

The Ecological Citizen

Vol 3 Suppl C 2020

ISSN 2515-1967

A peer-reviewed journal

www.ecologicalcitizen.net

CONFRONTING HUMAN SUPREMACY IN DEFENCE OF THE EARTH

IN THIS ISSUE

Six authors
present their
ecocentric visions



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Jasmine Nears

EC The Ecological Citizen

An ecocentric, peer-reviewed,
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ISSN 2515-1967

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- 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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“There’s no ‘voiceless’.

There’s only the deliberately silenced,

or the purposely unheard.”

Arunadhathi Roy

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The significance of ecocentric vision

This special issue of *The Ecological Citizen* offers a range of positive political visions, as we try to salvage what we can from the ongoing ecocide and work towards a better future for all life on Earth.

While visions are often deprecated as utopian daydreams ungrounded in reality, ‘vision’ in the sense of seeing-forward, or seeing-into-being, is integral to human history. Its influence has often shaped history’s arc: leaders, riveted by visionary ideas, exercise profound influence over the societies they lead; and, more diffusely, visionary ideas shape the aspirations, activism and behavioural norms of the social body. As Julian Reid points out, “What would the histories of political struggles be without the immensity of the imaginaries that fuelled them? Take away the imagination and you stultify the subject of resistance” (2012: 161). Vision both assumes and incites free will – the human ability, at least in principle, to think and act outside the parameters delimited by sociocultural conditioning. It brings into purview an open, indeterminate space existing in the interstices of history, revealing that history is not deterministically governed by any one force or combination of forces (for example, inertia, power elites, mode of production or worldviews). The role of visionary thought in history’s course demonstrates that ideas have formative and directive power over human action. Marxism and neoliberalism are recent examples of visionary paradigms; from the perspective of the well-being of all Earthlings, however, both are dismal and busted.

A vitally important part of our work is thus political imagination, and all the essays here envision a better future by

taking seriously the idea of a genuinely sustainable polity. Naturally, they involve a critical response to what John Barry calls “actually existing unsustainability” (2012). Critique, however, is not enough; there must also be a positive imaginary inspiring a direction to work toward. If that seems ‘utopian’ it is not therefore a problem. As Quentin Skinner writes, “I have never understood why the charge of utopianism is necessarily thought to be an objection to a theory of politics. One legitimate aspiration of moral and political theory is surely to show us what lines of action we are committed to undertaking by the values we profess” (1998: 78–9).

What is difficult to imagine in our time is radical change taking place unless it is preceded by some degree of breakdown in the present order, providing openings for something new – and, we hope, better – to emerge. Such breakdowns are dangerous and difficult, but they also present an opportunity for ways to live more fully human lives – deeper, slower, and richer in the true wealth of life – that are respectful of all nature. Barry concurs: “A crisis after all can be seen as an opportunity to re-evaluate and reflect on ‘what really matters’” (2012: 58). Hence the subject of the forthcoming semi-themed issue of *The Ecological Citizen* – namely, collapse. But as ever, we shall continue to favour perspectives which don’t assume *Homo sapiens* is the only species whose extinction would matter.

If, or more likely when, collapse occurs, then ecocentrics must be ready. As Richard Sylvan and David Bennett (1994: 174) point out:

Theory is very important for guiding change. If the opportunity for revolutionary

Patrick Curry and Eileen Crist

About the author

Patrick and Eileen are co-editors of this special issue on the biodiversity crisis.

Patrick is a writer and scholar based in London, UK, with his works including *Ecological Ethics: An Introduction* (Polity Press, 2018). He is Editor-in-Chief of *The Ecological Citizen*.

Eileen has been teaching at Virginia Tech in the Department of Science and Technology in Society since 1997. She has written and co-edited numerous papers and books, with her work focusing on biodiversity loss and destruction of wild places, along with pathways to halt these trends. Eileen lives in Blacksburg, VA, USA.

Citation

Curry P and Crist E (2020) The significance of ecocentric vision. *The Ecological Citizen* 3(Suppl C): 5–7.

Keywords

Visions

“Much of the social justice agenda is comfortably compatible with neoliberal ideology and shares some of its mode: a rejection of limits, an ideal of complete autonomy and self-making, and a fetishization of consumer choice.”

political change should arise, as it does from time to time, then deep environmentalism needs to be prepared. It should aim for a sound appreciation of what counts as an appropriate revolution, and ideally be organized for it, so that control does not go or revert to forces of environmental darkness.

In particular, we need to imagine alternatives to the neoliberal orthodoxy, which, although moribund, still maintains a stranglehold on economies, politics, societies and cultures. The result is not only to reduce human beings in all their complex multiplicity to individual customers, consumers, producers, managers and, on occasion, voters. Neoliberalism is deeply anthropocentric, as well as (despite its protestations to the contrary) contemptuous of the human poor and disadvantaged. The attitudes and practices driving the exploitation and destruction of nature are often indistinguishable from those threatening and impoverishing humans (including indigenous peoples), and to that extent any resistance helps both nonhuman and human worlds. But where anthropocentrism dominates – even in progressive movements – there is always the danger of selectively trying to save only what is deemed useful to humanity. We firmly believe that that is not only unjust, but would end by failing humans and nonhumans alike.

The issue of anthropocentrism throws a harsh light on our political plight, because it doesn't only apply to politicians, CEOs, bankers and bosses (as well as their supporters). Much of the opposition to the powerful, for example, comes from social justice activists. But the identity politics the latter espouse is overwhelmingly human-centred, largely deaf to the cries of the Earth and the suffering of our fellow Earthlings. Furthermore, much of the social justice agenda is comfortably compatible with neoliberal ideology and shares some of its mode: a rejection of limits, an ideal of complete autonomy and self-making, and a fetishization of consumer choice.

We might also consider the more traditional left. Recently, two worthy and respected exemplars have published new books: Guy Standing (2019) and George Monbiot (2019). Both – the former in depth and detail – rightly advocate recovering the commons from its privatization by elites. Imperative though that is, however, it leaves out of account something of more paramount importance: the complete dependence of all social, cultural and political commons on the health of the *natural* commons. Thus Standing repeatedly refers to ‘our commons,’ overlooking the greater truth that it is in fact we who belong to the commons. Monbiot, for his part, pays some homage to nonhuman nature in one of his many chapters. However, the crisis cited in his title is fundamentally one of our relationship with *more-than-human* nature, and the ‘new narrative’ he seeks must have that at its very heart. Treating it as merely one consideration among others cannot finally succeed.

Even with Extinction Rebellion, whose courage and tenacity can only be applauded, it is unclear to what extent the extinction that matters most is only our own. If this were indeed the case, it would make that outcome more likely, not less. A single-minded focus on climate crisis and how it affects humanity – while excluding or downplaying the equally serious and immoral onslaught on biodiversity – would reflect and reinforce the playbook of the establishment's anthropocentrism. If, as it appears, the leaders of XR and the School Strikes also do not consider human overpopulation to be a problem, let alone a serious one, that points in the same worrying direction.

Let's remind ourselves of the fundamental driver of both anthropogenic climate change and mass extinctions, of which they and a host of related problems are symptoms: the utterly unsustainable impact of humanity on Earth's ecosystems, places, and other life-forms. Or more briefly, too much human activity by too many humans. In a word, overshoot.

We cannot evade or solve this challenge by censoring the one per cent, culpable

though they are; nor by blaming capitalism, however heinous its crimes. Even after allowing for the greater impact of relatively wealthy residents of the overdeveloped world, and for men overall as compared to women, it is excessive human impact as such that is the ultimate culprit. Even normal human activities, sufficiently multiplied, are enough to drive down and eventually destroy ecological health. In this sense, Pogo's dictum was right: we have met the enemy, and, short of radical change, he is indeed us.

It follows ineluctably that what is actually needed is an historically unprecedented polity, society and culture which puts the Earth and its needs at its heart, initiating a radical programme of collective self-restraint and downscaling of the human presence. Not just fewer children but a rapid move towards families with none, or at most one child (while taking much better care of those who already exist and embracing adoption for enlarging families). Not just eating less meat but eating none, now. Not only fewer cars but drastically fewer, no matter how 'green.' Not just less infrastructural and other development but no new development whatsoever where it would require converting any relatively wild nature into land instrumentalized for human purposes; otherwise, minimizing human buildout and emphasizing maintenance of what already exists. Also urgently needed is the reconversion of large expanses of rural land that we have colonized back into natural areas that are again wild and free. Additionally, we need

to establish and connect strictly protected marine areas for half the global ocean.

To be sure, these things can and should be done more, rather than less, intelligently and humanely. But done they must be, if we are not to be done to. Those who resist that mandate are only giving Malthus, whom they often detest, the last and grimmest laugh. Yet needed actions and policies must not be instituted solely through discouragement and prohibitions. A historical redirection will also take tremendous positive energy, motivated by an unshakeable love of life on Earth and a corresponding desire to see it flourish.

Yet even here, at such an apotheosis of deep green virtue, a hurdle remains which ecocentric visions must clear if they are to succeed. It is the fundamental paradox of ecocentrism: in order to survive and flourish ourselves, we humans must learn to love the Earth for its own sake, and change our lives accordingly. That is perhaps the ultimate challenge. ■

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“In order to survive and flourish ourselves, we humans must learn to love the Earth for its own sake, and change our lives accordingly.”

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What is eco-anarchism?

Eco-anarchism is the form of political ecology that situates the political most deeply in Earth history and the crisis of the Earth. It can be traced back to the work of geographer-philosopher-revolutionary Jacques Élisée Reclus, who depicted Earth's history as a struggle for the free flourishing of both humanity and nature, and against the forces of domination that constrain that flourishing. Eco-anarchism as a form of radical communitarianism has a primary ecological commitment to promoting the flourishing of the entire global community-of-communities, and a primary anarchic commitment to defending that community from all destructive forces that would crush and extinguish it. Eco-anarchist politics has two major expressions. The first is direct action to prevent the developing social-ecological catastrophe, and the second is the struggle for a comprehensive programme for social and ecological regeneration and the creation of a free ecological society. These two approaches are illustrated here through the radical eco-defense organization Earth First! and through the Sarvodaya Movement for non-violent social transformation.

