideals, especially when they are dictated by the hegemonic 'everything, always' culture of consumption and anthropocentric growth (Wahl, 2016; Welzer, 2016); **demonstrate** a will to participate in acts of non-violent ecological resistance (Devall and Sessions, 1985) to ideological hegemony that perpetuate anthropocentric dominion over nature (including some organized religions [Kivel, 2013: 57]); **learn not to** be moved by crowds; and **accept** the discomfort that can arise from discordant actions and dissent.

Box 2. Educational strategies for ecocentric value change with which the author has had success.**1 Frequent discussions about ethics and personal values**

induce the learners to think about the determinants of human behaviour and to become aware of the naturalistic fallacy and its prevalence in normative public discourse. The primacy of cultural and affective factors as determinants of human behaviour is now widely accepted (Cook *et al.*, 2010). Evidence includes the failure of curricula that overemphasize cognitive outcomes (i.e. many traditional school curricula) to effect substantial behaviour changes even towards anthropocentric versions of sustainability (Saylan and Blumstein, 2011); nor has the massive progress in scientific modelling and understanding of environmental problems had much impact on the worsening of global overshoot (Rees, 2014). On the other hand, in some cases changes to dominant cultural and moral priorities have made some impressive behaviour change possible (Welzer, 2016). Comparisons between historical cases of societies that succeeded to cope with sustainability challenges and societies that collapsed as a result of failing to do so indicate that the primary difference between the two lies in their cultural norms and their flexibility in adapting those norms to new contingencies (Diamond, 2005). Narrative fiction (e.g. Daniel Quinn's *Ishmael* or Ernest Thompson Seton's animal fiction for younger readers) can be a powerful tool for changing personal values by learning to identify and empathize with non-humans. Another powerful strategy is experiential learning (Cotton and Winter, 2010). An ecocentric curriculum that emphasizes moral distinctions also enables the learner to identify merit where it exists in the diverse literature on 'sustainable development'.

2 Discussions about ethical implications of curriculum content inevitably lead to discussion of the **hidden curriculum, defined as implicit messages, beliefs, assumptions and value priorities (Giroux, 2007). Focusing learners' critical attention on the hidden curriculum helps raise their awareness of hidden content and encourages its critical analysis. The example of the implicit but pervasive significance of anthropocentrism shows how important a role the hidden curriculum plays in education. Because of its implicitness, the learning that the hidden curriculum accomplishes is subconscious. When discussing innovation the author has used the following two questions with some success for the analysis of hidden messages about human hegemony and entitlement: 'Who benefits?' (*cui bono?*) and 'And then what?' coined by Garrett Hardin (Lautensach, 2013). Examining an anthropocentric environmental politic by asking those two questions can reveal its injustice and futility.**

3 Getting the learners to ask critical questions about, and extending on, individual concepts in the curriculum, without the teacher having to point out the answers, aids critical thinking. For example, as soon as learners understand what is meant by the term 'resource' they can be asked to apply the concept to the world around them (e.g. a glass of juice, a parent, a pet or a tree). The learner decides to what extent the examples can be 'rightly' classified as a resource and soon realizes that, contrary to dominant discourse, not all biological entities should or could be treated as resources. Some ecovillages provide abundant instructional material and models that show how critical questioning can inform sustainable and respectful living.

4 Asking the learners to connect and synthesize two or more individual concepts helps them identify contradictions. For example, official curricula are now providing educators with a modicum of support in the two areas of sustainability and social justice. That support falls short where the two areas are not effectively connected, which happens all too often. Education about human rights and social justice rarely takes into account resource constraints and ecological limits (Ehrlich and Ehrlich, 2010). Recognizing the limits of the concepts' compatibility induces learners to backtrack and search for alternative ethics in the direction of ecocentrism. Eventually this is likely to lead the learner into confronting prevalent anthropocentric taboos such as overpopulation.

5 Science education has suffered from a profound anthropocentric bias – one that reflects the bias of modern science itself, as inherited from its Cartesian beginnings and the Enlightenment (Beavington, 2016). Obvious evidence of this bias exists in instructional language and in the choice of applications – evidence that is readily discoverable by learners once they are alerted to this implicit dimension of scientific discourse. They will realize that, like all human exploits, science is filled with values and that its anthropocentric bias is often counterproductive as well as unjust; learners will replace the (often explicit) goals of predicting and controlling nature with the goal of appropriate participation in nature (Goodwin, 1999: 125). On the positive side, much of life science education can be connected with earth systems science, natural history and ecology in a way that recognizes their moral dimension – for example, by pointing to ecological dependency, evolutionary equivalence, interspecific justice and capacity for suffering, as well as synergy in complex systems (Beavington, 2016). Instruction in natural history can be particularly conducive to foster an affective relationship with the land. Gaia theory represents a powerful didactic instrument to connect between elements of a traditional, Cartesian–mechanistic philosophy of environmental science (where its origin lies), with elements of holistic and deep green views of the global environment, where many of its ramifications lead (Lautensach, 2010: 166). In other words, Gaian ethics represents the ethical dimension of biosphere security, and science education can be used as the gateway to convince learners of its priority, eventually opening its spiritual dimension to the learner.

6 Addressing objections (charges of despair, misanthropy, cultural imperialism *etc.*): Detailed counterarguments are beyond the scope of this paper, but one general approach has often convinced the author's students that we can all change our values through collaborative deliberation. It invokes historical examples of global, negotiated shifts in cultural traditions and the moral norms that underpinned them – shifts such as the abolition of slavery and the outlawing of cannibalism, human sacrifice, infanticide and child mutilation. The charge of value inculcation is rebutted by pointing to the ubiquitous efforts of corporate industry and organized religions to do just that, requiring a counterbalance.

tertiary sector, as well as in teacher education. They are designed to empower learners to assess and compare divergent value positions, to question their own convictions and to recognize the merits of ecocentrism. In this fashion, the anthropocentric notions of property, entitlement and human superiority can be subverted and displaced – first at the rational–cognitive level and subsequently, it is to be hoped, at the affective level. An empirical study to test those effects is being planned.

To be effective, a Transition curriculum (and indeed most other curricula) must strike a balance along several continua (Jones *et al.*, 2010). On the continuum of learning outcomes it must balance between the cognitive, affective and psychomotor domains (Singleton, 2015). On the geographical continuum, the challenge is to include and be informed by global, as well as local, place-based considerations. On the social continuum, it must address various levels of agency from the individual through family, community, regional, national and global dimensions. On the cultural continuum traditional curricula are required to be as safe³ and inclusive as possible, accommodating diverse cultural views, narratives, metaphors and beliefs. It is this last requirement that an ecocentric curriculum cannot fulfil. Its very mission demands that it depart from the comfort of cultural and political safety and from the inclusive moral relativism that is widely celebrated as particularly ‘civilized’ and safe. For a curriculum and teacher committed to ecocentrism, there is no compatibility with cultures that insist on the sanctity of human hegemony over the Earth. Many of those cultures do not even recognize the need for an organized Transition away from entrenched norms, as with the ‘culture of denial’ (Derby, 2010). Others are particularly intransigent about such matters as: taboos around overpopulation and a woman’s control over her fertility; axiomatic beliefs about the rights to exploit non-humans and ecosystems solely as means to human ends; individual autonomy; and possibly the question of meat consumption on an overpopulated planet. In those cases

confrontation appears more likely than compromise.

Intercultural confrontations about beliefs, assumptions and values are, in any case, becoming more frequent as classrooms and cohorts become culturally less homogeneous (Lautensach and Lautensach, 2011). It is up to the teacher to deal with them in ways that are safe but do not compromise the overall curricular aims. The challenge arises from the fact that the ecocentric aims override the obligation towards cultural safety. If a compromise seems out of reach, the foremost requirement is to agree to keep talking. Maintaining a forum for open discussion with and among students, and encouraging an open mind and a commitment to a secure future, can gradually bring opponents closer.

Conclusions

The above discussion shows that an ecocentric curriculum is not necessarily culturally safe. On the positive side it exerts reverse discrimination in favour of many indigenous worldviews that for centuries were ridiculed and marginalized because of their environmental holism (Turner, 2005). Choosing between the irreconcilable norms of two ideologies is difficult because it requires reasoned objections to the celebrated (though often disingenuous) moral relativism in modern schools, objections that explicitly place some values above others. As difficult as such an endeavour may seem, it is supported by successful historic precedents as mentioned under strategy 6 in [Box 2](#). Those precedents might indicate how the conflict might be reconciled on the basis of shared values, namely by asking which ethics violate biosphere security to the least, or to a lesser, extent.

In this endeavour the educator needs to take a carefully considered approach, respectful of divergences in views, pointing out common ideals and values and their desirability where such commonalities exist, and diplomatically guiding meta-ethical comparisons where priorities have to be chosen. Making every attempt at reconciliation is imperative; a culture that refuses to make any attempts to pursue sustainability by valuing the Earth is unlikely

“A culture that refuses to make any attempts to pursue sustainability by valuing the Earth is unlikely to find cultural safety when cohabiting with others.”

to find cultural safety when cohabiting with others. In today's crowded world where cohabitation can hardly be avoided, such a culture would find it increasingly difficult, if not futile, to withdraw and isolate itself to prevent further intercultural conflict, or to live forever in exploitative disrespect of the Earth. More than any anthropocentric ethic of sustainability, the ecocentric Transition necessitates a readiness to accept personal sacrifice and renouncement of privilege (Welzer, 2016: 131); this includes limitations of human rights that were universalized only recently in human history – moral territory that nobody gives up easily.

Learners might more readily accept those sacrifices when attention is directed towards their promise of potential liberation and enrichment. Renouncing our claims to own, manage and dominate nature opens a world of conceptual alternatives – kindred, family, companionship, comfort and peace in a time of turmoil.

In practice, teaching sustainability through ecocentric principles would be pointless at hierarchical educational institutions where quantitative growth, exploitation, capitalist norms and environmental wastefulness are part of the group culture. The affective learning outcomes that the educational process ultimately identifies as universally acceptable must be an unquestioned part of the lived cultural praxis at the institution, and they must be modelled by the staff (Giroux, 2007). Once such implicit and pervasive institutional support is present, the hidden curriculum will reinforce and amplify the teacher's efforts. ■

Notes

- 1 A team from the Stockholm Resilience Centre headed by Johan Rockström identified nine environmental boundaries that, according to their definition, delimited a 'safe operating space for humanity' (Rockström *et al.*, 2009). Under the biosphere security perspective, the significance of those same boundaries changes as they are reconceptualized as 'a safe operating space for the biosphere' in the face of the human onslaught.
- 2 Strategy 1 in Box 2 mentions the 'naturalistic fallacy'. This term refers to the fallacious attempt to deduce an 'ought' (i.e. a statement about what one should do) from an 'is' (i.e. some statement of fact). See Curry (2011: 31) for more on this.

- 3 Culturally safe education is free of "any action that diminishes, demeans or disempowers the cultural identity and well being of an individual" or group (National Aboriginal Health Organization, 2006: 3).

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Artwork

Horned Grebes and Vesper Sparrow

by **Andrea
Williamson**

Higher-resolution versions:
<https://is.gd/ecoartwork>

About the artwork:
See page 122.

Artwork

Spotted Owl and Northern Bobwhite

by **Andrea
Williamson**

Higher-resolution versions:
<https://is.gd/ecoartwork>

About the artwork:
See page 122.



‘Any size population will do?’: The fallacy of aiming for stabilization of human numbers

Human population growth is slowing down, but there is no end in sight: we are due to reach 11 billion towards the end of this century, and to continue expanding our numbers well into the next. This article discusses why focusing on the rate of population growth as the central problem amounts to a mistaken and misleading approach to thinking about the issue, as does the suggestion that we should aim to ‘stabilize’ population size. Our current population size is already unsustainable, which poses great risks to human beings and wildlife alike. The aim must be to reverse human population growth rather than merely to slow it down or lock it in at some arbitrary, unsustainable size. High fertility rates are largely a product of social norms. But social norms can change, and this is a powerful argument for active and honest dialogue about the problem of unsustainable human population growth.

Human numbers were relatively stable during thousands of years, slowly edging up until reaching our first billion around 1804 (see <https://is.gd/hziWqH>). After this, growth accelerated, then exploded. By 1927, when beloved naturalist Sir David Attenborough was a baby, humanity had already notched up the second billion. By the time Attenborough narrated the first *Life on Earth* series in the late 1970s, our numbers had more than doubled again. We are now on course to reach our third doubling by 2023; there will be 8 billion of us then. Population growth is slowing down, but there is no end in sight: we are due to reach 11 billion towards the end of this century and to continue expanding our numbers well into the next (United Nations, 2015). The number of people added to this planet every year (approximately 80 million) has not changed much since the late 1970s, but it translates into an ever-smaller rate of growth because our absolute numbers are getting larger and larger. For many, this means there is no problem left to solve.

In this article, I briefly discuss why focusing on the rate of population growth as the central problem amounts to a mistaken and misleading approach to thinking about the issue, as does the suggestion that we should aim to stabilize population size (whether at the national or global level).

Population size is not a neutral factor and poses great risks to human beings and wildlife alike. The aim must be to reverse population growth rather than merely to slow it down or lock it in at some arbitrary, unsustainable size. High fertility rates are largely a product of social norms. But social norms can change, and this is a powerful argument for active and honest engagement with the problem of population growth by scientists, activists and policy-makers.

First, a clarification. In this paper I criticize arguments about the problem of population growth which are frequently put forward by economists, futurists and policy-makers, but sometimes also by natural scientists and even population concern activists. Any of these actors might be motivated by political expediency, ideological commitment or a sincere belief that their positions are empirically and logically sound. Whether or not they are genuinely endorsed by those who proffer them, the arguments I attack are *commonly* presented to the public as though they represent sound reasons for dismissing concerns about population growth. This is a problem, for, as I attempt to demonstrate, even a fairly cursory examination shows these arguments to be fallacious. I make no claim that my criticisms or counter-arguments are novel. On the contrary, I take the fallacies I identify as evident to anyone

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Citation

Kuhlemann K (2018) ‘Any size population will do?’: The fallacy of aiming for stabilization of human numbers. *The Ecological Citizen* 1: 181–9.

Keywords

Anthropocentrism;
overpopulation; sixth
mass extinction

“From an environmental sustainability perspective, what matters is the current and cumulative effect of absolute population size, not the rate at which our numbers grow.”

who has given serious thought to the subject of population and sustainability.

The future of population growth is not set in stone. But if we get the problem wrong, we are bound to misunderstand our options about what can or should to be done to mitigate the risks to all life on this planet.

Too fast, or too much growth?

Concerns about population growth are often articulated in terms of the growth being *too fast*. Supposedly, we should aim at *slowing down* growth or *stabilizing* our numbers. In its most intellectually reprehensible incarnation, this framing of the problem translates into the argument that there is nothing to worry about because the rate of population growth is already slowing down. The easiest way to ‘solve’ a complex ethical and practical problem is, as ever, to deny that it exists.

Current declines in fertility rates are neither irreversible nor inevitable, which is why multiple United Nations (UN) population projections have had to be adjusted upwards in recent years. But more importantly, the rhetoric of ‘slower growth’ or ‘stable population size’ erroneously and misleadingly implies that population size is a neutral factor. If a ‘stable’ population, or at least a population that is not growing as fast, is an ideal outcome then it must follow that any population size is fine; the problem is merely that there is change, or that the change is too fast. But this is not the case, however much it may suit one’s ideological inclinations or political aims.

From an environmental sustainability perspective, what matters is the current and cumulative effect of *absolute population size*, not the *rate* at which our numbers grow. It makes a great deal of difference to the prospects for human security and well-being, and for wildlife survival, if our population is 2 billion, 7 billion, 11 billion or, indeed, 16 billion. Whether a population is sustainable turns on how many consumers there are, consuming as they can be realistically expected to consume.¹ If there are more consumers than can be sustained, the risks will turn principally on how many more and for how long there is an imbalance.

The risks from an unsustainable pattern of resource use do not crystallize overnight. Consider a situation where your one and only source of livelihood is withdrawals from a bank account into which someone placed a large deposit (precise amount unknown to you). Even if you repeatedly withdraw from the account more than it is earning in interest, it may take a long time to empty the account completely; you may come to think it will never happen, even though it is the logical end point of your trajectory. You may be a very optimistic person who is counting on interest rates going up in future, or on finding a way to diminish your withdrawals before the capital is completely gone. (Another way of looking at it, of course, is that you are being reckless with your finances.) But for the time being, your withdrawals are unsustainable. They do not stop being unsustainable because *things might change in the future*. The longer the unsustainable withdrawals go on for, the harder it becomes for you to mitigate the risk that you will run out of money. In particular, the longer you keep up your unsustainable withdrawals, the less leeway you will have to deal with unexpected expenses, falling interest rates or simply misjudgements about how much there is left in the account. As with our planet’s resources, there is no safety net in this thought experiment.

I am quite willing to concede that, from the perspective of provision of public services, the speed of population growth is indeed an independent problem. Rapid population growth can create something of a ‘Red Queen’ race for societies, where continuously increased public expenditure is needed simply to keep up with growing demand for school places, hospital beds, housing, sanitation, public transport and so forth.

But insofar as one accepts that at least some needful resources are finite and prone to depletion – that is, insofar as one accepts that sustainability is or can be an issue independently of the capacity of social structures to adapt to population growth – then it simply cannot be logically supposed that the solution lies in ensuring growth eventually stops, yielding a stable population size. To repeat the core point:

that a population's size is stable in no way entails sustainability. It may be sustainable, or it may be far too large. This turns on a range of factors, most notably on how big that 'stable' population is and on the state of the resource base on which it depends.

Framing population stabilization as a policy goal – independently of any sustainability assessment – is bound to mislead the public about the nature of the problem. It reflects an unthinking acceptance of the premise that populations must not shrink; that whatever arbitrary size a population grows to must be locked in and accommodated somehow. The fear of population 'decline' or 'ageing' is primal and tribal, reflecting anxieties of a bygone era where survival depended upon how many young men one could round up for waging war or fighting off invasions. It makes no sense in today's world, where the main threats to the long-term viability of human societies are ultimately rooted in there being too many of us – men and women, young and old – doing damage simply by peacefully leading our own lives.

Population, affluence and technology

It is trivially true that the environmental impact of any given population size is modulated by affluence and by the technology available (in addition to cultural and institutional particularities). This broadly corresponds to the familiar 'IPAT identity' formula (Ehrlich and Ehrlich, 1990): $\text{impact} = \text{population} \times \text{affluence} \times \text{technology}$. However, it is often mistakenly assumed that more advanced technology translates into a reduced impact, or that people living in poverty have next to no environmental impact or will remain poor for ever.

Technology can be used to increase efficiency in resource use, allowing us to make more with less. But it can also be used to extract resources faster and more cheaply, masking their scarcity, encouraging overuse or otherwise accelerating resource depletion. As Aldo Leopold put it nearly 70 years ago (1949: 223), "few educated people realize that the marvellous advances in technique made during recent decades are improvements in

the pump, rather than the well." There is mounting evidence that the predominant relationship between technology and resource use is one of improvements to the pump – that is, facilitating their extraction rather than creating more resources. A related phenomenon is described in economics as Jevons' paradox (Magee and Devezas, 2016), where greater technological efficiency in the use of a resource ultimately increases its overall consumption. In addition, technology can also be used to *convert* one environmental problem into another, for example where freshwater scarcity is 'resolved' via desalination plants that consume vast amounts of fossil fuels, decimate marine life or generate serious pollution.

Affluence is a similarly multivalent factor. A wealthier population will typically consume much more than a poorer population of the same size, but will also be better able to invest in the development of new technologies that may reduce their impact on resources – or amplify it. But there is nothing inherently 'environmentally friendly' about poverty. In much of the world, those who are struggling to find opportunities in the formal economy will turn to extractivist activities to make a living for themselves and their families (e.g. Harrison, 2011; Duffy and St John, 2013), often with devastating results: empty forests where most wildlife has been hunted down (e.g. Kerr *et al.*, 2004; Nellemann, 2014); rampant deforestation for wood fuel and growing food (e.g. McCarthy, 2011; Hosonuma *et al.*, 2012); and overfished rivers and bays (e.g. Stobutzki *et al.*, 2006; Keskar *et al.*, 2017). In addition, it is clear that some environments are better able to support larger human populations than others. Poverty-stricken, rapidly growing populations are too often found in drought-prone, resource-poor, fragile environments such as the Sahel and the Horn of Africa. In such areas, mere subsistence activities are enough to overexploit natural resources, driving desertification and worsening the already chronic food insecurity (United Nations Economic Commission for Africa, 2007; Lifland, 2012).

The contribution of population size to our environmental impact is comparatively

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unambiguous. For any given level of affluence, technology use or environmental constraints, and regardless of which way these factors pull, a smaller population size will mean a smaller environmental impact, slower resource depletion and a greater range of alternatives for coping with resource scarcity (for example, relocating elsewhere). Conversely, a bigger population will have a greater environmental impact, a faster rate of resource depletion, fewer alternatives for coping with scarcity owing to the concatenation of multiple scarcities and to greater competition for resources, and a greater number of human lives at risk than would otherwise be the case.

Population size *always* matters, and in today's world, a smaller population is a more resilient one.

The irrelevance of current food production

It is often suggested that we ought not to worry about population growth because we already produce enough food to feed 10 billion people. Supposedly we can, or should, let population growth run its course, whatever it may prove to be, because we are safe on the food front. There are at least three reasons why this reasoning is fallacious.

First, answering the question of how much food is produced now is not answering the question of how much food we can expect to produce over the foreseeable future. Current resource use in agriculture is unsustainable (Government Office for Science, 2011; International Food Policy Research Institute, 2016), and this is without taking into account the potentially devastating impact of climate change. Discussions about food waste and expansion of the agricultural frontier typically ignore the reality that not all waste can be prevented, that most productive land worldwide is already in use for agriculture (e.g. Tilman *et al.*, 2002) and that what is left is natural habitat that supports important ecosystem services and provides critical sanctuary for what remains of the world's wildlife.

Secondly, even if it were possible to sustainably produce enough food to feed a population of 10 or even 11 billion – and

we have no reason to be confident it will be (Schade and Pimentel, 2010) – food production is not the only issue. People's ability to earn a livelihood matters to their ability to secure enough food and other basic resources for themselves and their families, to their ability to live lives of dignity, and to the fiscal sustainability of their societies. The International Labour Office has been chronicling a global trend towards higher unemployment and underemployment for years, due to job creation not keeping up with growth in the number of new labour market entrants. This has particularly affected younger workers (International Labour Office, 2017), reflecting the morally problematic asymmetry of all population growth externalities: the costs and risks of population growth are typically worse for younger generations than for the older generations who have made the choices that created or added to the risks. As if these population growth-driven trends were not enough of a threat to the livelihoods of younger generations, in recent years there has been growing concern about the scope for developments in artificial intelligence to cause unprecedented levels of unemployment without concomitant creation of new jobs for those displaced (e.g. Frey and Osborne, 2013), potentially vastly aggravating fiscal non-sustainability problems that are already widespread.²

And thirdly, even if it were possible to secure food and decent livelihoods for 11 billion people, our population may keep on growing well past that already enormous size. The expectation of a global population of 11 billion circa 2100 is based on the two latest UN population projections (United Nations, 2015; 2017), but it could prove to be an optimistic underestimate. Population projections for countries experiencing high fertility are particularly uncertain; these are the countries which are projected to drive the bulk of global population growth from 2050 onwards. Even slightly slower-than-anticipated fertility declines could result in a much larger population size. The UN's 'high' variant projection assumes fertility rates will remain half a child higher, on average, than the 'medium' variant. This yields a

2100 population of over 16 billion. It may be thought that the high variant assumes an increase in fertility; on the contrary, it still builds in a substantial reduction in fertility rates relative to today's levels. A straightforward extrapolation of current fertility rates would yield a population of well over 25 billion by 2100.³

While many remain steadfastly optimistic about the prospects for producing enough food to feed 11 billion in a climate-changed world with damaged soils and not enough water, I am not aware of any credible proposals for feeding a world of 16 billion or more.

Already unsustainable

Our current population's impact on the natural resources on which we depend suggests 7 billion is already an unsustainable population size. Further population growth will increase systemic risks to food security and livelihoods, in particular climate change, mounting unemployment and sub-employment, degradation of agricultural soils, overfishing and freshwater scarcity.

The Intergovernmental Panel for Climate Change (IPCC) recognizes population growth as a primary driver of climate change (Pachauri *et al.*, 2015), along with economic growth. The IPCC warns that climate change may have severe impacts on food security via higher temperatures, precipitation changes, increased frequency of extreme weather events, the spread of new pests and ocean acidification. Estimates suggest that some 200 million people could be displaced by climate change over the next 40 years (Laczko and International Organization for Migration, 2009). Food production is a major contributor to greenhouse gas emissions and a dominant force behind diversity loss, degradation of land and depletion of freshwater sources, among other serious environmental impacts. Simultaneously, agriculture is the most weather-dependent of all human activities and is extensively reliant on the same natural resources and ecosystem services it is degrading (Daily, 1997).

The Food and Agricultural Organization of the UN (FAO) identifies population growth and economic growth as the primary

drivers of the ongoing loss and degradation of agricultural soils, which in turn is a major threat to food security (FAO, 2015). Global marine fisheries landings have been declining since the late 1980s owing to overfishing (Mora *et al.*, 2009). The FAO's analysis of assessed stocks has found a downward trend in biologically sustainable fish stocks since 1974; some 30% of fisheries are already overfished and a further 60% are 'fully fished' (FAO, 2016), with pressures on fish stocks largely driven by population growth (but also economic growth). Around 1.4 billion people live in areas where ground water is being drawn at a faster rate than it can be replenished (FAO, 2009; 2012). The UN projects that almost half the world's population will be living in areas of high water stress by 2030, potentially displacing as many as 700 million people (Secretariat of the United Nations Convention to Combat Desertification, 2014). Water scarcity is driven principally by population growth and economic growth, is set to be worsened by climate change and is thought to be a major driver of armed conflict, particularly in Africa. Some of the most water-stressed countries are also experiencing very high population growth rates (United Nations Development Programme, 2006). The UN estimates that nearly 80% of the jobs constituting the global workforce depend on access to an adequate water supply (United Nations World Water Assessment Programme, 2016).

Population growth contributes to and amplifies every one of these risks while increasing the number of people exposed to them. In addition, by expanding the reach and intensity of human pressures on the natural environment, human population growth poses an existential threat to countless other species.

The most recent doubling of our numbers was accompanied by a loss of over half of wildlife numbers, driven by destruction of natural habitats and harvesting of wildlife to meet human needs and aggravated by environmental fouling from human activities (WWF, 2016). This involves a combination of thinning of wildlife populations and eradication of thousands of other species.