“Humanity is Nature becoming self-conscious.”

Élisée Reclus (Clark and Martin, 2013)

Eco-anarchism is the form of political ecology that situates the political most deeply in Earth history and in the crisis of the Earth. It holds that both our own future and the future of the planet depend on our ability to fulfil our destiny as a means through which the Earth thinks and acts for the common good of all beings. This is the vision developed by the 19th century French geographer and philosopher Jacques Élisée Reclus (1830–1905), the founder of modern eco-anarchist thought (Clark and Martin, 2013). He was the first thinker to develop in extensive detail the story of the Earth as a struggle for the free flourishing of both humanity and nature, and against the forces of domination that constrain that flourishing. This is the vision that is carried on today by the eco-anarchist tradition.

The core meaning of eco-anarchism is evident from the etymology of the term. It derives from the Ancient Greek *oikos*,

meaning ‘household’ or ‘home’, and *anarche*, from *an*, meaning ‘without’, and *arche*, meaning loosely ‘rule’ or ‘principle’, and more precisely, ‘domination.’ Further, it is an abbreviated form of ‘ecological anarchism’ and thus presupposes a third term, *logos*. The *logos* of any being is the way and the truth of that being, its mode of attaining its good. Eco-anarchism thus respects profoundly the *logos* of the *oikos*, its immanent order and self-development, and seeks to defend it from every *arche*, or form of domination.

But what is our *oikos*? The *oikos* is a kind of community, and specifically, the kind with which we identify as our *home*. Eco-anarchism is thus a form of *communitarianism* in the strongest sense of the term. It recognizes that we are members of communities within communities. Our *oikoi* include the primary intimate community of the family and small circle of close friends. They include our local and regional communities, both human and more-than-human. And they include, finally, and most importantly, the *oikos* of all *oikoi*, our global household, our home planet, Earth.

Eco-anarchism holds that we must, with the utmost urgency, begin to transform

John Clark

About the author

John is an eco-anarchist theorist, activist and educator. He is Director of La Terre Institute for Community and Ecology (www.laterreinstitute.org).

Citation

Clark J (2020) What is eco-anarchism? *The Ecological Citizen* 3(Suppl C): 9–14.

Keywords

Direct action; eco-anarchism; societal change; visions

ourselves into fully responsible members of the Earth Household. Such a vocation is an 'eco-anarchism' in that it expresses a primary *ecological* commitment to promoting the flourishing of the Earth community, and a primary *anarchic* commitment to defending that flourishing from all destructive forces that would crush and extinguish it.

Entering the Necrocene

Any political movement that is founded on a minimal level of sanity must be resolutely focused on the fact that we are in a period of extreme crisis in the history of the Earth. The Stockholm Resilience Centre very helpfully developed the concept of "planetary boundaries," beyond which there is a high likelihood of ecological disaster (Rockström *et al.*, 2009). The researchers identified such boundaries in the areas of climate change, ocean acidification, stratospheric ozone depletion, biogeochemical nitrogen and phosphorus cycles, global freshwater use, rate of biodiversity loss, land-system change, chemical pollution and atmospheric aerosol loading. They concluded that transgressing even one planetary boundary might be catastrophic, but that three boundaries had already been transgressed and most others were being approached rapidly. Reports now appear daily of accelerating global crisis tendencies in many of these areas.

It has been widely suggested that the gravity of the global ecological crisis should be expressed by the idea that we have entered a new geological era called the 'Anthropocene' in which humans are identified as the cause of the crisis. An eco-anarchist approach rejects this strategy, since describing 'the' cause as a generic *Anthropos* or homogeneous humanity is an ideological distortion of specific global realities. In recognition of this distortion, others have suggested that we instead call our era the 'Capitalocene', in order to identify the real underlying cause as capitalism. This is a distinct advance towards a deeper, more concrete understanding. However, if we take such a 'real cause' approach, and follow an eco-anarchist

analysis, we will need at least three terms to specify the nature of the causality. To specify the major determinants of crisis we will need 'Capitalocene' to identify Capital, 'Technocene' to identify the technological Megamachine (including the primordial Megamachine, the State), and, not least of all, 'Androcene' to identify Patriarchy.¹

Yet, none of these terms describes precisely the nature of the transition from the previous geological era, the Cenozoic. 'Cenozoic' means 'new era of life' and describes what occurred in the biosphere and was recorded directly in the fossil record. Its successor must therefore focus not on what we or our institutions are doing, but on what the Earth itself is now undergoing. Thus, the most accurate, Earth-centered, term is 'Necrocene', the 'new era of death.' Ours is the age of die-off, of mass extinction of life on Earth, and this is what the fossil record will record.

A synonym for the Necrocene is the 'Thanatocene.' This term suggests that Earth's history has been a struggle between the forces of life, regeneration and creation, or *Eros*, and those of death, degeneration and domination, or *Thanatos*. The evolving richness and diversity of life on Earth has expressed the creative and liberatory work of *Eros*. The disappearance of species, populations, ecosystems, cultures and communities under the exterminist reign of Empire manifests the destructive and dominating work of *Thanatos*. In a world in which the all dominant political ideologies constitute the Party of *Thanatos*, eco-anarchism is the Party of *Eros*.

Understanding causes and conditions

To be an eco-anarchist is to recognize the urgent need in the Necrocene to transform all major spheres of social determination. It means realizing that at this point in Earth history it is too late to settle for the demonstrably ineffectual 'ambitiousness' of Climate Summits and similar exercises in the politics of the gesture. It means recognizing that the reigning system of domination is incapable of effective steering and self-correction. This means

“To be an eco-anarchist is to recognize the urgent need in the Necrocene to transform all major spheres of social determination.”

simply that it is incapable of preventing collapse, because it operates according to structural rules that are themselves at the root of the problem. It follows that we must become acutely aware of how the major spheres of social determination operate, work diligently to develop our moral imagination and moral courage, and find ways to change the way those spheres operate.

While the processes of social determination are inseparable and mutually determining, we can divide them for analytical purposes into four spheres. Stated briefly, the *social institutional sphere* consists of the material and organizational structures of social determination. The *social ethos* denotes the constellation of social practices, feelings and sensibilities that constitute a way of life. The *social imaginary* refers to the sphere of the society's 'fundamental fantasy', as expressed in the prevailing self-images and dominant narratives. And the *social ideology* denotes systems of ideas that purport to be objective depictions of reality, but in fact systematically distort reality on behalf of particularistic interests. Under civilization, all these spheres of determination are shaped in ways that support systems of hierarchical, dualistic power – which means, today, global capitalism, the nation-state system, patriarchy and the technological megamachine.

If the present system of social determination continues, we are doomed to live under the yoke of social domination for a brief period in Earth history, after which the system will collapse, along with the biosphere. The solution to this problem is obvious. We need to act, as rapidly as possible, to replace the ecocidal social order with an Earth-affirming one that encompasses ecological social institutions, an ecological social ideology (or anti-ideology), an ecological social imaginary and an ecological social ethos.

A politics of direct action

Eco-anarchist politics has two primary aspects. The first consists of direct action to forestall the developing social and ecological catastrophe. The second

encompasses a comprehensive programme for systemic change and the creation of a free ecological society – a politics of social transformation.

The eco-anarchist approach of direct action is exemplified by the work of the radical ecological movement Earth First! It is epitomized in the group's slogan, "No compromise in defense of Mother Earth." The movement's self-description begins with its concern about mass extinction and the devastation of the Earth and of the Earth-based ways of life (<https://earthfirstjournal.org/about>). It recognizes that the dominant order has done nothing to reverse the ecocidal course of history, and that militant direct action, including civil disobedience and ecotage, is necessary. Beyond this, we must participate actively in the Earth's processes of regeneration through ecological restoration.

Many other eco-defence movements have been heavily influenced by eco-anarchism, especially those involving the protection of the water, the land, and local human and ecological communities. A striking example is the protracted resistance movement against massive airport construction at Notre-Dame-des-Landes, near Nantes, France. The movement recently emerged victorious after forty years of direct-action struggle that included the permanent occupation of the contested area by a large community of resisters. Out of this effort and others came the concept of the ZAD, or *zone à défendre* (zone to defend). After construction was cancelled in January 2018, the *Zadistes* chose to fight eviction and remain on the land as an example of an autonomous, post-capitalist eco-community (<https://zad.nadir.org>).

A politics of social transformation

In our age of global ecological crisis, resistance to the dominant ecocidal order is essential. However, the crisis cannot be ended by resistance alone. It will require a vast social movement that is both integral and regenerative. It must offer not only a devastating critique of the dominant ecocidal system, but also a comprehensive

“If the present system of social determination continues, we are doomed to live under the yoke of social domination for a brief period in Earth history, after which the system will collapse, along with the biosphere.”

“Sarvodaya’s guiding moral and spiritual principles are focused on the pursuit of the common good and the elimination of domination.”

and compelling vision of a free ecological society, addressing all important realms, including the ethical and spiritual, the political and economic, the practical and personal. Further, it must, based on this vision, begin in a very powerful and tangible way to “build the new world within the shell of the old.”

Perhaps the most developed example in recent history of what this might mean is the Sarvodaya, or ‘Welfare of All’, Movement in India, also known as the ‘Gandhian Movement’ (Vettickal, 2002; Clark, 2013). Sarvodaya, whose members have been called “Gentle Anarchists” (Ostergaard and Currell, 1971), is known for leading the struggle to liberate India from the British Empire through *satyagraha*, or non-violent direct action. However, it was from the outset a broadly-based movement for social and ecological revolution. Its programme aimed at an ideal that Gandhi himself described as “an ordered anarchy” (Gandhi, 1940: 262).

Sarvodaya’s guiding moral and spiritual principles are focused on the pursuit of the common good and the elimination of domination. The Sanskrit word ‘sarvodaya’ can be translated as ‘realization for all.’ The movement’s key ethical principle, *ahimsa*, means ‘non-harm’ (in effect, non-domination), and, stated positively, connotes acting with a deep respect for the sacredness or intrinsic good of all living beings. Thus, Sarvodaya shares the eco-anarchist ideal of a society based on non-domination and universal self-realization.

Sarvodayan politics and economics aims at a system of *swaraj* or democratic self-rule, focused at the level of the autonomous local community. In this system, the *chaupal*, or traditional common space at the center of the village, becomes the focal point for institutions of vigorous local democracy. One is the *panchayat*, or five-person village council, a traditional element of local governance. Another is the *gram sabha*, or village assembly, which is to become the ultimate repository of power in a developed system of communal democracy.

Swaraj also requires a democratic, community-controlled economic system,

with production for real need. This cooperative system will practice *swadeshi*, bioregional production rooted in the land. Such a subsistence or sustenance economy will end exploitation of the workers and the land, preventing the ecological devastation that results from production for maximized profit. In order to create such a system, Sarvodaya established a campaign for *bhoodan* (‘gift of land’), in which land was donated and pooled for cooperative village farming projects. Through this effort, 5 million acres of land were put into cooperative projects. The ultimate goal was *gramdan*, or ‘gift of the village’, in which all localities would be transformed into self-governing, largely self-sufficient eco-communities.

Another goal was to train a body of *gram sevaks*, full-time Sarvodaya community organizers. They were to go into each community to educate and assist it in self-organization according to the Sarvodayan vision. The movement would also train a *shanti sena*, that is, a ‘peace army’, or body of mediators. As part of the effort to end all forms of systemic violence, and to foster peaceful cooperation, the police power of the state would be progressively replaced by such a non-violent force.

One of the movement’s most brilliant practical ideas was the creation of an *ashram* in each village and neighbourhood. In the Sarvodayan sense of this term, this means a political and spiritual base community in which the members live communally and spread Sarvodaya teachings through education, and, above all, the force of inspiring example. As a site for appropriate technologies and locally-based production, the *ashram* might also be called a model ecovillage. The hope was that every village and neighbourhood would contain a functioning example of the kind of cooperative, caring, life-affirming community that the entire society might become.

An emerging ecological society

Sarvodaya is invaluable as an example of a vast social movement with both anarchistic and ecological dimensions that undertook

institutional, imaginary, ideological and ethotic transformation on the level of a society of hundreds of millions. The point is not to replicate it, but to look to both its great successes and its significant failures for lessons that can be used in the creation of a viable movement for social-ecological transformation. Thus, eco-feminist Vandana Shiva and her colleagues at Navdanya Biodiversity Farm and Seed Bank in Dehradun, India, consciously carry on many aspects of the Gandhian tradition while radically ecologizing them through a more explicit emphasis on the centrality of the Earth and the land. In addition, they stress much more heavily the importance of overcoming the destructive forces of patriarchal domination and of liberating the feminine Shakti energy of birth, life and growth.

There are today significant movements that go even further in the direction of creating the kind of post-statist, post-capitalist, post-patriarchal ecological society envisioned by eco-anarchism. This is in part a retrieval and re-deployment of what was lost from previous pre-state, pre-capitalist, pre-patriarchal, Earth-based societies. Communal, participatory, radically democratic and consensus-based institutions have been common in these societies. For this reason, eco-anarchism recognizes indigenous movements as having a vastly greater significance than their mere numbers would indicate. They bring to the world an ancient, living history of communal democratic and consensual decision-making, recognition of the natural world as our own world, a deep sense of our kinship with all other living beings, remnants of the gift economy and a clear recognition of the importance of feminine, non-possessive values at the centre of culture and community.

We find these traditions expressed today, for example, in the Zapatista movement, which has created liberated municipalities in Chiapas, Mexico, that have transformed the lives of several hundred thousand people (Fitzwater, 2019). The movement is based largely on an indigenous, communal, egalitarian, nature-affirming

worldview that is expressed in institutions such as local assemblies, councils and cooperatives, in which power is situated at the base. To take another example, in Rojava (western Kurdistan), the Democratic Autonomy Movement has inspired radical social transformation among several million people (Knapp *et al.*, 2016; Clark, 2019). The anarchistic dimensions of the movement are manifested in institutions of decentralized direct democracy such as local assemblies, councils and citizen's committees, in non-statist confederal organization, and in a significant ecological movement. Moreover, the Rojavan Revolution goes even beyond most anarchist movements in its commitment to radical feminist social transformation and the destruction of patriarchal domination.

In short, the eco-anarchist vision finds certain powerful expressions in the contemporary world that can offer inspiration to those who hope to see that vision challenge the dominant ecocidal order.

An awakened Earth community

Eco-anarchism sees the goal of freedom for both humanity and other-than-human nature as synonymous with the realization of the common good. This means the greatest flourishing of the local and global eco-communities, and the elimination of all forms of domination that constrain that flourishing. The motto of the project with which I work, La Terre Institute for Community and Ecology, is *appamāda*, an ancient Pali term known as “the last word of the Buddha.” It has many English translations, but the best may be ‘mindful care.’ It expresses the idea that if we are to save ourselves, and more importantly, save the world from devastation, we must allow ourselves, as persons and communities, to awaken to the nature of all phenomena, and – especially at this moment – to the nature of the suffering that the Earth is undergoing. We must be acutely aware that such mindfulness is only authentic if it is expressed in appropriate action. This means, above all, mindful, engaged care for the good of all beings in the biosphere,

“Eco-anarchism sees the goal of freedom for both humanity and other-than-human nature as synonymous with the realization of the common good.”

and for the good of all terrestrial goods, the good of the Earth. Hence, *appamāda* might well be taken as a synonym for the practice of eco-anarchism. ■

Notes

1 The term 'megamachine' is, of course, borrowed from the seminal discussion in Mumford (1967; 1970).

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Envisioning a Nietzschean land ethic

In this article, the author employs a Nietzschean lens to deconstruct the nihilistic logic of the Anthropocene, which tends to artificially separate human life from its other-than-human context, thus blocking humanity from recognizing networks of significance that exceed us. This occurs even as Anthropocene logic runs human and other-than-human life together, by making the other-than-human world intelligible only with appeal to human interests and needs. When it assumes that human beings are the primary (if not sole) sources of meaning and value, Anthropocene discourse obscures our embeddedness in a world of value and meaning that exceeds us and our machinations. Insofar as this discourse blocks us from recognizing the ends and values of the other-than-human, it blocks us from discovering new possibilities for being and acting that might make our lives much richer and more meaningful. Furthermore, insofar as Nietzsche's thought allows us to recognize that other-than-human life forms have ends and values of their own – that they are therefore intrinsically valuable – it allows us to recognize that the other-than-human has moral status.

For those working on environmental topics today, the problem of the Anthropocene looms large. Scholars ask how human beings ought to live in the age of the Anthropocene – whether the scope of their domination ought to expand or contract – and come to very different conclusions (Rolston, 2017; Preston, 2018). Some claim the extent of anthropogenic change is such that the planet's climate and other-than-human life forms are already fully dominated by humanity; thus, everything on Earth is “human artifice” (e.g. Ellis, 2011; Vogel, 2015). Others, however, point to the potentially pernicious effects of uncritically employing (and resigning ourselves to) ‘the Anthropocene’ as a concept and category for understanding our world and ourselves (e.g. Crist, 2013). Yet other analysts problematize the notion that humanity *in general* can be held responsible for the ecocrisis; instead arguing (and convincingly so) that only certain sectors of humanity are responsible – in particular, that the systems of power that emerge under capitalism are largely to blame (e.g. Moore, 2017). Generally speaking, Anthropocene discourse is

pervasive; sometimes critically examined, other times less so.

Here, I do not defend my conception of the natural world against that of an entirely artificial planet; nor do I stake a claim about whether all of humanity is responsible for the age of the Anthropocene. Instead, I employ a Nietzschean lens to deconstruct the nihilistic logic of the Anthropocene, which tends to artificially separate human life from its more-than-human context, thus blocking humanity from recognizing networks of significance that exceed us. This occurs even as Anthropocene logic runs human and other-than-human life together, by making the other-than-human world intelligible only by way of an appeal to human interests and needs. When it assumes that human beings are the primary (if not sole) sources of meaning and value, Anthropocene discourse obscures our embeddedness in a world of value and meaning that exceeds us and our machinations. Insofar as this discourse blocks us from recognizing the ends and values of the other-than-human, it blocks us from discovering new possibilities for being and acting that might make our lives much richer and more meaningful.

Kaitlyn Creasy

About the author

Kaitlyn researches and writes in the areas of 19th and 20th century Continental philosophy, nihilism, and environmental philosophy. Her work has been featured in *Environmental Philosophy* and the *Journal of Nietzsche Studies*. She teaches at California State University, San Bernardino, CA, USA.

Citation

Creasy K (2020) Envisioning a Nietzschean land ethic. *The Ecological Citizen* 3(Suppl C): 15–20.

Keywords

Human–nature dualism; intrinsic value; values; visions

Furthermore, since Nietzsche's thought allows us to recognize that other-than-human life forms have ends and values of their own – that they are, therefore, intrinsically valuable – it also allows us to recognize that the other-than-human has moral status. On such an account, any conservation policy that fails to sufficiently consider the ends and interests of the other-than-human is ethically suspect, and any conservation policy or program must take the moral status of the other-than-human seriously. Though the vision I outline here utilizes aspects of Nietzsche's thought, it also moves beyond Nietzsche to construct a more robust and clearly ecocentric account. On this account, when we recognize our essential openness to other-than-human life forms, we are able to see ourselves as "plain member and citizen" in an ecological context, and to recognize the critical significance of cultivating a practice of receptivity to other-than-human meanings and the ways they inform human lives and actions.