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A sixth mass extinction event is ongoing, the worst spate of species loss since the Cretaceous–Tertiary extinction event that saw the end of non-avian dinosaurs and many other lineages of life (*e.g.* Ceballos *et al.*, 2015). Even if our human population eventually stops growing and shrinks back to a sustainable size, the species pushed to extinction along the way will be lost forever.

Those of a particularly extreme speciesist or anthropocentric moral outlook may believe that there is no inherent wrong in causing other species to go extinct. Let us assume, for the sake of argument, that the interests of human beings are the only moral considerations that count. Even then, humanity's impact on the natural world is a serious moral wrong of reckless risking of livelihoods and safety nets. Many millions of people in Africa, Asia and Latin America rely on wildlife resources for their livelihoods and as a buffer to see them through times of hardship, such as unemployment and crop failures (*e.g.* Nasi *et al.*, 2008; Ntuli and Muchapondwa, 2015). More generally, the world's poor are often highly dependent on natural resources for their livelihoods and are the most vulnerable to the effects of defaunation and environmental degradation (Organisation for Economic Co-operation and Development, 2008).

For those of us who reject the anthropocentric worldview, or at least do not endorse such an extreme version of it, the permanent loss of biodiversity is a profound moral wrong to the species being annihilated by humanity's reckless expansionist project. It is also a moral wrong to future generations, condemned to live in a biologically impoverished world where such iconic fauna as elephants, sea turtles, snow leopards, orangutans, rhinos, gorillas and tigers no longer exist in the wild, or at all.

Ideas, values and behaviours

When we accept a large risk, we must have in mind an even greater benefit that justifies taking that risk, or else we are behaving irrationally and recklessly. Most people should be able to recognize that it is wrong to expose younger and future generations to enormous risks, and bring entire lineages

of life to an end, for as trivial a reason as our reluctance to adjust our own behaviour and attitudes in response to changing circumstances, or as disreputable a reason as treating children and wildlife as means to the ends of today's parents and consumers. We are supposedly a rational species. We have been aware of population growth for decades, and reliable and inexpensive birth control methods have been available for more than 50 years. And yet we hold on to the idea that cultural and individual preferences about family size should be left to drift along, as if the future of humanity and of countless other creatures was not sufficiently important to warrant conscious effort to mitigate population growth.

Where population growth is acknowledged to be a problem, it is commonly suggested that the way to address it is by educating girls, tackling gender discrimination or lifting people out of poverty. Ensuring women and girls are treated with equal respect and afforded the same educational and economic opportunities as men and boys is a matter of justice and basic human decency. The same applies to efforts to secure for everyone at least the minimum material resources needed for lives free from fear and want. However, it is important to note that tackling gender inequality and absolute poverty are neither preconditions to fertility declines nor reliable ways to achieve declines that are as deep and fast as they need to be to adequately mitigate unsustainable population trajectories.⁴ Conversely, high fertility rates pose a formidable obstacle to securing improvements to gender equality and to economic and educational opportunities.⁵

Women who are unable to control their bodies can be confidently predicted to bear more children than those who can, and education tends to make larger families less appealing. But it would be a mistake to surmise that women having large families necessarily do so out of ignorance or because they have no choice. It seems more likely that ideas about the role of women and the (instrumental versus intrinsic) value of children spring from the same socio-cultural fountain as preferences about family size.

“The permanent loss of biodiversity is a profound moral wrong to the species being annihilated by humanity's reckless expansionist project.”

The weight of the evidence suggests that the most important factors driving population growth today are persistent preferences for larger family sizes (e.g. Westoff, 2010; Bongaarts, 2011) and unintended births resulting from non-use of contraception even where it is available, often due to cultural or religious objections.⁶ Both factors are amenable to changes in values and social norms that have a tremendous bearing on individual attitudes and reproductive behaviour, as exemplified by the many successful ideational change campaigns employing entertaining television and radio shows (e.g. Westoff and Koffman, 2011).

But the case for changes in values and social norms is undermined whenever and wherever those best placed to understand and explain the risks that are driven or aggravated by population growth stay silent on it, and even more so if the only voices speaking on population are pro-natalist ideologues representing capitalist, patriarchal or religious interests. An unconscionable taboo has developed whereby scientists, activists and policy makers ‘talk around’ population growth and gloss over or omit reference to the need for smaller family sizes when discussing climate change, food or livelihood insecurity, loss of biodiversity and environmental degradation (e.g. Campbell and Bedford, 2009; Coole, 2013; Mora, 2014). In doing so, these actors are complicit in creating an environmentally impoverished world in which many millions, possibly billions, of people may starve, become displaced or have no hope of securing decent livelihoods. This needs to change.

What can be done?

Fundamentally, we must foster a shared sense of responsibility for the size of our human population and adjust our behaviours and ways of thinking. In the oft-quoted words of Stanisław Jerzy Lec, no snowflake in an avalanche ever feels responsible. But we all are. Even the childless by choice are still consumers, and as social beings we all make a contribution, however small, to what ideas live or die.

The logical and ethical response to unsustainable population growth is to

reject the primitive rhetoric of irrational fears about population degrowth and ageing and of unthinking acceptance of speculative gambles with our collective futures. It calls for us to confront those who promote population growth on the ethically repugnant premises that human beings exist to serve the needs of a supposedly ever-growing capitalist economy, or the political goals of religious leaders. It asks that we embrace, rather than fear, sub-replacement fertility levels.

In order for younger and future generations to have a chance at decent lives in a world that is not an environmental wasteland, there needs to be change to social ideas about what a normal family looks like. A one-child family ideal is a very small family indeed, but one that prioritizes the life chances of children and future generations, the long-term stability of human societies, and the survival of the world’s wildlife over the immediate preferences and desires of prospective parents. This is what makes sense, and how it should be. ■

Notes

- 1 In the original (and rather more eloquent) words of Paul and Anne Ehrlich (1990: 37–40): “Overpopulation is defined by the animals that occupy the turf, behaving as they normally behave, not by a hypothetical group that might be substituted for them.”
- 2 See for example the World Economic Forum (2017) report on global risks, which (as with previous reports) ranks fiscal non-sustainability and unemployment or underemployment, along with a host of anthropogenic environmental and humanitarian crises, as high-impact, high-likelihood risks.
- 3 There was no ‘business as usual’ (constant fertility) graph in the UN’s 2015 or 2017 projections, perhaps because the business as usual graph in the 2012 projections was thought to be alarmist. It is fair to say that a human population of over 25 billion is improbable.
- 4 Campbell and Bedford (2009) provide a useful summary. See also Garenne (2012) and Grant (2015) for sobering data on the limited impact of education on fertility rates in Sub-Saharan Africa, and Myrskylä *et al.* (2009) on how advanced levels of socio-economic development can reverse fertility declines.
- 5 The population of many Sub-Saharan African countries is set to at least quintuple over this century (United Nations, 2015), greatly depressing

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the scope for those societies to provide decent education and livelihood opportunities for rapidly enlarging cohorts of young people. See for example McNay (2005) and Grant (2015). See also Recoules (2011) and Anderson and Kohler (2015) on how low fertility may boost gender equality and how gender equality may in turn boost fertility rates. The relationship between fertility and gender equality appears to be far more complex than is commonly assumed.

- 6 This reflects the difference between unmet demand and unmet need for contraception. Where a woman would like to avoid pregnancy but does not intend to use contraception, there is unmet need but no unmet demand. For example, 65% of people in Pakistan, 54% of people in Nigeria and 52% of people in Ghana personally believe that using contraceptives is morally unacceptable; it does not necessarily follow that very large families are wanted (see Poushter [2014] and Pew Research Center [2014]).

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“A one-child family ideal is a very small family indeed, but one that prioritizes the life chances of children and future generations, the long-term stability of human societies, and the survival of the world's wildlife over the immediate preferences and desires of prospective parents.”

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Sea Monster Soup

by **Anna Walsh**

Higher-resolution version: <https://is.gd/ecoartwork>

About the artwork: Screen-print on 'Somerset velvet' 250 gsm antique paper (400 x 500 mm).

About the artist: Anna is a British artist working in London whose work investigates the relationship humans have with other animals and the rest of nature.

From the artist: This three-colour screen-print is inspired by the 1850 engraving *Monster Soup* commonly called *Thames Water* by William Heath, which was a satire of a microscopic examination by Arthur Hassell of the water supplied to the inhabitants of London that portrayed the 'monsters' found in a drop of water from the Thames. Only 50 years ago, the Thames was so polluted that it was declared 'biologically extinct'. However, observations of various marine mammals and other species over the last few years confirm that the river is springing back to life.



SEA MONSTER SOUP

commonly called THAMES WATER and some of the creatures you might find in it.
1. Harbour seal, 2. Grey seal, 3. Dolphin, 4. Harbour porpoise, 5. Northern bottlenose whale

From wilderness to plastic plants: How might we get back to wildness?

In human-controlled environments, areas of wild plants are 'translated' into cultivated landscapes to accommodate social, cultural and economic needs. This article explores indoor, agricultural and (sub)urban landscape in the Netherlands, focusing on the use of plants both indoors and outdoors, and reveals anthropocentric, instrumental and unsustainable practices. The article also presents suggestions for alternative, more ethical and sustainable ways of relating to plants in the Netherlands and beyond.

As I enter my institution, the rows of metal plant pots with artificial 'earth' and 'leaves' that decorate the corridors fit easily within the building's modern aesthetic (Figure 1). When I ask my colleagues what they think of these plastic plants, most of them find them 'nice'. Outside the window of my office there are neat rows of trees along the square with fountains – their lower branches cut off to ease the passage of students and lecturers as they walk into the building through the cafeteria. For the past few years this cafeteria has served 'natural healthy foods' such as kiwi fruit from New Zealand, goji berry juice from China, and avocado-with-walnut salads – all neatly packaged in containers that can be easily discarded into our all-purpose trash bins. The institutional furniture is made from an attractively coloured mix of compressed wood chips and glue – the same substance which lines the interior walls of the building. It is this passage – from home to work, from inside to outside – that my colleagues, my students and I go through everyday, seeing the plants along the way in the shape of exotic fruit or as an ambient decor, a background to the really important things in life: study and work.

Where I live, we are used to manicured lawns and neatly trimmed trees. Where I live, we are used to nice furniture that is regularly changed. Where I live, we are used to food either produced via intensive local agriculture or cheaply imported from all

over the world – so we can have avocado-with-walnut salads all year round. I live in a typical developed country that many tourists see as 'green'.

Let me reflect upon this 'green' background.

Plants: Then and now

Traditional cultures used to believe in the profound connection between humans and plants, seeing flora as vibrant beings (Caldwell, 1990; Merchant, 2006) that were active and intelligent agents (Kellert and Wilson, 1993; Hall, 2011; Kopnina, 2012b; 2015b). In many areas of the world, violation

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Citation

Kopnina H (2018) From wilderness to plastic plants: How might we get back to wildness? *The Ecological Citizen* 1: 191–7.

Keywords

Anthropocentrism; human–nature dualism; intrinsic value; nature; sustainability



Figure 1. Plastic 'plants' in the author's place of work.

of certain plants was severely punishable (Frazer, 2012). In addition to its provision of essential components for life on Earth and human flourishing through the formation of soil (via the decomposition of plant materials) and air (via the production of oxygen from photosynthesis), wilderness with all its plant diversity has come to be seen as a repository of material for food, fibre or resilience to climate change. Meanwhile, plants have evolved in our lives from independent living beings into crops and providers of recreational areas for urban dwellers (Kopnina, 2013). Plants are used in timber, paper, construction, energy, pharmaceuticals and agriculture. The instrumentalism of our relation to plants is well illustrated by the example of agriculture (Crist, 2015: 248):

Industrial agriculture occupies extensive territories, after stripping them of their native life and engineering them for the production of grains, protein, oils, and fiber, most of which do not even directly serve as human food but as raw materials

for industrial processing. An even larger portion of the globe allotted to livestock grazing is also roundly dominated, displacing wild animals, plants, and natural ecologies.

Intensive agriculture requires massive chemical inputs. What tourists admiring my country's green fields and colourful flowers do not see is what happens after harvest – a depleted ground (Figure 2) that without even more fertilizer might stay barren, as far as growing food goes, for decades.

Yet unsustainable and unethical treatment of the land not only tends to go unnoticed by the public but is also largely invisible in the academy. Instrumentalism, bolstered by constructivism, has led to an overt critique of 'wilderness' and 'nature' as idealizations or mere 'social constructions'. This is illustrated in an extreme way by the *Ecomodernist Manifesto* (Asafu-Adjaye *et al.*, 2015), which sees nature as a means of reaching prosperity. The Manifesto envisions a bright future of "vastly improved material well-being, public health, resource



Figure 2. Intensive agriculture in Groningen, the Netherlands.

productivity, economic integration, shared infrastructure, and personal freedom” (Asafu-Adjaye *et al.*, 2015: 8). In a similar way, Cole (2012) talks about a necessary move beyond ‘naturalness’ towards ‘wilderness stewardship’. Rather than decry lost wilderness, the new conservationists, eco-modernists and eco-pragmatists suggest that we should celebrate and embrace the ‘post-nature’ human-tended garden that is Earth.

Relating this to environmental education, pedagogical researcher Karen Malone has argued that ‘wild nature’ merely represents “Western middle-class sensibilities of an idealized child–nature encounter” (Malone, 2016: 399). Following this, it is reasoned that environmental education should no longer focus on wilderness but on people. In fact, it is argued, we should abandon the idealized concept of wilderness when teaching our children because, after all, ‘children are nature’ and the distinction of *human* and *environment* is a false dichotomy (Malone, 2016).