Deconstructing Anthropocene discourse

The strand of Anthropocene discourse to which I will pay special attention in this piece is the 'new conservation' discourse. New conservationist thinkers regard the Anthropocene as the "beginning of a new geological epoch ripe with human-directed opportunity" (Ellis, 2011). The alleged arrival of this new age, characterized by the pervasiveness of anthropogenic change, is not understood to mandate dialling back human influence and control; rather, it is seen as a license to extend control over the Earth as a "global, half-wild rambunctious garden, tended by us" (Marris, 2011: 2). Unsurprisingly, given this logic, conservation interventions allegedly justified by the arrival of the Anthropocene are those that centre on human well-being, especially economic development and prosperity (Kareiva *et al.*, 2012). According to this platform, nature conservation ought to be motivated by the interests and aims of humanity. Other-than-human life forms or landscapes are understood primarily

in terms of their instrumental value for the economic flourishing of humanity, as "capital stock from which people derive vital ecosystem services" (Ehrlich *et al.*, 2012: 69). Such a program, according to which conservation of the natural world is coextensive with the advancement of human interests, is anthropocentric through and through, and reinforces human exceptionalism – that is, the view that human beings have a privileged status over non-human beings in virtue of certain unique features that we possess (for example, special cognitive capacities such as rationality).

Throughout his body of work, Nietzsche consistently and straightforwardly rebukes human exceptionalism, insisting that man has "placed himself in a false rank order in relation to animals and nature" (Nietzsche, 2001: 114) and that "[m]an represents no progress over the animal" (Nietzsche, 1967: 55). Indeed, beyond simply rejecting the notion that human life is more valuable than non-human forms of life, Nietzsche (1997: 62) goes so far as to insist upon the way in which human valuation can distort the world, by obscuring potential ways of seeing and existing:

We do not regard the animals as moral beings. But do you suppose the animals regard us as moral beings? – An animal which could speak said: "Humanity is a prejudice of which we animals at least are free."

Nietzsche insists that anthropocentric values and priorities prejudice us in certain ways. But we also see him begin to disrupt the notion that human beings are the only beings that have value. As beings continuous with the natural world, Nietzsche avers, humanity has much to learn from adopting a stance of humility and receptivity rather than one of arrogant projection and control. Indeed, we must restrain our hubristic impulse to project meaning onto the Earth and more-than-human life before we have made ourselves listeners, receptive to the lessons the natural world and non-human life have to teach (Nietzsche, 2006b).

"As beings continuous with the natural world, Nietzsche avers, humanity has much to learn from adopting a stance of humility and receptivity rather than one of arrogant projection and control."

Alongside his rejection of human exceptionalism, Nietzsche critiques the human assumption that certain of our cognitive capacities – especially our reason – enable us to know and understand the perspectives of other forms of life and decide what is best for them (2001: 238–9; 2006b: 23–4; 2006a: 87; 2005: 167–70). This Nietzschean point is one echoed by Leopold (1949: 204):

In human history, we have learned (I hope) that the conqueror role is eventually self-defeating. Why? Because it is implicit in such a role that the conqueror knows, *ex cathedra*, just what makes the community clock tick, and just what and who is valuable, and what and who is worthless, in community life. It always turns out that he knows neither, and this is why his conquests eventually defeat themselves.

On this broad point – that the workings of ecosystems and the interests of other-than-human life forms are often obscure and difficult even for experts to understand – there is now fairly widespread agreement. I suggest, then, that we ought to be sceptical of the new conservationists' confidence in humanity's ability to occupy the perspectives of other-than-human life and execute courses of action that ostensibly benefit other-than-human life while contributing to human prosperity.

Finally, Nietzsche dismisses narrow economic priorities as spiritually empty and deadening, remarking that “life in a hunt for profit constantly forces people to expend their spirit to the point of exhaustion in continual pretence or outsmarting or forestalling others” (2001: 184). When we view a phenomenon purely in economic terms – when we focus, for example, on how “prosperity springs from nature” (as the new conservationist Natural Capital Project does) – we restrict the ways in which that phenomenon can lead to our personal, spiritual enrichment. Otherwise put, what we *expect* to ‘get out of’ the natural world will shape what we *in fact* get out of it. Viewing natural landscapes and other-than-human life-forms through the lens

of ‘natural capital’ from the start precludes us from viewing these phenomena differently: as phenomena with their own values that might contribute to our far broader flourishing. From a Nietzschean perspective, then, the new conservationist view of nature flattens out the richness of our world, narrowly circumscribing the way in which other-than-human life might contribute to human life and experience.

A positive vision

Beyond Nietzsche's critical project, however, it is possible to construct a positive vision – a proto-ecocentric Nietzschean vision that de-centres the human as the sole or highest source of value. After all, Nietzsche exhorts humanity not only to recognize its animal (and even vegetal) nature, but to recognize its embeddedness in an invaluable world, a world worthy of affirmation as an inexhaustible wellspring of meaning and in which we can discover new possibilities for being and acting. In what follows, I employ certain Nietzschean themes – in particular, the other-than-human value that results from the end-directedness of living beings – in order to construct an account of such a proto-ecocentrism. The positive vision I sketch here extends Nietzsche's thought by emphasizing the importance of developing an *ethical* attunement to the other-than-human world.

According to Nietzsche, every living being has certain ends or goals towards which it directs itself (2006b: 89; cf. Richardson, 1996: 36). In this account, humans are not the only beings with interests and ends all their own: animals and plants also have their own ways of being end-directed, of being oriented with respect to certain characteristic goals and purposes. Indeed, for Nietzsche, even ‘non-living’ processes – such as chemical interactions – are end-directed insofar as they tend towards the achievement of particular goals.¹ Furthermore, any end-directed being or process for Nietzsche can be said to have its own interests, and thus its own values (or evaluative perspectives). In many ways, as David Storey argues (2015),

“According to Nietzsche, every living being has certain ends or goals towards which it directs itself.”

this Nietzschean account can be thought of as a proto-biocentrism, of the type we find in Paul Taylor's work (1981). Insofar as Nietzsche extends end-directedness to the inorganic world as well, however, one might identify Nietzsche as an ecocentrist – or, if not, at least construct a robust ecocentrism directly inspired by his thought.

In the case of human beings, examples of relations between goals and values are fairly straightforward. I can, for example, be said to value economic flourishing only insofar as economic success is a goal towards which I strive. This point is a bit trickier to demonstrate with respect to plants, animals and natural processes, however. But let us imagine a showy goldenrod plant (*Solidago speciosa*). On the Nietzschean view, since photosynthesis is an end-directed process that showy goldenrod must undergo in order to grow and thrive, one of a showy goldenrod plant's ends is to photosynthesize. Because of this end, the showy goldenrod is situated in the world in a particular way: it has the potential to be transformed in certain ways (by the presence or absence of light) and to transform its world in certain ways (in this case, either using sunlight to 'split' water – separating hydrogen from carbon dioxide, and turning carbon dioxide into sugars for energy – or failing to split water in the absence of sunlight). For this reason, the showy goldenrod might be said to have a positive evaluative orientation towards sunlight – it might be said, from a Nietzschean perspective, to *value* sunlight. From this perspective, then, understanding plants, animals and even ecological processes as end-directed allows us to make sense of the claim that plants, animals, and processes have inherent value.²

Indeed, the more we recognize the purposes, ends and interests of other-than-human life forms – that is, the more we acknowledge the intrinsic value of the more-than-human – the more we must face the fact that we are, to some extent, ethically obligated to them. If a honeybee (or a community of honeybees) has end-directed processes and purposes all its own,

things that hinder or advance its ends, then it has interests – and thus moral status. Furthermore, it is intelligible to say that an ecosystem or a biotic community can be harmed or hindered in its development *because* we recognize that there are certain end-directed processes characteristic of that community: that there are actions that can be taken pursuant to the ends and interests of the community, and actions that work against these interests.

The above is why Nietzsche can faithfully be characterized as a proto-ecocentrist, in that his views allow us to recognize the other-than-human world (both the biotic community and the inorganic elements and topography) as a source of value. On this Nietzschean view, recognizing the ecosphere as valuable means recognizing our fundamental relationality to this other-than-human world as a source of value. When we adopt anthropocentric, or even hyper-rational, stances, we deny our status as participants in the natural world. When we project our own values onto the world without also engaging in listening and receptivity, we preclude ourselves from seeing other values, ways in which this world exceeds us. And indeed, if we were to subject the natural world and non-human life forms to our control and utilize them for our ends alone (especially ends as superficial as economic ones that purport to ensure 'comfort for all'), we would flatten out the richness of experience, undermining our own depth of being which depends on coexisting with diverse forms of life.

Affirming the other-than-human: Shifting individual attitudes and conservation priorities

From out of the abstract account sketched above, it might seem difficult to isolate a practical vision or concrete recommendations for action. It seems to me, however, that by engaging in small, everyday practices through which one acquaints oneself with the natural world, one might shift one's attitude towards that world and become better able to recognize other-than-human values. Such practices,

“The more we recognize the purposes, ends and interests of other-than-human life forms, the more we must face the fact that we are, to some extent, ethically obligated to them.”

as they become more and more widespread, will become transformative – changing hearts and minds and tilting humanity away from typically anthropocentric concerns, even in a world with pervasive anthropogenic change.

Let me give an illustration of such small, everyday practices. In the summer of 2017, my partner and I purchased a home, a small single-storey house on the north side of Indianapolis, a sprawling city in the Midwest of the US. Indianapolis was recently named the frontrunner in toxic chemical releases for the 50 most populous US cities. This was due in part to nitrate releases from industrial agriculture and in part to releases of arsenic, lead and mercury from manufacturing and power plants. The air quality is, overall, poor; soil is, on the whole, degraded. Several days this year, I could taste an odd quality in the air. The website for Indiana's Department of Environmental Management (2010) supported my suspicion – that I was likely inhaling industrial chemicals in a not-particularly-industrial area – though it also reassured the concerned citizen that the chemicals “can be smelled well below levels of concern.”

On the little piece of land we inhabit, my partner and I have decided not to use pesticides or fertilizers; next to the non-native species already established in our yard, we have decided to plant native species that offer sustenance to pollinators and preserve the integrity of the soil. Of course, it's just a small bit of land; caring for it does not dramatically lessen the environmental devastation in Indianapolis. The basic ecological processes and functions affecting this piece of land have been transformed – and continue to be transformed – by extensive air, soil and water pollution. So, some might ask, what's the point?

Quite simply, even in the middle of quasi-suburban Midwestern city sprawl, we want to remain mindful of the land, cultivating an ecological conscience that remains aware of our obligations to all life forms. Only by resisting attitudes of domination and control – attitudes frequently legitimized by Anthropocene

discourse – can we open ourselves to interactions that make apparent the end-directed processes and values of the land and more-than-human life forms. Working harmoniously with the little plot of land we inhabit offers us one way of doing this. Adopting an ecocentric perspective means, first and foremost, “[extending]...the social conscience from people to land” (Leopold, 1949: 209); such an extension of conscience fundamentally requires us to recognize values in non-human life forms. Working in close concert with the other-than-human, wherever one finds it, is one way in which individuals might discover – and take seriously – the interests and values of a honeybee or a showy goldenrod plant, even in a time of ever-increasing technology and widespread domination over nature.

But our Leopoldian conviction, our sense that we are simply “plain member[s] and citizen[s]” of our biotic community, is not all that motivates caring for our little plot of land. Indeed, we want to remain attuned to the way in which ecological processes continue to shape this land and our lives, shifting and adapting to extensive anthropogenic change in ways that exceed our understanding and projects. In a time when humans – as Rolston (1991: 370) points out – often opt out of ecosystems, we choose to opt *in*: valuing the ecosphere not only in itself but as a way to experience a matrix of meanings, values and purposes that allow us to recognize that we live in an inherently meaningful world that exceeds us. Working with the small plot of land on which we live is a meaning-cultivating practice, a practice that enables us to recognize that we live in a world of potentially inexhaustible richness, an ecosphere full of purposes and end-directed processes that surpass human machination, and reveal a world of meaning beyond ourselves. Working with the land, noticing resistances and affordances in what contributes to the health of nonhuman denizens and soil, enhances our lives and lets us affirm the world in all its richness. To do this is to resist the nihilism towards which post-modern societies tend when they avow the human as sole source of value in the world,

“Working with the small plot of land on which we live is a meaning-cultivating practice, a practice that enables us to recognize that we live in a world of inexhaustible richness, an ecosphere full of purposes and end-directed processes that surpass human machination.”

“As conservation is one of the few areas concerned with recognizing and advancing other-than-human interests, it is the real and serious work of conservation to act *in the interests of other-than-human life forms.*”

projecting that frame onto a world made to bend relentlessly to our wills and whims. To do this is our way of reminding ourselves that because the broader biotic community to which we belong has its own purposes, processes and values, nihilism – the view that the world in itself is without inherent meaning – is simply false. No matter the extent of anthropogenic change, a more-than-human world both ‘out there’ and *right here* remains, with a meaning all its own – and values that we might embrace and make our own, too.

On my view, moving forward in a way that affirms the Earth and all of its inhabitants will necessarily include a shift in the attitudes and comportments that individuals have towards the natural, other-than-human world. But changes at the level of individual attitudes must also translate to conservation priorities that centre the other-than-human, while simultaneously avoiding the continual marginalization of communities historically impacted by well-intentioned but sometimes misguided preservation movements (Wuerthner *et al.*, 2015). As conservation is one of the few areas concerned with recognizing and advancing other-than-human interests, it is the real and serious work of conservation to act *in the interests of other-than-human life forms*. This means resisting conservation policies that emphasize and prioritize human interests to the detriment of other-than-human life forms and landscapes – which means resisting the ‘new conservationist’ platform. ■

Notes

- 1 See, for example, the unpublished fragment 14[81] entitled “Critique of the concept of cause” from 1888 (Nietzsche, 1967–77, vol 13: 260–1), and the remark about chemistry at fragment 35[58] (Nietzsche, 1967–77, vol 11: 537).
- 2 Although it might seem odd to equate valuing with *having* value, according to Nietzsche, “[t]hrough esteeming alone is there value: and without esteeming, the nut of existence would be hollow” (Nietzsche, 2006b: 43).

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For cosmopolitan bioregionalism

This article sketches a vista of human inhabitation within the expanse of the natural world freed from human physical and discursive ownership. In that future, humanity is downscaled within the ecosphere, where the sixth extinction has been averted, climate change made tractable, and chemical poisons banned. To live bioregionally is to live in concord with the land and in accordance with its affordances; it is to belong with all its members, non-human and human, equitably and generously. To live as cosmopolitans is to be open to, connected with, and hospitable toward all Earthlings. Also cosmopolitan, in this article's argument, is the pursuit of self-realization by a creative mash-up of cultural shards – a kind of intra-individual cosmopolitanism. Cosmopolitan bioregionalism is an imaginary founded on belonging to place and planet. It is a way of life inspired by the desire to remain near Earth's being and cosmic wealth, with all the existential biddings of respect and delicacy such nearness entails.

“Bioregionalism is the entry of place into the dialectic of history. Also we might say that there are ‘classes’ which have so far been overlooked – animals, rivers, rocks, and grasses – now entering history [...] We seek the balance between cosmopolitan pluralism and deep local consciousness. We are asking how the whole human race can regain self-determination in place after centuries of having been disenfranchised by hierarchy and/or centralized power. Do not confuse this exercise with ‘nationalism,’ which is exactly the opposite, the impostor, the puppet of the State, the grinning ghost of the lost community.”

Gary Snyder (1990: 42–3)

Visions are often associated with utopian thought, both in their articulation as social ideals and in their dismissal as castles-in-the-sky doomed to fail given the messiness and inherent imperfection of human life. The word ‘utopia’ was intended by its 16th century coiner, Thomas More, to mean ‘no place’ (from the Greek *ou-topos*), while simultaneously leading the ear to

the meaning ‘good place’ (*eu-topos*).¹ Despite the bad rap utopian thought regularly gets as wishful speculation, creating the contours of ‘good place’ in the individual, household or collective mind is a positive exercise. For even if utopian ideals fail to materialize for any number of reasons – their corruption, unforeseen circumstances, strong obstacles or insufficient willpower – the alternative to aspiring towards utopia, or good-place vision, is far less desirable.

The default alternative to intentional action towards an envisioned destination is to let things happen as they will. Letting things happen as they will tends to mean allowing the past to (more or less) reassert its clout, colonize the present and manifest itself into (and as) the future. Indeed, inertia is the continuous reiteration of the past into the future via living in the present with minimal mindfulness or higher purpose. Letting things happen can signify helter-skelter living by the seat of one's pants, lazy thinking that extrapolates from current trends to future realities (thus empowering current trends to *become* future realities), and, when problems arise, navigating haphazardly or muddling through. This pattern of letting things

Eileen Crist

About the author

Eileen has been teaching at Virginia Tech in the Department of Science and Technology in Society since 1997. She has written and co-edited numerous papers and books, with her work focusing on biodiversity loss and destruction of wild places, along with pathways to halt these trends. Eileen lives in Blacksburg, VA, USA.

Citation

Crist E (2020) For cosmopolitan bioregionalism. *The Ecological Citizen* 3(Suppl C): 21–9.

Keywords

Human supremacy; societal change; visions

happen as they will is pervasive at personal and social levels. The way the international community has (not) dealt with climate change is a case in point. Letting things happen does not make for meaningful living. It disavows the power of intention, which, when activated, is formidable, intelligent and generates momentum not simply to arrive at an intended 'good place' but to feel increasingly empowered, alive and awake on the way.

At the same time, it is important not to get too specific about envisioning 'good place,' because that would yield utopia in the negative (*i.e.* unrealizable) sense of the word. First, when people get too specific in the articulation of a vision, quibbling over the nitty gritty may ensue and the collective impulse to move enthusiastically in a certain direction wanes. Second, when thinkers get over-detailed in their description of vision, leeway for a desired destination to emerge organically and realistically, and to be shaped by future people, will be forestalled. Therefore, good-place vision must remain fluid and open, but without losing its backbone, without sacrificing its values and without foregoing its inspirational thrust.

Ecocentric vision must navigate that razor's edge of being neither too nebulous nor too specific. Yet 'seeing-forward' the unfolding of the human sojourn on Earth can help inspire collective willpower to move in that direction. In that spirit, I offer a sketch of cosmopolitan bioregionalism as an Earth-centric vision for human inhabitation. Its core value is universal freedom for all, humans and non-humans. As I have argued elsewhere, freedom is the highest value in existence because it enables and empowers cultivation towards self-realization (Crist, 2015; 2019). Freedom is neither a human-concocted nor human-exclusive concept. Human beings discerned, and subsequently conceptually distilled, the ideal of freedom by witnessing the living world's *state of being* – manifesting in flows of organic and inorganic movement, in unexpected happenings, in life's rebellions against confinement and in the creative potentiality inherent in constant dynamism and becomings.

Nature

That the natural world does not belong to humanity is a self-evident truth. Humans have embezzled the planet by means of the ascension and spread of the worldview of human supremacy, the shared belief-system that the human is a distinguished and entitled entity invested with absolute sovereignty over everything not human. Through this worldview's ideological brainwash, human beings exercise the power of life and death over all non-humans and the prerogative to control all geographical space.

Any person with clear sight can directly perceive that non-humans are beings who are subjects-of-their-lives, who command respect by their inherent awesomeness and who deserve nothing but our gratitude, love, care and amazement. Non-humans co-create the world in ways that are experientially extraordinary, ecologically complex, evolutionarily fecund, materially abundant and unutterably beautiful. Only eyes blinded by a superiority-and-entitlement complex, and minds made shallow by the delusion of human pride, are unable to countenance these truths and experience their full existential force. Because human supremacy has yet to be superseded and discarded as the disgraceful ideology that it is, non-humans are considered usable, ignorable or dispensable, treated as though ethical considerations do not apply to them, and reconfigured as resources for taking or slaying, while their homes can be legitimately stolen. Human supremacy has soldered a distorting lens onto human cognition and perception, enabling an ignorant and violent inhabitation of Earth seem sound and normal.

When humans finally free themselves from this dark legacy – and desist from behaving like the Ku Klux Klan of planet Earth – Earth and all its beings will be set free to be who they are, live as they will and become who they may, and our relations with them will be restored on foundations of goodness and reciprocity.

At first blush it may appear a *non sequitur* to claim that the above argument entails,

“Ecocentric vision must navigate that razor's edge of being neither too nebulous nor too specific.”

among many other changes, the abolition of the nation-state. Yet one of the foundational pillars of the nation-state is *territory* – the annexation and subjugation, as national property, of a portion of Earth's body. Collectively, nation-states are constructed through a jigsaw-puzzle division of Earth into contiguous segments, with each geographical subdivision belonging to the corresponding nation and people. By virtue of their design, nation-states are premised on a core feature of human supremacy – namely, geographical appropriation and occupation for whatever use, purpose or whimsy is deemed desirable.