Objection to objectification

Counteracting this abandonment of wild nature are views emphasizing that, far from wild nature being created by Western middle-class elitists, nature has actually created all of us. According to the ‘Land Ethic’ (Leopold, 1949: 224–225): “A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.” The Land Ethic has inspired deep ecology (Naess, 1973) and accounts of ecological justice that emphasize equality between species (Devall and Sessions, 1985). In these perspectives, respect for nature is central (Taylor, 1986), and wilderness is an intrinsic good that should be inviolate (Rolston, 1983; Koechlin, 2009; Crist, 2015; Piccolo, 2017).

Significantly, while agreeing about the need to deconstruct the dichotomy between humans and nature, critics of the concept of ‘wilderness’ rarely consider the logical and practical implications of their position. Merely erasing the dichotomies between the human and the natural domain does

little to address the highly exploitative and essentially immoral use of nature (Kopnina, 2016) and does not trouble the anthropocentric inscriptions of power manifest in (sub)urban parks or food-growing gardens (McKenzie and Bieler, 2016). Just dissolving the nature–culture dichotomy can lead to naturalizing, and in effect justifying, the anthropocentric ‘take-and-no-give’ cycle (Batavia and Nelson, 2017).

While living in harmony with nature by learning to share may sound facile, it is in fact an ardent call for becoming a symbiotic member of the biospheric community. The logical and practical implication of this call is that the planet needs to be divided on the basis of species’ natural resource requirements (Mathews, 2016), and not on the basis of ‘superior species’ logic. Of course, human beings are part of nature, in evolutionary and biological terms. For that matter, the malaria virus and its mosquito carrier are also part of nature. The real question is: what justifies exclusive one-species rights?

Harmon (2009) and Hall (2011) argue that, because plants constitute the bulk of our visible biomass and underpin all natural ecosystems, they should not be placed outside of moral consideration. Ecocentric scholars demand that the intrinsic value and autonomy of ecosystems, including plants, are maintained to safeguard the ecosystem integrity upon which all life, including human life, depends (Rolston, 1983; Doak *et al.*, 2015; Crist *et al.*, 2017).

This autonomy can be justified for plants on the basis of a number of arguments developed by animal rights advocates Tom Regan (1986) and Peter Singer (1977), including appeals to sentience and other capabilities. Recent work has shown that plants possess complex abilities to signal, communicate and remember, and may even feel pain (*e.g.* Chamovitz, 2012; Marder, 2013). Plant neurobiology demonstrates that plants are complex organisms capable of perceiving and responding to external information, and anticipating forthcoming hazards and stresses (*e.g.* Falik *et al.*, 2011). If more forms of natural life than just humans

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“What is really a ‘cultural disease’ is the way we tend to consider ourselves the only important life form.”

and other animals share these capacities, then the discussion of political and legal rights for natural life becomes intertwined with questions about ‘freedom’. The kind of freedom exalted, for example, in the *Ecomodernist Manifesto* cannot be achieved while non-human beings and places suffer, being “extinguished, constricted, enslaved, managed, or treated as objects” (Crist, 2015: 254). And, indeed, as human and non-human justice is intertwined, “what suffers by the exact same token is the dignity of the human that humanism holds so dear” (Crist 2015: 254). For this reason, Stone (1972; 2010) and Marder (2016) compare the emergence of the awareness of plants as persons to movements promoting social liberation and basic human values.

The realization of this intrinsically fair world can be called revolutionary in the way it would uproot the structures of dominance and oppression. But just like with any other revolution, there will be those who feel threatened by this new liberation. Abbott (2008) and Haines (2008) ridicule concepts of ‘plant dignity’ arguing that the development of medicine and food may be jeopardized by the ‘absurd’ demands of ‘plant lovers’. In an article revealingly titled ‘The silent scream of the asparagus’, Smith (2008) asserts that the idea of ‘plant dignity’ is a “symptom of a cultural disease that has infected Western civilization, causing us to lose the ability to think critically and distinguish serious from frivolous ethical concerns.” Yet because most of our industrial activities are extractive, we have become the only species on record that takes more from the environment than it gives back. While we often speak of nature as a system of cut-throat competition, we forget that symbiosis, or interdependency between multiple species, is also part of nature. Much talk of ‘humans as part of nature’ fails to notice how perverse our own industrial nature has become. But recognizing this interdependency is only the first step in recognizing our obligations. What is really a ‘cultural disease’ is the way we tend to consider ourselves the only important life form. Curing this disease will not be easy.

In cities, it would be easy not to worry about the trees ‘decapitated’ by the municipality’s chainsaws. It would be easy to limit urban ‘wildlife’ to ‘pigeons and parks’ (Derby *et al.*, 2015). Children could play football on artificial turf made of synthetic fibres that look like grass without worrying about carcinogenic substances. It would be easy to bite into that perfectly formed, shiny red apple without worrying about industrial fertilizers and pesticides, and the millions of tons of other apples discarded because they did not pass the stringent food controls. It would be easy to ignore the plastic plants as I walk towards a classroom to teach a course in ‘Sustainable Business’. It would be easy to think that my students and their children will inherit a beautiful and just planet. But it would be a lie.

Alternative ways of valuing plants

One of the most important frameworks for rethinking our relationship to plants, in terms of both ethics and sustainability, is the cradle-to-cradle (C2C) framework developed by McDonough and Braungart (2002). This framework uses the metaphor of a cherry tree to explain how human production could be radically reformed if it was based on natural cycles. The cherry tree produces abundant fruit, blossoms and leaves. Its ‘waste’ supports multiple species, including bacteria, fungi, plants and animals. In turn, birds and animals carry the seeds to new localities and, by excreting them, help those seeds to spread. Worms transform rotten cherry leaves into fertile soil. In each case, the ‘waste’ becomes the cradle of new life.

By contrast, in the modern Dutch economy all waste is incinerated, thus transiting from cradle to grave. Our incessant cutting, pruning, tending and other ‘management’ of greenery does not allow even small-scale biodiversity in the form of plants and insects to flourish (Kopnina, 2015a). This ‘management’ testifies to the dominance of an anthropocentric, hierarchical and essentially immoral and unsustainable cradle-to-grave model. Bioethics (UNESCO, 2005) and ethics supporting plant dignity (*e.g.* Stone 1972, 2010; Federal Ethics

Committee on Non-Human Biotechnology, 2008; Hall, 2011; Marder, 2016) offer useful guidelines for action. In agriculture, for example, a new (or rather, traditional) way of farming including permaculture and other ecologically informed strategies is advocated (*e.g.* Erisman *et al.*, 2016). In city planning, urban rewilding and ecological restoration bring multiple benefits such as clean air, a reduction of anxiety and stress, and a boosting of our immunity (Slavikova, 2017). The good news is that reversing this trend should not be difficult. In fact, *not* having to mow one's lawn, to give just one example, could mean saving on energy bills and saving our own energy for other more useful endeavours.

Pragmatically, decisions need to be guided both by non-anthropocentric ethics and realization of trade-offs necessitated by human industrial development (Evans and Clark, 2017). For example, the consumption of plants and plant-dependent organisms is a biological necessity for humans. But choices – in terms of both sustainability and ethics – need to be made about which use of plants is more justifiable and which is less so. While this might sound like a patronizing set of environmentalists' demands, eating local and seasonal vegetables instead of imported food, for example, is not such a high price to pay. It might be more difficult to avoid urban tree cutting as, despite what many people believe, this may be not just aesthetic ('keeping things neat'; Figure 3) but also commercial. In countries like the Netherlands, green 'waste', together with tons of Canadian wooden pellets, is incinerated to generate 'renewable' energy. Indeed, the supposedly sustainable policy of substituting wooden pellets for coal leads to depletion of biomass (Wohlleben, 2015). Similar issues can arise with tree felling too, and this may also be presented as a benevolent activity (Brown, 2017):

At university we were told that cutting down trees was good for the environment. That we are renewing forests. I believed it [...] it took time to get that brainwash out of my head. The wisdom has been to cut down a big tree so the younger trees have more space to

grow [...] but apply that to human society and [...] it would be OK to kill the parents? The children will have more space in the house afterwards?

There will be cases when cutting down some trees may be, on balance, the right course of action from an ecocentrically holistic perspective – to help, for instance, in the conservation of threatened sunlight-dependent forest insects – but in many other cases, harvesting is being conducted at a scale and in a fashion that gives no thought to the intrinsic value of non-human life.

Public awareness about practices that are unsustainable and unethical can help to move policy-makers and energy companies to reconsider their priorities. An alternative in this case can be quite simple: switching to true renewables, sun and wind, and allowing trees to do what they have done for millennia before humanoid apes learned to walk upright – grow, die, and in their death become the cradle of new life. Another possibility is bringing nature back into environmental education by teaching students to look beyond anthropocentric framing (Kopnina, 2012a) and encouraging them to question our modern aesthetics of (sub)urban landscapes and built environments. We must also move towards reducing demand through conserving and doing with less.

Without wild experiences, we risk our children moving even further into the



Figure 3. 'Tidied trees' near Amsterdam, the Netherlands.

‘extinction of experience’ in a wilderness-less world (Pyle, 1993). To avoid this, we need to acknowledge the intrinsic value of nature. The starting point is to learn to recognize the ‘voices’ of non-humans – or at least the voice of humans that speak for them. Henry David Thoreau, a transcendentalist writer and naturalist, could see the sap flowing beneath the bark of the trees. When he wrote that the poet loves the pine tree as his own shadow in the air, he was speaking about himself (Higgins, 2017). Or, as Indian poet Rabindranath Tagore (2009: 256–7) has written in describing the fictional character of Balai:

His worst troubles arouse when the grass cutter came to cut the grass, because he had watched countless wonders in the grass; small creepers; nameless violet and yellow flowers, tiny in size; here and there a nightshade, whose blue flowers have a little golden dot at the center; medicinal plants near the fence [...] seeds left by birds, sprouting into plants, spreading beautiful leaves. All those were cleared with a heartless weeding tool. None of them were prized trees of the garden, there was no one to listen to their protests.

We do not have to be trees to know how trees feel and what they want. After all, one does not have to be a woman to oppose sexism, and one does not have to be of an oppressed race to reject racism. And no, we do not all need to become ‘tree huggers’. Neither do we all have to go around hugging women, black people, gay people, or members of other groups that suffer discrimination. Perhaps our children can learn that caring for plants includes the ability to just let them live.

Strategically, the ‘plant whisperers’ need to recognize that their ‘opponents’ – whether these be ‘post-nature’ researchers who deny nature’s objectivity, or merely a neighbour who keeps cursing the withered city poplar because of the birds that live in it and dirty his car – are all people who love their children and grandchildren and wish them a healthy future. It is essential to find a way to talk with others about scientific realities and ecocentric values in order to

protect the future for all living citizens of this planet. Luckily, I can do my modest bit through teaching and writing.

I return home from work after a graduation ceremony, where hundreds of cut flower bouquets were dealt out. Next time we should give our graduates something more lasting than flowers that will wilt in a few days. Single flowers in bud vases, perhaps, or small potted perennials to be taken home and planted. ■

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Details from Con-nec-ted

by Sarah
Misselbrook

Higher-resolution versions:
<https://is.gd/ecoartwork>

About the artwork: Installation inspired by the volcanic island environment of Jeju, South Korea; plaster, volcanic rock, paint on fabric and digital print collage (2014).





by **Henneke
Andreae**

Higher-resolution versions:
<https://is.gd/ecoartwork>

From the artist: The consequences of human actions since the time of industrialization are impossible to overlook and a move towards change is needed to aid hope and survival. As an artist with a strong relationship with non-human animals, I am happy to be part of a movement which is working to further the cause of consideration for all species. I hope that by extending personal boundaries we can begin to navigate a world with which we can live in partnership. All of my projects relate to the environment I live in, an area of bog and forestry on the edge of limestone, in County Clare, Ireland (see photo *Our Habitat*).



Visitors

Illumination of Cohabitation

About the artwork: Photo (2017).

About the artwork: Photo (22.2 x 12.5 cm; 2014).





Holly

Elevation

About the artwork: Photo (38.2 x 29.2 cm; 2015).

About the artwork: Photo (38.2 x 29.2 cm; 2015).





Rise

Our Habitat

About the artwork: Photo (38.2 x 29.2 cm; 2017).

About the artwork: Photo (19.2 x 13.4 cm; 2016).



Harmony – not ‘theory’

Academics love theory, but theory can become ideology. Much of recent theory in ecology has not been kind to non-human nature. This paper considers ecological theories about nature, from the superorganism idea to ‘adaptive management’ and then to recent theory such as ‘new conservation’ and ‘critical social science’. Most recent theory (other than Gaia) comes from an anthropocentric perspective, where nature is just a resource, and the problems of this are detailed. The author argues that we should instead focus on the harmony we feel when we step into natural places. He makes the case that our harmony with nature should be our mission, our goal, our vision and our path. We must find an ethics of harmony, he contends. The United Nations’ Harmony with Nature programme represents a promising start.

*“As I step outside
Into the wild,
I embrace
A harmony of lives,
Meshing together,
In a serene
Yet changing balance
Of co-evolved equilibrium,
Where the whole
Is far, far greater
Than the sum of its parts.
Stable yet dynamic –
Such exquisite artistry
Of belonging.”*

(Washington, 2013b)

Ecologists and conservation biologists used to speak about ‘stability’, then they moved to speaking about ‘ecological integrity’, and now today they mostly speak about ‘resilience’. I write as an environmental scientist (originally plant ecologist), so I have seen these terms come (and go), often driven on the wings of theory. However, as someone who has spent a lot of time in wild places, I am keenly aware that one word rarely spoken of in academia is *harmony*. I remember years ago, when researching my PhD, I talked to geographer Jamie Kirkpatrick. When I asked him what word defined wilderness for him, his

answer was “harmony”. The reply made me smile with recognition, and I have pondered this truth ever since. However, ecological theory (driven by ideology) has a strong influence on how we think about nature. So I feel I must speak out for the centrality of harmony, and question the dominance of current anthropocentric theory.