Contemporary liberals, and many environmentalists influenced by liberal thought, love to castigate corporations (and the current neoliberal economic regime that favours them) as the quintessential nature-malefic entities. The institution of the nation-state, however, is equally malefic (if not more so) given the multiple levels at which it sponsors nature's destruction. For starters, we can consider what nation-states do and have done to their own natural environs, as well as what nation-states do to other nations' natural environments after they acquire sufficient military, sociopolitical and economic power to impose their interests.

In terms of relations between humans it has been noted that the nation-state always carries “within it the seeds of exclusionary injustice at home and aggression abroad” (Benhabib, 2002: 558). If this often manifests as the case *vis-à-vis* certain humans (for example, foreign refugees, out-group adversaries and minorities), the nation-state's exclusionary injustice and aggression is exhibited in absolute terms towards non-humans and the natural world. However, the plight of the non-human – which is ever-tenuous membership, existential precarity and a status undeserving of human virtue – is, as such, too often unrecognized in the public sphere and deplorably under-theorized by intellectuals. The non-human is subject to persecution, displacement, killing, enslavement, takeover or exploitation as a normal matter of the exercise of sovereign

power over national territory, and this remains largely uncontested as a political modality and matter of justice.

Nation-states empower and authorize economic industries – intensive agriculture, concentrated animal feeding operations, mining, forestry, fishing, infrastructure and manufacturing – to ravage places and Earthlings. Relations among nation-states, especially in a post-Bretton Woods world, have enabled nature's ravaging to go global. The journalistic platitude that the global economy is ‘deregulated’ is hugely overstated. The global economy is, in fact, governed and facilitated by state power on many levels, including: national laws; international treaties and agreements; revolving doors between government and business and the consequent regulatory capture; subsidy schemes and tax-breaks; a global financial system; government bail-outs of ‘too big to fail’ financial firms. Most importantly, if least explicitly, the global economy runs on the undisputed ground of it all – the human-supremacist license to exterminate and exploit non-humans and their homes for wealth and power, including *national* wealth and power.

To single out one of the most nature-devastating exercises of this institution, nation-states are the architects of infrastructural expansion, which is ruinous on multiple levels. First, in itself, as it entails the conversion, fragmentation and pollution of natural habitats. Second, by enabling activities like logging, poaching, mining and agricultural development that follow infrastructural build-out, most especially of roads. Third, by greasing the wheels of excessive global trade, which is responsible for one third of all extinction threats (Lenzen *et al.*, 2012) and for planet-wide copious pollution and garbage. Fourth, in its keynote role of humanizing the world by perniciously, though seemingly innocuously, amalgamating it into the technosphere. And lastly, by the viral reproduction of all the above, given that infrastructural expansion, in a world governed by the mass hallucination of human planetary ownership, operates without restraint or end in sight.

“To single out one of the most nature-devastating exercises of this institution, nation-states are the architects of infrastructural expansion, which is ruinous on multiple levels.”

The liberal idea that if only we could get the right people into political office, and if only we could redistribute the wealth of the *über-rich*, our problems would start to be solved, does not challenge the fundamentals of the nature-destroying establishment. Changing that *status quo* requires superseding the nature-parasitizing institution of the nation-state, which configures geographical space as national territory and which relegates non-humans to being useable, killable, enslavable, disposable and voiceless. It also calls us to redefine the very meaning of ‘wealth’ – instead of focusing on and bemoaning its unequal distribution among people – so that we might create a way of life in which wealth no longer signifies accumulating material acquisitions by means of invading and plundering the natural world.

The abolition of the nation-state is necessary to free the world from its unwholesome clutches – which are not only territorial, legislative, administrative and economic, but also ideological in conning people to identify with nationalistic drivel. The latter aspect of the institution of the nation-state has remarkable, albeit indirect, ramifications for the natural world. The nation-state brainwashes people – through patriotic education, histories of present and bygone glories, geopolitical maps and assorted pipedreams of making nations great (or “great again”) – into internalizing national identity and adamantly believing that they are Americans, Brazilians, French, Bulgarians, Greeks, Chinese, Kenyans, Australians, Indonesians, and what-have-you, instead of realizing who they really are which is *Earthlings*. Nation-states filch people’s allegiance away from the sundry beings with whom they dwell, shackling their loyalty instead to nationalistic ideals that are socially constructed, nonstop, through education, dominant discourses, propaganda and (when all else fails) demagoguery. The nation-state schema has thus more or less successfully hijacked the wholesome human predilection for *belonging* away from the real world,

yoking it to a dangerous fiction of some ‘in-group.’ All forms of nationalism are pathetic, a waste of life and perilous as we are witnessing with nationalist revivals worldwide.

The bioregional polity will be an entirely different entity than the nation-state, and bioregional life may well emerge through acts of secession from nation-states (Kloppenborg *et al.*, 1996; Snyder, 1990; Crist, 2019). Each bioregional formation will acquire its character from loyalty to place and develop naturecultures that emerge out of a place – its landscapes, soil types, watersheds, altitudes, animal and plant inhabitants, weather patterns, geological peculiarities and other unique features (Snyder, 1990; Sale, 1997; Taylor, 2000). Bioregional humans will inhabit natural *places* rather than national *territories*; and they will form alliances with human and non-human neighbours, rather than defining themselves in opposition to them and at their expense.

Between bioregional formations, immense expanses of Earth will flourish *free*: belonging to no human conglomerate and emphatically *not* defined as humanity’s ‘commons.’ These will be Earth’s wild places, belonging to the wild ones and co-created by them along with inorganic processes of water, wind, climate, fire, volcanic events and other natural processes. The vast expanses of landscapes and seascapes between bioregions, along with the beatitude of well-cared bioregions themselves, will make Earth shine like a living mandala in the universe – a beacon of loveliness and resplendent being.

The arts of wilderness trekking, questing and survival, along with those of diving and snorkelling, will know a future-primitive renaissance, since those uninhabited (by humans) places will be available only for low-trace visiting. Human beings will then have the privilege to remember, experience and chronicle the primordial physical and spiritual powers that lie dormant in our genome – as wild and remarkable as anything else on this amazing planet. The University of the Wilderness, as environmental historian Rod Nash calls it,

“The abolition of the nation-state is necessary to free the world from its unwholesome clutches.”

is the kind of schooling that can awaken that inner potency for those who would seek its secrets and gifts (Nash, 2012).

At the interface of Earth's expanse of wilderness and each bioregion will flourish the middle-landscape ecotone of the foodshed. Food will be made following the Agroecological Way (Fukuoka, 1978; Wirzba, 2003; Jackson *et al.*, 2018). Without synthetic pesticides and fertilizers, which were products of the war industry repurposed for the war against nature. In friendship with adjacent and downstream wilderness and wild animals. In mixed landscapes, gorgeous in their own right, where the cultivated and the wild meet in orchestrated and unexpected patterns. In polycultural, perennial and artful combinations of cultivars. With loving-kindness for the farm animals and gratitude for their contributions. Through the high-level skills and expert knowledge of farmers. Indeed, small-scale farming is the ultimate bundle of art, science, skill and labour of love in relating with the world, and that inherent validity claim will be vindicated in bioregional civilization.

Wholesome, nutritious and ethical food for human beings will be a cornerstone endeavour of bioregional food cultures. The junk food purveyors of our time will be convicted in the annals of history for their heinous crimes against children, animals, disempowered humans, the natural world and humanity at large. If the barons of bad food appear 'rich' today, future history will always remember how pitifully poor they really were.

Culture

Each bioregion will have a *cultural feel* – that will ripen well with age, as all good things do – defined through climate, natural and other attractions, nearby wildlife, ecologies, arts, languages, cuisines, healers, universities, and natural and human histories. Yet the essence of culture as the repository of material and ideational achievement will come to fruition in the *individual*. In the bioregional societies of the future, each individual will be the site of self-created culture, by means of combining

fragments of the diverse cultures that have emerged in history's laboratory. All humanity's collective wisdom, practices, ways of knowing, technologies, systems of healing, movement and meditation, and diverse crafts and arts, will be at the service of the individual for collage self-composition (Taylor, 2000). One of the highest expressions of human freedom is indeed this ability of the individual to self-create themselves within, and in relation to, community and more broadly humankind. Having available the rich sources of humanity's diverse achievements, personal freedom is granting individuals the capacity to become what they *will* – as long as their will includes supporting the freedom of all others, non-human and human, to do the same.

The experiment of the human diaspora, which has unfolded over thousands of years into diverse cultures, will be taken to a whole new level when individuals can avail themselves of the collective insight, attainments and methods of that diaspora. Bioregional good-place vision thus aligns itself with *individualism*, but not in the sense of me-first self-aggrandizement and self-promotion promulgated in capitalist societies. Authentic and elevated individualism blooms from the personal freedom to invent or discover (depending on your metaphysics) the *essence* of who you really are, which is "one without a second." As political theorist Luke Plotica writes in his exploration of the different faces of 19th century individualism (2018: 6–7):

As a normative ideal, individuality counsels the individual to deliberately pursue self-development after one's own distinctive desires, ideas, and capacities. Rather than merely conforming to the customs of one's society or the expectations of others, one should intentionally strive toward a personal conception (however varied or imprecise) of who one wishes to become, a personal vision of flourishing.

The beauty of the potential of individualism for the 21st century and beyond is that, because of globalization,

“Having available the rich sources of humanity's diverse achievements, personal freedom is granting individuals the capacity to become what they *will* – as long as their will includes supporting the freedom of all others, non-human and human, to do the same.”

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individuals have enormous resources to draw on for self-creation. Indeed, the accessibility of such resources to (in principle) all individuals is one of globalization's greatest gifts (the other noteworthy one being a wide diversity of foods).

When the unit of culture is the “group” as it has traditionally been defined (in national, racial, religious, tribal or ideological terms) bad things regularly happen to those who do not fit in the group or who are outsiders. Indeed, scapegoating, as well as in-group versus out-group invidious antagonisms, are core norms of how social groups (including nations) define themselves. On the other hand, shards of cultures can be mixed and matched within each person as self-creative “bricolage” (Taylor, 2000). This conception of individualism is not contrary to community, but a *prerequisite* for the most optimal form of community in which all individuals can participate and be respected for who they are. Rescuing culture from the “group” where it has traditionally resided, and delivering it to the individual's personal evolution, harbours the promise of world peace, which has eluded humanity ever since tribes, empires, races, genders, castes, sects and nations were fabricated. May all such fabrications fall away! “For the Region, there is no Race,” writes surregionalist Max Cafard; “Miscegenation is the rule” (2003: 10). In bioregional civilization, humanity will be one and cultures will be as many as there are humans. Loyalty is pledged to place and all its beings, and place of course goes beyond specific locales to include all Earth – for Earth is our bioregion in the cosmos.

Every human child will be raised for the purpose of finding the gift that belongs to them and will be given tools to make that gift reality. Human beings will not be born for subjection to child marriage, child labour, to people armies, to do grunt work, or to disappear in dark, dangerous recesses of alienation and psychic suffering. In cosmopolitan bioregional civilization there will be no invisible, fungible, disposable or uncared-for people. This is the family planning of the future: Every child will

be brought intentionally into the world in order to matter infinitely.

Cosmopolitanism is incorporated on three levels into the futuristic vision I am describing. First, a cosmopolitan *zeitgeist* is expressed and enacted within each human being in creating themselves by availing of the cultural fragments that globalization has unleashed. Second, this futuristic vision concords with traditional cosmopolitanism's “recognition that human beings are moral persons entitled to legal protection in virtue of the rights that accrue to them not as nationals, or members of an ethnic group, but as human beings as such” (Benhabib, 2009: 30). Third, a cosmopolitan spirit will be fostered in the relations between bioregions. They will stay connected through modest high-quality trade, in the exchange of ideas, discoveries and inventions, for the sake of times of need (such as from natural disasters), through inter-bioregional travel and migration, and in the name of hospitality, curiosity, learning, mutual benefit and love of Earth and all humanity.

Traditional humanistic thinking on cosmopolitanism, from Immanuel Kant to present-day exponents, has been shrilly anthropocentric, theorizing cosmopolitans as people whose primary allegiance is to the global *human* community (e.g. Benhabib, 2009). In contrast, cosmopolitan bioregionalism expands the universal, inclusive moral vision of conventional cosmopolitanism, rectifying its jarringly self-contradictory, human-supremacist blind spot of excluding non-humans and their geographies from that moral vision. Cosmopolitan bioregionalism celebrates human beings as Earthlings first and foremost, devotedly grounded in care of place and simultaneously pledged to the well-being of Earth's entire community of life, non-human and human.

Economy

Humans are material beings and are variously attracted to material stuff. We wear clothes, live in houses, tend to prefer to have central heating and running water, need furnishings, are drawn to personal

accessories (like jewellery, tattoos or high-tech devices), require a material culture (which will be immensely trimmed down by means of healthy eating, proper movement and unpolluted surroundings), desire transportation (personal and public), enjoy materially-mediated entertainment (from playhouses to video games), and need educational venues (like schools) and educational materials (high- and low-tech). And of course human beings love food.

How are we going to enjoy an abundant (without clutter) and lush (without waste) material life amidst a biodiverse, thriving, more-than-human world? Two avenues: First, there must be far fewer of us, so that all may enjoy an equitable and high-quality standard of living. Analysts have argued for 2 billion as a good first approximation of an optimal global population (Pimentel *et al.*, 2010). I have also argued for that ballpark figure as the estimated number of people who can be supported by an agroecological, ethical and geographically downscaled food system (Crist, 2019). Second, we must create our material cultures mindfully, make them durable, value what is long lasting, conserve objects and energy, share generously, and reduce-reuse-recycle like our hair is on fire. We must also cultivate virtuous tastes. Biting into a piece of meat may seem viscerally appealing, but, unless sparingly consumed, animal products are bad for the human body, the animals and the Earth. A plant-based diet is an acquired taste, but once people 'get it,' the sensual pleasures of eating are endless, supportive of robust physical and mental well-being, and far less nature-impactful (Tuttle, 2005). We must cultivate tastes, at all levels, that are good in multiple and enduring ways. Mostly plant-based food. Public transportation. Locally made clothes and home goods. Artisanal musical instruments and furniture passed down generations. Well-made stuff that is repairable.

The mass production of cheap, often throwaway commodities is the bane of the Earth, and its ascendancy reflects the convergence of overpopulation, industrialism and capitalist-goaded consumerism. In a

bioregional civilization, industrial mass production will be ratcheted down. It will produce objects that are durable, fixable and recyclable, and be reserved for products that cannot be inherited, hand-crafted or locally made. Foregoing fossil-fuel energy, by itself, will force the hand of downscaling industrial production, but we should welcome this eventuality as heralding a high-quality material culture in which we will relinquish consumerism without foregoing the human attraction to material objects. Even now we are aware of this, since the labels 'hand-crafted' and 'artisanal' come with a premium price tag, and the consumption of such products is refreshing to the eye and relishing to the taste buds.

Bioregional economies will be frugal, lush and slow. Sometimes frugality means you value what you have inherited or otherwise endures way beyond what anything 'new' has to offer. Sometimes lushness – the way we prize lush food, for example – can be guaranteed by wholesomeness, a global repertoire of recipes, spices from everywhere, restoring nutrient-rich soils, falling in love with cooking and enjoying certain foods only as infrequent luxuries (especially animal food products). Slow economy means *slowing down*, relishing the cycles of nature and body, respecting the natural limitations of what we can achieve in any given amount of time, valuing free time over more income and acquisitions, rejecting the insanity of multi-tasking and never-ending 'to do' lists, and allowing ourselves the spaciousness of time to accomplish our tasks, projects and dreams. The acceleration and frenetic overload of modern life, in the service of a hollow productivism, is the system's most perverse and insidious crime against human beings. Even now, before we create a slow way of life, we must fight to decolonize our minds and bodies from the dehumanizing tempo of a way of life gone mad, deliberately rejecting our enforced enslavement to speed (Virilio, 2012).

For love of the Earth

Bioregionalism, as two early bioregional theorists stated, is both "a geographical

“Even now, before we create a slow way of life, we must fight to decolonize our minds and bodies from the dehumanizing tempo of a way of life gone mad, deliberately rejecting our enforced enslavement to speed.”

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terrain and a terrain of consciousness” (Berg and Dasmann, quoted in House [1999: 126]). As geographical terrain, bioregions will be characterized by their topography, animal, plant, fungi, and microbial communities, bodies of water, microclimates, animal migrations, histories of all kinds, and other unique aspects. As terrain of consciousness, bioregional life embraces daily remembrance of gratitude and care for beings and ecologies who share place with humans.

Intimacy is perhaps the best word to describe the relation between bioregional people and the places they inhabit (Sale, 1997). Intimacy manifests at the levels of knowledge, lore, care, relationship and ceremony. It signifies the end of the “declining ecological baseline,” which, as I have argued in detail elsewhere, is a direct upshot of the arrogance and inattentiveness of human-supremacist societies (Crist, 2019). In their conceited mindset, and mindless, violent sprawl, human-supremacist societies become afflicted by ecological amnesia and nescience of non-human neighbours and their ways.

Emulating indigenous lifeways and traditions, bioregional people will create celebratory traditions to honour and commit to memory non-human denizens and their achievements, needs and ways (House, 1999). Extending ecological and evolutionary science, schools of natural history and citizen science can instruct bioregional citizens from the perspective of modern-day paradigms. We might envision bioregional life as *neo-indigenous*, pooling human attainments across cultures and times and integrating traditional and modern ways of knowing. Bioregional people will live from a new consciousness that blends evidence-based reasoning, indigenous balanced living, compassion for all beings, the cosmopolitan *esprit* of open-mindedness, and awe for all existence and planet Earth. In the ‘good-place vision’ words of poet and literary thinker Robert Crist (personal communication):

Under the sway of diversified universal consciousness all desire for self-aggrand-

izement and dominance will dissolve. Well-being for all varieties of life will arise with cross-fertilization between all peoples in a world freed from profiteering, power-mongering, weapons contamination, and artificial systems of value. Militarism, ethnocentrism, nature domination, and hierarchy will be banished to the trashcan of time. There will be an ever-developing individual and collective aesthetic and creative order in which the ancient will be revered and selectively revived and the future will be constructed with wonder and humility.

I want to end this article with the image of the vocation of cartography reborn. Bioregional cartography will be dedicated to creating novel maps of the world that decisively part company with the geopolitical mappings that represent, reify and tacitly praise the vandalisms of anthropocentric imperialism and nationalist occupations over the face of the Earth. The new maps will portray vast areas of land and sea freed from human occupation, picturing with original flair – according to the inspiration of each cartographic practitioner – a variety of aspects, such as forested terrains, keystone and endemic species, unique topographies like canyons, caves, or rock formations, animal migrations routes, sacred indigenous sites, memorials where fracking and other scourges occurred, water bodies for swimming or rafting, and other remarkable landmarks.

The bioregional design of life will reflect, and over time shape, the emergence of a mature human, one endowed with the elevated consciousness of inhabiting Earth – both as local and planetary hearth – artfully, mindfully and with abiding love. ■

Acknowledgements

I would like to thank Robert Crist, Rob Patzig and my co-editor Patrick Curry for their thoughtful feedback on an earlier draft of this article.

Notes

¹ The final lines of the poem included in the front matter to *Utopia* express this double meaning: “Wherefore not Utopia, but rather rightly, / My name is Eutopia: a place of felicity.”

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Stephanie Moran, Art Editor, and Salomón Bazbaz Lapidus, Art Advisor

We are inviting artists to submit artworks to *The Ecological Citizen*. We are seeking full-page spreads across 2–4 pages, single-page artworks and individual smaller drawings and images. We are looking for a range of artworks that fit with the ecocentric ethos of the Journal.