Past theory about nature

The ecologist Frederick Clements (1916) described the successional development of an ecological community as being comparable to the development of an individual organism. Other ecologists likened the ecological community to a ‘superorganism’, where the interdependence of the various species in an ecosystem mimicked the way various organ systems functioned as parts of an individual organism. This approach highlighted the role of cooperation in ecosystems. Working within this theoretical framework, some ecologists sought to define a stable single ‘climax’ vegetation community for each area. There were good reasons for ecologists to follow such an approach, when humanity’s impact on nature was far less than today. Primary forests (old growth communities) were common (or only slightly disturbed) and dominant plant communities were visible everywhere. However, these past plant

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Citation

Washington H (2018)
Harmony – not ‘theory’.
The Ecological Citizen 1:
203–10.

Keywords

Anthropocentrism;
conservation; ecological
ethics; Harmony with
Nature; nature

“Often the term ‘ecological integrity’ went undefined in environmental papers, for its meaning was deemed to be obvious.”

ecologists may have made too much of ‘stability’ and climax communities.

To put things in perspective, plant and animal communities have persisted over eons (*e.g.* rainforests survive for many millions of years). More biodiverse ecosystems tend to be more stable because they have greater productivity, greater drought tolerance, better water management, better nutrient cycling, greater community respiration, greater biotic resistance to pests and thus greater resilience (Cain *et al.*, 2008; Elmqvist *et al.*, 2010). However, it is not the case that past ecologists denied the existence of *change* in ecosystems. Clements never argued that climax communities must always occur; rather, he used it as a conceptual starting point for describing local vegetation. Ecologists then (as now) saw the change that disturbance makes, for example, in forests, and they could see the successional change on beach sand dunes. They could see that nature was to some extent always in a state of flux, but they could also see a persistent ‘balance of nature’ in many areas. Hence they felt it appropriate to speak of stability in ecosystems, to wonder about the relationship of diversity to stability, and to try to measure this (Washington, 1984). This was fully consistent with the underlying worldview of nature as a superorganism. This worldview also lent itself to support of ecocentrism, and underpinned what Donald Worster (1994) described as the ‘Arcadian’ (or ‘naturalist’) approach to ecology. It should be noted that the superorganism worldview has not totally disappeared, for arguably it was resurrected in Gaia theory (Callicott, 2013).

Ecologists also later commonly spoke of ‘ecological integrity’, this being “the ability of an ecosystem to support and maintain ecological processes and a diverse community of organisms” (Ocean Health Index, 2017), and some still do (*e.g.* Environmental Protection Agency, 2012). Often the term ‘ecological integrity’ went undefined in environmental papers, for its meaning was deemed to be obvious – one kept natural communities ‘natural’, without too much damaging human disturbance.

However, theory changed, and these terms declined in use. What happened?

Modern shifts in theory

Most of the views I will criticize in this section are those that have come to be known in recent years simply as ‘theory’. They are dominated by various versions of the thesis that reality – including nature – is a social and political ‘construction’. The importance of perturbations in natural communities was revisited, where those communities were constantly being altered naturally by such phenomena as wind storms, fire, landslides and so forth. At the same time, human influences on natural communities were massively on the increase – as summed up in the acronym HIPPO (standing for Habitat loss, Introduced species, Pollution, human over-Population and Over-harvesting; see Wilson [2010]). To some extent, ecologists thereby lost their natural ‘baseline’, as the majority of habitats were disrupted – mostly by humanity. So, while rainforests may persist over millions of years, they are constantly being perturbed by many small natural influences, and increasingly by human influences. If there was an equilibrium in such ecosystems it was a *dynamic* equilibrium, where some change was always happening.

It was in this context that theory came to the fore in various ways. Many academics love theories and models. However, it is worth remembering the dictum: “Essentially, all models are wrong, but some are useful” (Box and Draper, 1987: 424). So theories can be useful – if they help our understanding. However, there is always the danger that the theory can become more real to the theorist than reality. Philosopher Alfred North Whitehead (1929) called this ‘the fallacy of misplaced concreteness’. Neoclassical economics is full of this (Daly, 1991), but so also is ecology, and recent theorization has not been a friend to non-human nature.

Worster (1994) explains that apart from the Arcadian stream, there is a Linnaean or imperial stream of thought in ecology, which is particularly evident in mathematical

and theoretical ecology. This stream of thought tends to be anthropocentric, with an emphasis on human mastery of nature. It also tends to focus on the role of competition in ecosystems rather than on cooperation. Nature is thus not envisioned as a superorganism, but as made up of competing parts that operate in a machine-like way. Imperial ecology is now dominant in academia. A very influential theory within this stream of ecological thought is ‘panarchy’ and ‘adaptive management’, championed first by Holling (1973) and later most notably in Gunderson and Holling (2002). While earlier ecologists perhaps overstated the role of ecological stability and cooperation, these later theorists overstate the role of disturbance and competition. Indeed, this overemphasis leads Gunderson and Holling (2002: 101) to argue that “there is no such thing as nature separated from human social processes,” and that (2002: 150; my emphasis):

There is *no nature out there*, there is no baseline, current states of nature are seen as extremely path dependent. The environment is not constant and environmental change is episodic.

Indeed it becomes clear that these authors write from an anthropocentric, neoliberal ideology, which leads them to ask, “The paradox is that if human exploitation leads to resource collapse, why haven’t all ecosystems collapsed and why are humans still here?” (Gunderson and Holling, 2002: 14).

In asking this question, Gunderson and Holling thereby ignore the extensive indicators of increasing ecological deterioration (e.g. Millennium Ecosystem Assessment, 2005; Washington, 2013a). Gunderson and Holling (2002: 31) also ask: “is it desirable to have a goal of preserving and protecting systems in a pristine, static state?” They thus question keeping national parks and wilderness. Gunderson and Holling (2002: 192) further claim that “collapses [...] are likely the inevitable consequence of human interactions with nature.” This makes it sound as if ecosystem collapse is natural and normal. However,

such a claim confuses natural change and cycles in ecosystems with the substantially larger (and often previously unknown) stresses that humans are putting on nature today (e.g. rapid climate change, nutrient pollution and toxification by new chemicals). Their misleading claim that ‘collapse’ is natural provides justification for exploiters to argue that there are no environmental limits or crises, and that we should not worry about increasing ecosystem collapse. Such a position simply aids and abets further degradation of the Earth’s life-support systems (Washington, 2015).

So the fathers of ‘adaptive management’ clearly write from an anthropocentric ideology and come close to denying the existence of the environmental crisis. Despite this, the influence of adaptive management is everywhere in contemporary environmental studies and science, and its concept of ‘resilience’ has mostly displaced prior notions of ‘stability’ and ‘ecological integrity’. For example, in Australia today, ‘adaptive management’ is regularly cited as an excuse to conduct any experiment (no matter how damaging) in natural areas, largely on the grounds that all change is natural.

The ideas of stability and ecological integrity, I argue, were in some way influenced by an ecocentric worldview with nature seen as a superorganism; panarchy and adaptive management, in contrast, are clearly influenced by an anthropocentric, neoliberal worldview. I suggest that both of these ecological perspectives are overstated, and that only an approach firmly in line with ecocentrism will lead humanity to a sustainable future (Washington *et al.*, 2017).

However, recent theory seems to have become even more anthropocentric, with the arrival of what has been labelled ‘post-nature’ theorizing (e.g. Purdy, 2015). Many scholars continue the attack on ‘nature’, even to the extent of promoting what philosopher Val Plumwood (2006) called ‘nature skepticism’. Postmodernists in particular seem to line up to deny that there is such a thing as ‘wild nature’ (Washington, 2006) – or that ‘nature’ as such exists. Some even argue that nature

“The fathers of ‘adaptive management’ clearly write from an anthropocentric ideology and come close to denying the existence of the environmental crisis.”

“Critical social scientists claim that nature protection is the providence of Western elites – the sole beneficiaries.”

is just a ‘human artefact’ (e.g. Langton, 1998). This denial of nature has been taken up by two new groups, the so-called ‘new conservationists’ (who draw on neoliberal ideology) and ‘critical social scientists’ (who draw on neo-Marxist ideology).

As Soulé (2013) has pointed out, the new conservationists promote economic development, poverty alleviation and corporate partnerships as surrogates or substitutes for endangered species listings, protected areas and other mainstream conservation tools (e.g. Marris, 2011; Kareiva and Marvier, 2012). Miller and colleagues (2014) have shown that new conservation builds its arguments on ecological science distorted by anthropocentric ideology. They list its assumptions as being:

- 1 nature is a warehouse for human use;
- 2 humans can construct new ecosystems from non-native species;
- 3 humans do not have to live within ecological limits;
- 4 nature is resilient;
- 5 nature is a social construct;
- 6 conservationists preach too much doom and gloom;
- 7 people can manage nature intensively while still preserving biodiversity.

Miller and colleagues point out that these assumptions are not based on conservation ecology but on ideology. My own brief response to these assumptions is as follows:

- 1 It is anthropocentric to define nature as just a resource for humans (Crist, 2012); in contrast, ecocentrism sees nature as the living world of which humanity is just a part.
- 2 It is hubris to think we can construct new ecosystems as we see fit – something borne out by the limited success of past attempts to do this (Moreno-Mateos *et al.*, 2012).
- 3 Humans, like all species, have to live within ecological limits, as the collapse of past civilizations has shown (Diamond, 2005)
- 4 ‘Resilience’ is not open-ended – while nature does bounce back from some disturbances, this capacity has limits that have been exceeded.

5 Humans are an evolved construct of nature – after all, nature was here first, and thus cannot be *our* construct (Rolston, 2001).

6 Environmental scientists report declining ecological indicators that are not mere ‘doom and gloom’ but reflect a reality we need to act on.

7 The current mass extinction underway shows that human attempts to manage nature intensively have been disastrous, not sustainable.

Critical social scientists claim that nature protection is the providence of Western elites – the sole beneficiaries (Büscher *et al.*, 2016; Holmes *et al.*, 2016). In effect this argument strips nature of any value other than that of supporting humanity. Some scholars now also contend that, since humans are part of nature, the distinction between ‘human’ and ‘natural’ is specious (Malone, 2016). Those advancing this critique are often indifferent to the loss of wild places and species; instead they dismiss the very idea that ‘wild nature’ has ever existed (Fletcher *et al.*, 2014). According to this critique, the concept of ‘wild nature’ embodies “privileged, nostalgic, romantic (and primarily white male US) notions” (Malone, 2016: 341). Such critics place concern for disadvantaged local human communities at the forefront of conservation efforts and ultimately – like the neoliberal new conservationists – see nature as just a resource for human use (Crist, 2012).

For the reasons given above, I find much recent ecological theory (other than Gaia theory) deeply anthropocentric and thus unsettling. My concern is that often theory is portrayed as a ‘given truth’, when in fact it has ideological roots. Often it may be wrong, or only a partial truth. Such ideologically tainted theory has not helped humanity develop an ecological ethic to promote living within the limits of the Earth (Washington *et al.*, 2017). Rather, as we have seen, much of it argues that nature does not exist, being just a social or political ‘construct’. It also continues to deny the existence of ecological limits – arguing that, for

example, because nature is ‘resilient’ we can do whatever we like. Yet the evidence shows that humanity is overwhelming nature’s resilience everywhere. The consequence of this denial of limits is a rapidly escalating environmental crisis, where over 60% of ecosystem services¹ are degrading (Millennium Ecosystem Assessment, 2005) and it is estimated that by 2100 *two-thirds* of terrestrial multicellular life may be extinct (Raven *et al.*, 2011). This is an appalling reality, but one that much recent theory still ignores or even denies.

Harmony

I return to harmony. I am a scientist but also a poet, and I suggest that *listening* is key to both disciplines. Scientists tend to call such listening ‘observation’; poets might name it ‘empathy’. Now, it might be suggested that harmony is ‘just another theory’. However, I am not talking about a theory produced out of cerebral thought by academics sitting at their computers. Rather, I am talking about the *phenomenological reality* of harmony that one finds when stepping forward and truly listening to the land. A theory, after all, may be defined as a supposition or a system of ideas intended to explain something. By speaking of harmony I am not offering a system of ideas – although such a theory would, I suggest, make a lot of sense, and is perhaps necessary if humanity wants to find a sustainable future (Washington, 2013a). What I am speaking of here is not a human idea but rather the reality I experience phenomenologically when I step into wild nature. It is also the reality that many others have discovered (as discussed below). However, scholars today seem to be hesitant to speak about this, perhaps fearing it may be deemed ‘unacademic’. However, I feel it is time to speak openly about harmony.

I live on the edge of the largest wilderness in New South Wales, Australia, and have spent many months in that wilderness. On my land I walk most days along the edge of primary forest, and I listen and watch – and feel. Natural places have a harmony that embraces me when I set foot in them, a harmony of lives. I feel this as both a

scientist and a poet. Indeed, as a scientist, I cannot ignore what is so clear in such places. I do understand (as an ecologist) that that harmony is a dynamic equilibrium, where there is a state of flux... and yet the harmony endures. Indeed, if you listen, the harmony reaches out and teaches – as Thoreau (1995) found at Walden Pond; as Leopold (1949) found in the wilds; and as most indigenous peoples found and wove into their lore and law of how to ‘care for country’ (Knudtson and Suzuki, 1992). As Rowe (1994: 106) notes, ecocentrism is the “chord that harmonizes humans and Earth.” When I walk in my forest – one that does indeed burn in bushfires, suffers wind-throw and will be altered by climate change – I have to dismiss the theoretical notions that ‘there is no nature out there’, that it is all just random competition or a ‘social construction’. Such notions are arrogance – indeed, they are hubris. When I enter the wild, I do not enter a ‘Nature red in tooth and claw’, Tennyson’s (1849) erroneous label of nature. The wild is no neoliberal realm of species striving competitively to wipe each other out. Instead, it possesses a harmony – a harmony which one finds in all natural places if we do not overwhelm them with human disturbance. This is a harmony that encompasses both competition and cooperation, and that can be restored in disturbed places. This is the harmony that underlies the ‘old’ sustainability (Washington, 2015). As O’Neill and colleagues (1986: 3) note, those who see stability, and those who see change, are looking at two sides of the same coin, for “both impressions are correct, depending on the purpose and time–space scale of our observations.”

Awareness of harmony goes hand in hand with a sense of wonder at life, the true love of the land (Washington, 2002). Scientists love to measure things, yet we cannot measure this on a ‘harmonimeter’, and this may explain why it is ignored. However, one can *feel* it if one comes in reverence and respect. To experience it turns all that theory – whether from the political right or the left, whether from mathematical ecology or human supremacy – into dust. Natural places have a harmony that clearing and

“Awareness of harmony goes hand in hand with a sense of wonder at life, the true love of the land.”

“We must seek an ethics of harmony, a true Earth ethic.”

pollution damages, that introduced species diminish, that toxic chemicals weaken and that climate change throws out of kilter. Yet, harmony still persists – if we assist it

First and foremost, I believe it is harmony that we should be aiming for: it should be our mission, our goal, our vision and our path. We must seek an ethics of harmony, a true Earth ethic (Rolston, 2012). Science may ask if nature is stable, always changing or resilient, or has ecological integrity. But in asking such questions have we missed the point? Rather, we should be asking whether it has harmony, and how we can aid this and be part of it. Many other concepts tie in with this notion of harmony, the most obvious being *respect* and *responsibility*. We must have the deepest respect and reverence for this evolved harmony of natural places. And we should feel a responsibility to maintain that harmony, and a duty to aid it and to celebrate its ongoing existence.

Now the United Nations (UN) has in the past failed to lead the way in regard to ecocentrism (Washington *et al.*, 2017). Indeed, the Sustainable Development Goals are quite anthropocentric in nature. It is therefore a positive development that the UN has now established a Harmony with Nature programme (www.harmonywithnatureun.org), stating:

The Harmony with Nature initiative speaks to the need to move away from a human-centered worldview – or ‘anthropocentrism’ – and establish a non-anthropocentric, or Earth-centered, relationship with the planet. Under this new paradigm, Nature is recognized as an equal partner with humankind and is no longer treated as merely the source of raw materials to produce ever more commodities and feed the indefinite private accumulation of capital.

This programme has called for a report on how the UN Sustainable Development Goals can be implemented in harmony with Nature. This is a great step forward, but past history tells us a barrier to living in harmony with nature has been anthropocentric academic theory and ideology. So much of this theory is, in the

end, empty shibboleths, divorced from the beauty and wonder of the living world.

So how do we act to assist harmony? Some ways to renew one’s sense of wonder and improve our harmony with nature are (Washington, 2002):

- Be there with nature! Belong in the land.
- Take your children and friends to wild places so they can see the natural world as it really is, and bond with it.
- Take time to listen and ponder – whether this is called meditation, or empathy, or prayer, or contemplation or just sitting somewhere ‘at one with the world’.
- Keep your imagination, creativity and artistic expression alive. In these you find the wellspring of your ‘being’, which renews your sense of wonder.
- Cherish the imagination of your children, and let them play in natural places (even small ones) with unstructured play (Louv, 2005).
- Encourage your empathy on a sunny day. Find a beautiful spot and let your defences down and empathize with the natural world. Perhaps you too will find, as Thoreau (1995: ‘Solitude’) did, that: “Every little pine needle expanded and swelled with sympathy and befriended me.”
- At the institutional level, we need more emphasis in universities on field naturalist courses (Louv, 2005).
- At government level, we need greater support for the Nature Needs Half vision (Dinerstein *et al.*, 2017).

It is time to abandon the baggage of anthropocentric theory, and to step forward to listen to and support the harmony of nature, of which we can (and should) be part. Or as Leopold (1949: 158) so eloquently put it:

[S]it quietly and listen for a wolf to howl, and think hard of everything you have seen and tried to understand. Then you may hear it—a vast pulsing harmony—its score inscribed on a thousand hills, its notes the lives and deaths of plants and animals, its rhythms spanning the seconds and the centuries. ■

Acknowledgement

The author would like to thank Dr Helen Kopnina of the Hague University of Applied Science for her comments on the manuscript.

Notes

- 1 This is, admittedly, an anthropocentric term limited to services for humanity – for a critique see Washington *et al.* (2017).

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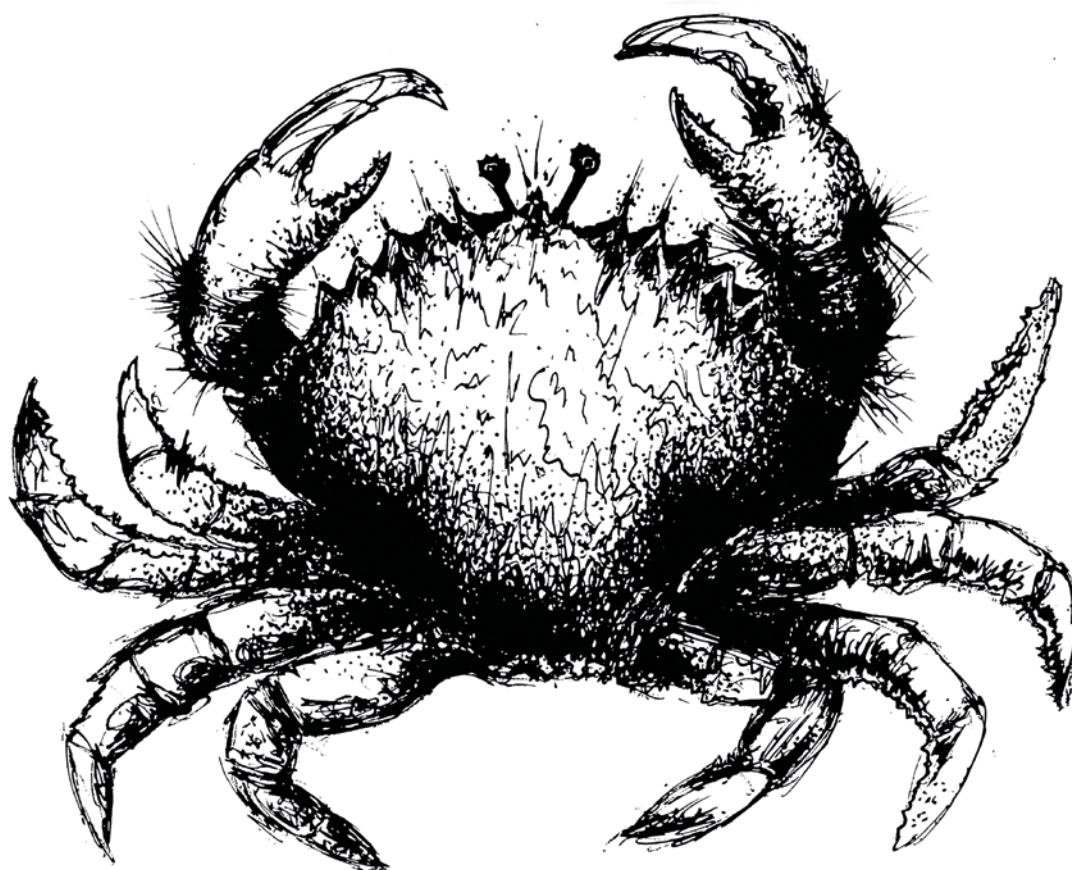
“It is time to abandon the baggage of anthropocentric theory, and to step forward to listen to and support the harmony of nature, of which we can (and should) be part.”

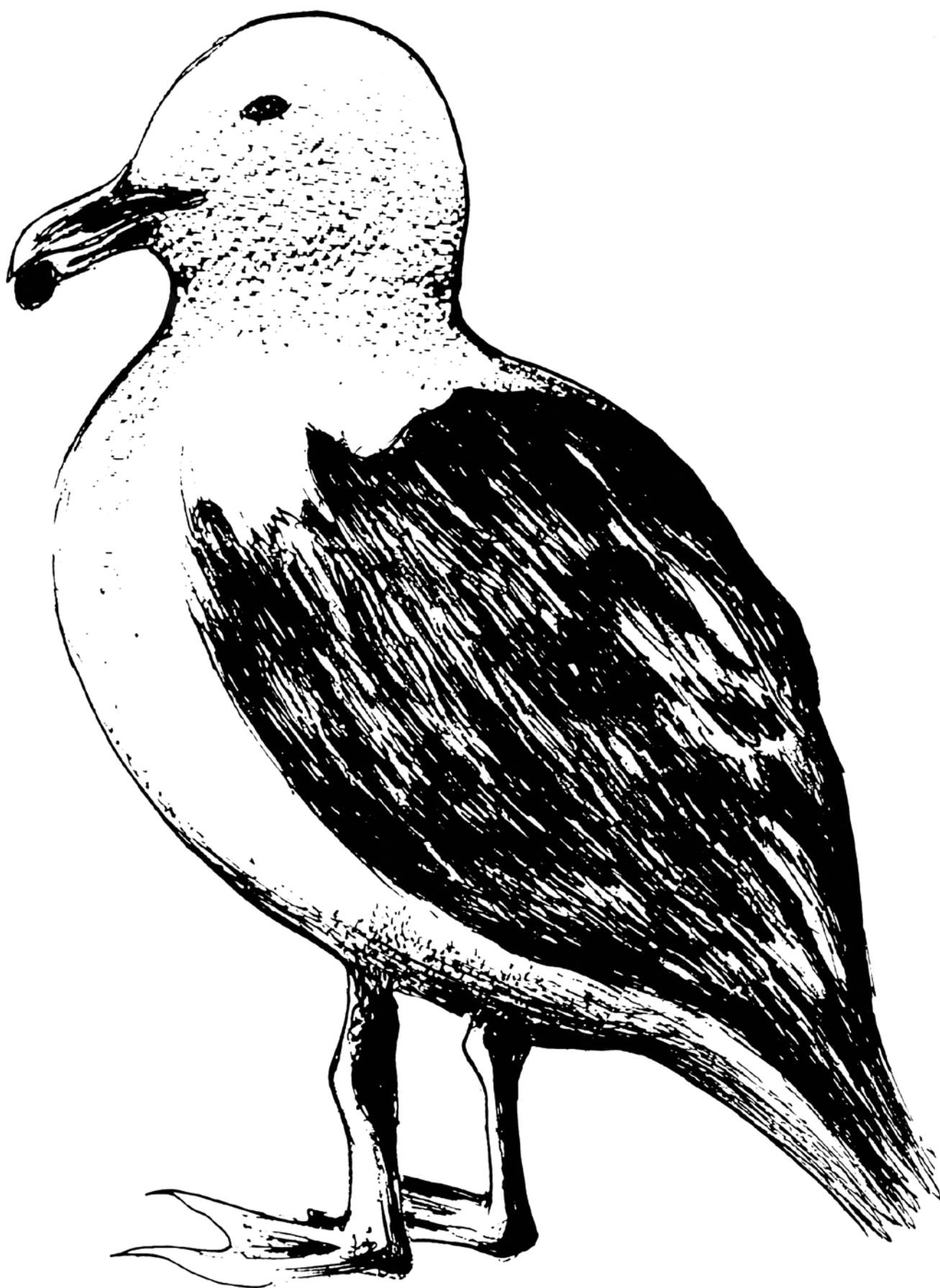
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by **Nicholas Rodriguez**

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About the artwork: Engravings of marine fauna.





Becoming indigenous:

A review of *The Ends of the World*

Patrick Curry

About the author

Patrick is a writer and scholar based in London, UK. He is Editor-in-Chief of *The Ecological Citizen*.

Citation

Curry P (2018) *Becoming indigenous: A review of The Ends of the World. The Ecological Citizen* 1: 212–3.

Keywords

Anthropocentrism;
human supremacy;
indigenous culture

About the book

Authors: **Déborah Danowski** and **Eduardo Viveiros de Castro**

Translator: **Rodrigo Nunes**

Year: **2016**

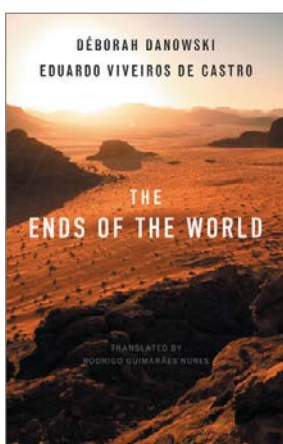
Publisher: **Polity Press**

Hardback ISBN:

978-1509503971

Paperback ISBN:

978-1509503988



This book is an intelligent, learned and passionate analysis of some of the main ways in which humans are now responding to what, it appears, could turn out to be the end of the world – for us, at least. I want to give a broad-brush idea of its contents before going on to suggest a few improvements.

The authors are Brazilian, a philosopher and an anthropologist respectively, and the references are dominated by French philosophy and South American ethnography. Although well and sometimes wittily written – and, so far as I can tell, well translated – it's not an easy read, and those whose background is the sciences rather than the humanities will have to work especially hard. Nonetheless, I recommend it to all.

Much of the book is structured around the idea of the Anthropocene, to which is counterposed the figure of Gaia as its ultimate limit and severe antidote. (This is Gaia as taken up and developed by the influential philosophers of science Bruno Latour and Isabelle Stengers.) Anthropogenic climate change provides the paradigmatic instance of that correction. In its course, humanity itself, as such, becomes a catastrophe.

The authors point out that the Amerindian world was brutally destroyed, in relatively short order, 400 years ago; so now that we are facing the possibility of a global recapitulation – the 'coming barbarism', in Stengers' phrase – we could do worse than consult those who survived it and continue to do so. The authors' term for the world's 'enormous minority' of broadly indigenous people (around 370 million) is Terrans, as opposed to the Earth's primary destroyers, the relatively worldless Moderns. Aided by their knowledge of indigenous South

American cosmologies and practices, they argue that the former people are the main repository of wisdom needed for "a mythology that is adequate for our times" (p 6). An example is the concept of *vivir bien, non major*: living well, not always needing better or more, or what the authors call 'intensive sufficiency'. While such a value is not in itself ecocentric it opens the door to it, and no sentimentality about indigenes is required to recognize its positive potential.

Along the way, the authors enquire with characteristic insight into what makes the slogan 'we cannot go back' such an article of faith for the dominant classes, and why they reject so vehemently any call for self-limitation, deceleration or degrowth – or in Teresa Brennan's words, to "go back, slow down" (p 242).

Certainly the Moderns will not supply the mythology we need. One of the most brilliant chapters anatomizes the messianic madness (the word is not too strong) of two current responses to ecocrisis, on the political right and left respectively: the Breakthrough Institute of Nordhaus and Shellenberger, and the authors and adherents of the Accelerationist Manifesto. The former are Silicon Valley techno-cornucopians and the latter cyberpunk neo-Stalinists, anti-capitalists but with, as the authors say, a serious case of Stockholm syndrome. But what unites them is more significant. Both parties want to intensify capitalism, ramp up human control and big up Big Science. Both also favour human supremacy, an extreme form of anthropocentrism and, like most other fundamentalisms, a toxic ideology (Crist, 2017). Their common enemy is any 'environmentalism' that recognizes human limits, and neither side evinces

the slightest concern for – awareness of, even – the countless others for whom the Earth is also their only home, except for those who are to serve us. The denialism is extraordinary – as if humans could, never mind should want to, go it alone – but no more so than the master–slave ethics.

Despite the prevailing virtues of the book, I have a few criticisms and suggestions. The authors refer respectfully to “a multiplicity of intricately connected multiplicities” (p 68) but they still slip on occasion into anthropocentrism. The fact that there are “too few people with too much world, and too many people with way too little,” is indeed a big problem but not “the problem above all” (p 97). It needs to be framed by the fact that there are even more non-human animals with far too little world or none, compared to whom all humans have more than their fair share. And from the perspective of this Journal, concentrating on the intra-human problem will eventually guarantee both their immiseration and destruction and ours.

In the same way, the authors’ counterposing of Terrans and Moderns needs to be contextualized. It is far from trivial truth that both – the one more-or-less consciously, the other more-or-less in denial – are Earthlings. What else could they be? Contrary to Stewart Brand’s fatuous slogan, we are not ‘as gods’ but citizens of the Earth, and that’s what we all need to get much better at being.

I would also say that notwithstanding its gravity, climate change is not coterminous

with Gaia, as is implied here; nor does it exhaust ecocide. The authors cite the seminal paper by Rockström *et al.* (2009) detailing the parlous state of most of the nine biophysical processes which maintain life on Earth, but they don’t give it sufficient weight. The present mass extinction and decimation of biodiversity will suffice, at present rates, to destroy most life unaided by climate change, not to mention their effects on the resilience needed to survive it. Here too, ecocentrism is a *sine qua non* for any remotely desirable outcome.

Finally, the authors have good reasons, based on Amerindian ethnography, for ascribing humanity to all animals. That perspective also draws force from its diametric opposition to the Western tendency to try to make humans all animal, so to speak. But ecocentrically, both moves miss the point, because both humans and other animals are, at least potentially, *persons* (Harvey, 2006). This kind of animism is based on shared personhood and extends, among many indigenous cultures, to kinds (species) and places (ecosystems). And unless it finds a firmer footing in global culture, soon, then the outlook will remain very dark. ■

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“The present mass extinction and decimation of biodiversity will suffice, at present rates, to destroy most life unaided by climate change, not to mention their effects on the resilience needed to survive it.”

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Horned Lark and Red Knot

by **Andrea
Williamson**

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About the artwork:
See page 122.





Artwork

Kirtland's Warbler

by **Andrea Williamson**

Higher-resolution versions:
<https://is.gd/ecoartwork>

About the artwork:
See page 122.

Call for Poetry

Victor Postnikov, Poetry Editor

Life far exceeds humans. For millennia, eco poets have understood it as a far greater enterprise. In their poetry, we can hear the voices of those who came long before us, who live with us, and probably will live without us. Now, however, they face extinction and die in silence, deafened by the roar of civilization. The time has come to renew the old understanding that all life, including humanity, speaks a common language.

The mission of ecocentric poetry, or ecopoetry, is to help us empathize with non-human entities, be they a whale, a tree or a mountain. For we are all kin. Through metaphor and imagery, it speaks directly to our hearts and genes. We begin to realize that we have evolved together and share a common fate. They don't deserve to die from our greed and stupidity. Indeed, if they perish we too will die from a "great yearning of Spirit" (in Chief Seattle's words).

To a large extent, we are still in the infancy of poetically describing ourselves as fully natural beings. Philosophically and scientifically there are ecocentric discourses, but we haven't evolved poetically en masse, and our language is still quite poor in that respect. Or maybe we have forgotten the language that existed when, in the words of Tagore, "our forefathers lived their lives in an inconceivably glorious universe departing with a sense of wonder in the eyes and devotion still intact – when every touch of universe having struck a chord in their heart-lute producing chanting melodies that were always anew"? In a similar manner, by breaking through old anthropocentric ideas and life-modes, ecopoetry discovers the richness and unfathomableness of a more-than-human world.

The change to an ecopoetic world is more complex than one might assume. It will require a change in the whole attitude to life, including language. (Whitman speaks to this.) A mindset that is bogged down in the anthropocentric limitations of present-day language is incapable of recognizing and transcending Otherness – whether of a creature or a 'thing' – and therefore can't respond appropriately. The whole system of discourse must be changed, the whole system of values. And this is what ecopoetry seeks and stands for.

Robinson Jeffers, an American eco poet of great moral stature, gives one of the best definitions of ecopoetry: "It is based on a recognition of the astonishing beauty of things and their living wholeness, and on a rational acceptance of the fact that mankind is neither central nor important in the universe; our vices and blazing crimes are as insignificant as our happiness... Turn outward from each other, so far as need and kindness permit, to the vast life and inexhaustible beauty beyond humanity. This is not a slight matter, but an essential condition of freedom, and of moral and vital sanity."

In the Journal, we include work in the traditions of classic eco poets such as Jeffers, DH Lawrence and Emily Dickinson, as well as translations of some of the world's great poetry, old and new. But we also encourage our readers to send us poems that embody an ecocentric perspective. They will all be considered and as many as possible published.

Contact us about submitting a poem: www.ecologicalcitizen.net/contact.html

Poetry and prose section

Life far exceeds humans. For millennia, ecopoets have understood it as a far greater enterprise. In their poetry, we can hear the voices of those who came before us and those who live alongside us. Now, however, they face extinction and die in silence, deafened by the roar of civilization. The time has come to renew the old understanding that all life, including humanity, speaks a common language. Thus, the mission of ecocentric poetry, or ecopoetry, is to help us empathize with non-human entities, be they a whale, a tree or a mountain – and to give them voice. For we are all kin. Through metaphor and imagery, it speaks directly to our hearts and genes. We begin to realize that we have evolved together and share a common fate.

CLASSIC POETRY

Subjected Earth

Robinson Jeffers

*Walking in the flat Oxfordshire fields
Where the eye can find no rock to rest on but little flints
Speckle the soil, and the million-berried hedges
Tingle with birds at evening, I saw the sombre
November day redden and go down; a flight of lapwings
Whirled in the hollow of the field, and half-tame pheasants
Cried from the trees. I remembered impatiently
How the long bronze mountain of my own coast,
Where color is no account and pathos ridiculous, the sculpture is all,
Breaks the arrows of the setting sun
Over the enormous mounded eyeball of ocean.*

*The soft alien twilight
Worn and weak with too much humanity hooded my mind.
Poor flourishing earth, meek-smiling slave,
If sometime the swamps return and the heavy forest, black beech and oak-roots
Break up the paving of London streets;
And only, as long before, on the lifted ridgeways
Few people shivering by little fires
Watch the night of the forest cover the land
And shiver to hear the wild dogs howling where the cities were,
Would you be glad to be free? I think you will never
Be glad again, so kneaded with human flesh, so humbled and changed.
Here all's down hill and passively goes to the grave,
Asks only a pinch of pleasure between the darknesses,
Contented to think that everything has been done
That's in the scope of the race: so should I also perhaps
Dream, under the empty angel of this twilight,
But the great memory of that unhumanized world,
With all its wave of good and evil to climb yet,
Its exorbitant power to match, its heartless passion to equal,
And all its music to make, beats on the grave-mound.*

Selected by

Victor Postnikov

Victor is a poet, essayist and translator based in Kiev, Ukraine.

The poems of Robinson

Jeffers are dedicated to wild beauty, rocks and the ocean, trees and creatures, with no humans in sight, and almost devoid of 'normal' human emotions. Yet, the disgust at what humans have inflicted on nature impregnates every poem. He's minimalistic in his poetic expression and the words he uses very much resemble the rocks he loved.

Source: The editors thank Stanford University Press, sup.org, for permission to publish this poem from *The Collected Poetry of Robinson Jeffers*, Volume 2. Robinson Jeffers, edited by Tim Hunt; 1938, by Garth and Donnan Jeffers; renewed 1966; all rights reserved. No reproduction, distribution, or any other use of the poems in any way and form is permitted without the publisher's prior permission.

The poems of Marina Tsvetaeva are a testimony of human predicaments caused by inter-human relations and relations with nature. Her verse is piercing and heartfelt. In some, almost imperceptible ways, her style recalls that of Emily Dickinson, although her verse is much more bitter and satirical. She committed suicide in 1941.

Stairways

Marina Tsvetaeva

*We with skills, we with mills,
What have we done to Eden?
The first knife, the first pry,
What have we done to a Season?*

*A Thing – like a woman – believed us!
Seems like trees were not enough,
And iron had to be beaten –
We needed nails and stuff!*

*Chips! Convenient things!
What have we done, starting this?
The planet, where all speak of Grace –
Turned into a messy waste?*

*The Glory was once river-run,
The Glory was once cliff-wrought.
Into the World – a soulful thing –
What has Man brought?*

*A Tree, trustful to a sound
Of an insolent axe and tedious saw,
Stretched an apple-hand.
Man – axed.*

*Mountains, displaying ore
Secretly (called “metal” later),
Firmly attested: “A wonder!”
Man – blasted.*

*Educated by this mode
Things answered with a row –
Table stated: I’m a bole.
Broken chair: a bough.*

*In your lacquered cages, a noise
You think come from ancestors?
No, it’s a Walnut, stretching
To the stars.*

*You wake – as from a salvo !
A wardrobe cracked? No, things
Revenge. Domestic have a ball!
Gas burst? No, Devil winks!*

*YOUR SLAVERIES AND YOUR SUPREMACIES –
LOOK, LOOK HOW THEY SHRINK!*

Source: A translation
by Victor Postnikov

From School of Trees

Jun Takami

Patience

*Take my patience for yourself,
A tree on a cliff!
Give me, instead, your patience,
Which is not aware of itself.*

A Plum Tree

*In the garden, where
Snow has not melted yet,
On a half-dried plum tree,
The buds have swollen.*

*O this intensive work
Of an old body,
ONCE IT IS ALIVE!*

*This persevering plum tree
Now, despite winter,
Is striving to show the beauty that
Has been silently accumulated in this
Stern and frozen world.*

Voices of Heaven

*Passing over my head,
A bird had said something
In a low voice.
“I understand you” –
was my reply.*

*Indeed, I’ve been absent-minded so far,
Always missing the voices of heaven.*

Durer and Trees

I.
*The accuracy of Durer’s sketches
Is very similar to the accuracy of trees.*

II.
*The tree, just like Durer, with habitual accuracy,
Draws a line across the sky.
Bravely, severely, flawlessly,
It exerts the right amount of effort
To create a beauty without deceit.*

The poems of Jun Takami represent some of the greatest examples of Japanese free verse (*gendaishi*). Becoming terminally ill, Takami abandoned prose and returned to poetry, which, in his words, “opens the truth more easily and fully than prose.” His poems probe the existential nature of humans and turn to nature for instruction. There, he seeks liberation from the falsehood that is so obvious in human society. His poetry has an unmistakably delicate Japanese flavour and is a rare blend of humanism and ecocentric vision. He died in 1965.

III.

*At twilight, the tree silhouette is perfect;
Like nature itself;
And like a Durer's sketch,
It is full of real life.*

Each Stem has a Flower

*I napped
And dreamed a merry dream:
Wherever you looked,
Every tree had a blooming flower
As if each one of us
Had his own joy.*

Fresh Green

*Once,
Having looked out of the window
Into the garden,
I unexpectedly touched
The life of living things.*

The Tree**I.**

*Withering, –
It lives.
Living, –
It withers.*

*Courageous life
For the sake of rich withering.*

II.

*Leaves – soft.
Branches – hard.*

*On hard branches,
Soft leaves are being born.*

III.

*Each year, they lose their creations,
And again, each year compels them
To furious growth.*

IV.

*Leaves and branches – open to view,
Whereas roots – crucial for living –
hidden in the ground.*

Source: Translations by Victor Postnikov

The Wood

Edward Thomas

*There are so many things I have forgot,
That once were much to me, or that were not,
All lost, as is a childless woman's child
And its child's children, in the undefiled
Abyss of what can never be again.
I have forgot, too, names of the mighty men
That fought and lost or won in the old wars,
Of kings and fiends and gods, and most of the stars.
Some things I have forgot that I forget.
But lesser things there are, remembered yet,
Than all the others. One name that I have not –
Though 'tis an empty thingless name – forgot
Never can die because Spring after Spring
Some thrushes learn to say it as they sing.
There is always one at midday saying it clear
And tart – only the name I hear.
While perhaps I am thinking of the elder scent
That is like food, or while I am content
With the wild rose scent that is like memory,
This name suddenly is cried out to me
From somewhere in the bushes by a bird
Over and over again, a pure thrush word.*

Source: Public domain

Lizard

DH Lawrence

*A lizard ran out on a rock and looked up, listening
No doubt to the shouting of the spheres.
And what a dandy fellow! The right toss of a chin for you
And swirl of a tail!*

*If men were as much men as lizards are lizards
They'd be worth looking at.*

Source: Public domain

The poems of Edward Thomas are noted for, among other things, their attention to the English countryside. An Englishman of Welsh descent, Thomas was an essayist and literary critic for most of his life but, encouraged by his close friend Robert Frost, he began writing poems in 1914. He died in action in France in 1917.

The poems of DH Lawrence are more complex to fathom than those of other classic poets. He probes both human and non-human nature, sometimes revealing depths never seen before. He was one of the few poets who paralleled nature's beauty with the feminine, and praised their wildness.

Artwork overleaf

Sand Lizard by Rebecca R Burrill

Higher-resolution version:
<https://is.gd/ecoartwork>

Original: Pencil, ink
and watercolour on
cold-pressed paper (2017;
12.38 x 9.75 inches).

Never miss a poetry section: www.ecologicalcitizen.net/#signup



The poems of Emily Dickinson are a true bible for nature lovers. Being a naturalist herself, she was a great connoisseur of various 'moods' of plants, birds, insects and other animals – 'nature's people' – that invariably were of primary concern in her poems. Her artistic vision covered such existential categories as death, faith, sanity and madness. She has some subtle infatuation with the 'small and beautiful', and in that resembles Japanese masters.

1456

Emily Dickinson

*So gay a Flower
Bereaves the Mind
As if it were a Woe —
Is Beauty an Affliction — then?
Tradition ought to know —*

Source: Public domain

722

Emily Dickinson

*Sweet Mountains — Ye tell Me no lie —
Never deny Me — Never fly —
Those same unvarying Eyes
Turn on Me — when I fail — or feign,
Or take the Royal names in vain —
Their far — slow — Violet Gaze —*

*My Strong Madonnas — Cherish still —
The Wayward Nun — beneath the Hill —
Whose service — is to You —
Her latest Worship — When the Day
Fades from the Firmament away —
To lift Her Brows on You —*

Source: Public domain

1634

Emily Dickinson

*Talk not to me of Summer Trees
The foliage of the mind
A Tabernacle is for Birds
Of no corporeal kind
And winds do go that way at noon
To their Ethereal Homes
Whose Bugles call the least of us
To undepicted Realms*

Source: Public domain

CONTEMPORARY PROSE

In my imagination

Laura Larriva Page

In my imagination I hear the land speak to me of things. This is not to say I make them up.

There are no phrases, no names – no words at all, but a spontaneous upwelling within that has me dancing on the trails, far from curbing eyes. Speaking back in the way life has always spoken; through the movement of form, the shaping of a hand or tail, or fin, the slide of rock into water, the dry cracking of soil under a Tuscan sun.

Sometimes it's the plants that do the speaking. The great Oak with their broad leaves, their trunks dimpled in the dappled light of the canopy. Their magnificence neither tyrannical nor reticent. Their leaves, like hands, flap in the hot breeze and my heart lifts.

The ferns beckon with curled fingers, through the blackberry brambles, over the soft Lodgepole pine and cone blanketed forest to the heart of their sweeping world. To have seen the Earth come alive as they have! First to root and multiply over the land. Then flowers, and dinosaurs! Glaciers! Mammals large and small! The marching of the mountains over the continents! The rise and fall of civilizations! And the steady fencing in of their world... Still they offer themselves to the dreaming of the earth, as they offer themselves to me.

I hear too the voices of those that once walked here. The grey wolf and her cubs, yellow-eyed and lean. Her tufted hair catches on the thorny bushes in the springtime. She turns and our eyes meet. Whole worlds shift. She is wary of the stalking future. All I can do is nod.

And the European brown bear, picking newly ripe berries off the vines. Bursting muscle and rippling fur catches water drops as it catches rainbows of light from the mountain stream. Surprisingly agile for his bulk, his paw darts into the water to spear a gilded silver fish. One of many. He is acutely aware I'm there... as I am aware he no longer is.

The forest seems louder without these voices among it, more hollow. Their footprints and steady gazes, their stalking ways, and rumbling bellies reverberate across the valley, bouncing off the granite bedrock and the mined marble veins of the Apennines, dodging tall Cypress trees standing like sentinels, past the olive, grape, and almond groves... A bell tower tolls noon. One little fig trembles and falls, full and ripe. It seeps white, sticky sap. The ground smells of day-old spilled wine, sweet and rotting.

More often now when I listen, I hear the whole community speaking at once. A symphony of thus-ness, a confluence of sound and taste and touch and sight. I hear/feel their wailing. Its rich endlessness. I respond with the Shrinking and Disappearing Dance. The Dying Sea Lion Dance. The Too-Warm Water Dance. The Helpless Dance. The Frog In My Throat Dance. The Holy Shame Dance...

Laura Larriva Page is a movement guide, yoga teacher and advocate of the Earth, blending her deep love of somatic movement, mythology and ecology into powerful, embodied explorations of soul.

Sometimes when I let my gaze soften wide the Others teach me to move as they do, and when that happens it is the Remembering Dance that comes. And always, *always*, even on the days I get caught in my too-small world, my feet pounding up the trail fast and forward moving and un-acknowledging, it is the Gratitude Dance that pours up and out in respiratory rhythms and dewdrops, then beads, then rivers and torrents of sweat. Anointing the earth, giving back what I can. Longing to give more.

I respond differently each day to these voices that never says the same thing twice, that have never known repeat. They are the voices of deep time. The continuous thread of all from the beginning to the end. They are the rising and falling voices, the voices of the abyss, the bursting and sucking, mouth-smacking voices of creation. What they have to say keeps me up at night.

And still I, human, tarry in their world, reluctant to turn toward home where the game trail becomes a foot path and the foot path paved, and the paved path then becomes a road. Knowing that with each step a part of their magic can pass no longer where the imagination is at best underestimated. Fixed within a closed system of make-believe, its possibilities bleed under the knife of reductionism, commoditization, and power politicking.

I, just like you, am not exempt my part in the mess. But in the still moments in the center of everything with the cars flying past and the lights buzzing, and the screens harking the wares of a worn-out system, *I hear our human voices, strong and noble and not at all separate*. And I know, as you do, that past the static of forgetfulness an ancient way still lingers to catch us off guard. A tenuous flame unsoiled by our amnesia. It is this voice, (this one!), that needs our keen ears now, as it needs our fierce spirit and our wild imaginations. For it whispers the way that can pull the Others through the mists, back across the landscape of time to tumble the fences and the precarious walls strung up around our perception.

Cicadas live for a day and then die. The figs trees are ripe all at once. The village cat comes by at sunset begging for food like clockwork. The ducks in the pond past the vineyards are always laughing. We too have our time and place. When my mind is full, and I cannot see the way, *I know this in my imagination...* which is not to say I'm making it up.

* * * * *

“There is an inner wisdom that has long been lost. Not only has it been long lost but when it pokes its head into our awareness we have all learned to shun it, deny it, and to discount it. That inner wisdom is not a book, as our present intellect would have us believe. It is not a bank of knowledge, or a storehouse of formulas. It is a living dimension of our very selves, and in its livingness it is in the moment, so that in order for us to tap that ancient deep inner wisdom we must engage it directly in its aliveness, we must be willing to be present with it on its terms, we must be willing to let it teach us its language rather than demanding that it speak in our own.”

ES Gallegos

CONTEMPORARY POETRY

Imagine It

Elizabeth Carothers Herron

*Imagine it—the space where that split
does not exist, dark and half-forgotten.
This is about power. This is about magic.
A dark ribbon, fields of wild grass.
You know the worst stories—
the terror, the grief
ancient as the sword and the clock.
Now's your chance—earth, body, womb, night—
imagine it! We are always reinventing the world.
Begin where you are: light
through red geranium petals, silver-gray grasses
lying down toward winter
draped along the bed of the dry marsh
waiting for rain.
Begin now with me. All this light—
more than the eye or the mind or the heart can take.
Do you see
how our skin melts into it?
Whatever darkness holds the seed
is always moving, opening to light, petals
becoming formless sky. Imagine it—
a seed like a closed fist opening.
Your life like that,
no matter how you hold what you hold.*

Elizabeth Carothers Herron writes poetry and articles on art and ecology. She is based in California, USA.

Rapunzel and the Ravens

Robert Fagen

*Clouds again today,
the hundred colors of fog.*

*This spring
ravens nested in the yard
and fledged two young.
Now they're grown.*

*Evening sky –
mouse-grey Edo kimono's
blue lining.*

Robert Fagen is a zoologist based in Alaska, USA, and his special areas of interest include animal behaviour.

You can discuss ecopoetry by joining the Ecocentric Alliance's email group: www.ecocentricalliance.org/#ju

Patrick Curry is a writer and scholar based in London, UK. He is Editor-in-Chief of *The Ecological Citizen*.

Upon Hearing Lena Willemark Sing

Patrick Curry

*Her cry pierces me through, all seven bodies.
It is the cry of life itself, and against it
I am helpless.*

*In it nestle all our crazy hopes,
our loves and fears, their shadow,
both the glory and the folly of defying
our insignificance.*

*How can it be? This single sliver
of human sound, pure as any wolf's or whale's,
shakes my heart open.
Yet 'that animal called Man' I encounter every day –
petty paragons of I, me and mine,
grasping, meddling and befouling
this whole wondrous world –
fills me with despair.*

*Individually, it may well not be so:
how many times
have I been surprised by a stranger,
and humbled?*

*But taken all together and at once –
though it pains me to say so –
these people are beyond compassion,
or else I am.*

*Maybe only in some far Northern landscape of the soul
(the place which bore such a singer),
where we are once again merely one among
ten thousand more-than-human things –*

*The mad yellow eye of the husky,
the sky's endless sea,
the silence, intense as a mother's,
and the Sun a young god,
playing among the birches
graceful as young women,
his light broken into intelligent tiny crystals
by the snow's satin sheen –*

*Maybe there, finally, I will find
room in my heart
for Man.*

Madrone Dance

Pepper Trail

*No tree, standing still , moves as you move
No limbs so bare, so sleek, so suited for the dance
You crouch and stride, balance and curve
Arms aloft, the art of gesture is yours, all yours
And the pines stand around you
Stiff with scandalized admiration*

*O madrone, dance now, dance
As never, dance up the mountainside
Fast and faster than ever you have done
Use the birds, all of them, the flocking
Robins and the waxwings, the starlings and the thrushes
In these hot days, burst with berries
Send them far and wide, send them
Always higher, find that place
Wherever it has gone, still cool
But below the hardest cold
Dry, but above the cracking earth*

*The time has come to run
You, madrone, cannot run
So, dance*

Pepper Trail is a conservation biologist and poet from Oregon, USA.



Artwork

Prothonotary Warbler

by **Andrea Williamson**

Higher-resolution version:
<https://is.gd/ecoartwork>

About the artwork:
See page 122.

Haydn Washington is an environmental scientist, writer and activist based in New South Wales, Australia.

The Gift

Haydn Washington

*Sometimes we are gifted
With a special moment,
A day of meaning
Where all things
Come together
And one smiles
In sheer wonder.
With a sudden silence
A caress of wind
And a brief, ethereal
Ripple of light –
It is as if
The Goddess passes
And bestows a smile
Upon the open heart.*

*So good to know
In this teeming world
So full of worries
That even now
She still walks!
And those who listen
Can still step into
The eternal now.
Just as Thoreau
Marvelled
At the friendship
Of a pine needle,
I too looked out
At trees, grass and sun –
So suddenly enfolding:
So very much kin.*

Tell us what you think

Send us your thoughts on the content of the current issue at:

www.ecologicalcitizen.net/contact.html

Last Word

“What must be opposed is the pernicious belief that the universe is human-centered, that all else on Earth in land, sky and water is of lesser value than human life. No divine providence has given us the right to plough, mine, slash and burn, displacing and exterminating all organisms except our own kind, tormenting the paradise into which we are born, often only to satisfy frivolous wants.”

Stan Rowe

From Earth Alive: Essays on ecology (NeWest Press, 2006)



Published in association with
the Ecocentric Alliance

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