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Eco-republicanism

This article argues that eco-republicanism is a good, perhaps the best, model for an ecocentric and therefore ecologically sustainable polity. Conversely, it maintains that ecocentrism (and arguably only that) would enable a republican project to fully realize its goals. It begins by describing the chief characteristics of civic republicanism, concentrating on the Florentine or Atlantic tradition. It then considers the changes to that model that would follow from clearly defining the 'common good' as fundamentally ecological in a sense that includes but is far from only concerned with human beings. It also begins to address the implications of deep-green civic duty, the need for a corresponding emphasis in education, and the difficult question of how to institute and protect ecocentrism from destructive sectarian meddling (which is anti-republican by definition), no matter how popular or 'democratic'.

What I want to do here (and all there is room for) is to sketch out the basic idea, possibility and need of an ecocentric republicanism, that is, one that is fully ecological. After briefly introducing civic republicanism, I shall argue that it extends naturally into eco-republicanism, and that only in this way can civic republicanism realize its full potential and avoid failure. But the potential benefits don't all run one way; it seems to me that republicanism, suitably adapted, is the most promising political programme for realizing ecocentrism. This mutual cross-fertilization then coincides in the ultimate point of the whole exercise: developing an adequate response to the contemporary ecocrisis and helping to guide ecocentric citizens' actions.¹

The most considerable context for this essay is therefore anthropogenic ecocide and the resulting ecocrisis. Given limited space, however, I shall assume that most readers are aware of these and need no persuading to take them seriously. Concurrently, however, much of the human polity is also breaking into the fragments, often mutually antagonistic, sometimes described as 'identity politics'. These are based on self-identification as a particular gender (including no-gender), sexual

preference group, race, class (albeit less so these days) and/or nationality – a political tendency which includes the reactionary Right fully as much as the progressive Left. 'Intersectionality' simply takes these essentialized fragments as givens to be linked up.

In a particularly pointed irony, the resulting attrition of widely shared values and unifying ideals weakens our ability to defend the greatest common good: the ecosystemic health of the Earth, upon which all human enterprises, including politics, completely depend. This is our unavoidable starting-point – although to say so, as deep greens know, is to invite opprobrium. It is also the greatest potential strength of a greened republicanism.

Civic republicanism

Civic republicanism² is a political tradition with roots as old as Aristotle's politics and ethics, then the classical humanism of Livy and Cicero. It was influentially redefined by Machiavelli in the late-15th to early-16th century, and again, differently, by Rousseau in the 18th century, when it was also enacted, to some extent, by the founding fathers of the American Revolution. It almost vanished from sight in the 19th century, overtaken by classical liberalism and its heirs.³

Patrick Curry

About the author

Patrick is a writer and scholar based in London, UK. His works include *Ecological Ethics: An introduction* (Polity Press, 2018).

Citation

Curry P (2020) Eco-republicanism. *The Ecological Citizen* 3(Suppl C): 31–8.

Keywords

Visions

For civic republicans, liberty is viewed and valued as the highest good. But it is understood in a very particular way, namely as non-domination: that is, freedom from arbitrary interference (including even the possibility of such interference). Such liberty is not private but common and public. It can only be maintained by practices of active citizenship, especially its duties, which encourage and demand *virtù*: the kind of virtue which places the common good above private and personal interests, and which thereby forestalls its contrary – corruption, resulting from either neglect in a welter of selfish private pursuits, or undue concentrations of power, including (or especially) wealth, by unaccountable elites bent only on advancing their own sectarian interests.

Civic republicanism recognizes the dangers posed by changing conditions resulting from ‘fortune’ (which we would probably call contingency or chance) – both ‘external’, the so-called environment, and ‘internal’, human nature, about which republicans are distinctly unsentimental. Barry (2012) has usefully developed this ecologically resonant awareness and its implications in terms of vulnerability, resilience and, importantly for my purposes, sustainability.

There are overlapping but differing strands of civic republicanism. The kind discussed and advocated here is neo-Roman republicanism, sometimes also described as Florentine or Atlantic, whose chief inspiration was Machiavelli. Another, which I think we should be distinctly wary of, is the more collectivist and authoritarian kind articulated by Rousseau, which fed not only into French revolutionary ideals but also into revolutionary terror, and its modern offspring.

Civic republicanism differs markedly from all variants of the modern anthropocentric mainstream, which valorize freedom as personal autonomy. Liberalism seeks such freedom through guarantees of minimal legal protection alongside private wealth and privilege, which it also protects; socialism, through the social, largely reduced to the state

and often, thence, the Party; and neo-liberalism, through the so-called free market and winner-take-all. From the 19th century on, in varying measures and admixtures, these approaches have tended to reduce citizenship to the radically impoverished condition (from a republican point of view) of voters once every five years or so, dependent clients and debtees, customers, producers and consumers. In addition, unsurprisingly, none of these roles can adequately address ecocide, whose fundamental causes they encourage and whose solutions are fundamentally common, public and shared.

Eco-republicanism

The shift from civic to eco-republicanism⁴ entails certain changes in the former but also new expressions of some of its enduring values. First and foremost, the common good must be recognized as fundamentally ecological and more-than-human, that is, including but extending far beyond the strictly human: in a word, ecocentric.⁵ The reason is not hard to understand, even if it is apparently often difficult to accept: without healthy ecosystems, citizens cannot be free to safely or adequately pursue even their own private interests, nor, ultimately, any interests at all. When there is conflict between that consideration and purely human interests, therefore, the former must take priority. As Plumwood (1996: 160) says, “the health of nature is not just another set of interests but the condition for any sustainable democratic practice.”

Putting the Earth at the heart of the common good could also help to resolve the current political impasse between the sectional identity-politics of the new Left and the sectarian nationalist and racist identity-politics of the new Right, thus helping to maintain Earthly life. Put simply, no other truth, and no other narrative, is sufficiently potentially unifying. Furthermore, anthropocentric politics marginalize and minimize the very ecological considerations required to adequately address the ecocrisis; indeed, given that the human-centred values

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behind such politics are a primary driver of ecocide, they can only worsen it. And let me emphasize that only a genuine love of more-than-human nature – that is, for its own sake – will suffice (with luck as well as intelligence and hard work) to save it, including us. Any mere anthropocentric pretence will continue to leave everyone, of all kinds, terminally exposed to our endemic narrow self-interest, short-termism, resourcism and instrumentalism.

Doing whatever is necessary to maintain the integrity of the Earth, its ecosystems, wild places and the nonhuman animals with whom those are bound up is therefore a primary duty (as well as potentially a joy) which, in eco-republicanism, takes pride of place. It follows that the duties of citizens to ensure the ecocentric common or public good must take precedence over the pursuit of private interests when the latter results in the neglect of the common ecological good, and all the more so when such pursuit damages it.

Such duties may appear onerous, especially if their importance is not really understood – although they may also be embraced – but it is important to note that in any case, they do not constitute arbitrary domination of or interference in our lives. On the contrary, being internal to and constitutive of essential freedom, they are both necessary and rational. Indeed, in both republican principle and practice, they are what enables private interests to be pursued in ways that do not end up destroying their own foundations. As Pettit (1997: 137) observes:

We live in physical, biological, and psychological continuity with other human beings, with other animal species, and ultimately with the larger physical system [...] These linkages between us and our environment mean that when you degrade that environment you hurt me and mine, you hurt us and ours [and] there is an assault on at least the range of our undominated choice.

Pettit restricts ‘me’ and ‘us’ to human beings, however, and he claims

that republicanism “starts from an anthropocentric concern.” But if I am right then that is wrong, and any anthropocentrism is no longer tenable, even on republicanism’s own terms. Actually, I don’t believe it ever was. When were humans in any polity ever independent of ecological exigencies and affordances? And since we are fully ecological beings, albeit of a particular kind (like all the others), these are constitutive, not merely peripheral.

Nor does the redefinition of the common good as ecological entail a substantive revision of the principle of republican liberty. Whereas the liberal view is that force (or its threat) is the only constraint on individual freedom, neo-Roman republicans, in the words of Skinner (1998: 84), “insist, by contrast, that to live in a condition of dependence is itself a source and form of constraint.” But further to the point just noted, aren’t citizens in a republic fully dependent on the common good anyway? So acknowledging republican liberty as ecologically dependent (or rather, interdependent) simply articulates what was already present but obscured by entrenched anthropocentrism.

Positively, as I have said, there is no remotely sustainable human common good that is not more-than-human, that is, integrally ecocentric, rather than as an optional add-on. Unless the common good and the *virtù* that it constellates are no longer an exclusively human affair, then, the human common good itself will fail, as is presently happening.

Negatively, to consider the welfare of humans alone, or even to automatically put their interests first, is *ipso facto* domination, subjecting all non-human life – potentially even when not actually – to the arbitrary and coercive exercise of power. And ‘actually’ describes nearly all the current situation. But this is the very thing republicanism rightly abhors, and restricting that concern to humans alone is arbitrary at best, when it is not mere species-prejudice.

In the same vein, if more practically, as Barry (2012: 7) aptly says, “just as the rich will do everything to help the

“Unless the common good and the *virtù* that it constellates are no longer an exclusively human affair, then, the human common good itself will fail, as is presently happening.”

“Republicanism too has its effectively ultimate guiding value and ideal: the self-determination of citizens.”

poor except get off their backs, likewise those benefitting from unsustainability (which is the exploitation of people and the planet) are willing to do everything to realize sustainability, except stop their unsustainable lifestyles and transform the underlying social and economic dynamics that cause unsustainability.” In other words, they must be stopped. In this context a socialist diagnosis is not altogether wrong, although its prescriptions often are.

It is sometimes maintained that moral obligations and duties cannot sensibly be predicated of non-human nature, so the latter cannot be treated as a stakeholder or honorary citizen. As Joe Gray and I (2016: 23) argue, however, “entitlement for stakeholder status should not come from the capacity to understand fairness [...] but rather the potential to be subject to unfair outcomes” – including those resulting from arbitrary domination – “such as going extinct.” Such status would therefore be appropriate not only for non-human individuals but also for “species, ecological communities, or” – since they are integral to and necessary for the existence and functioning of the former – “non-living components of ecosystems such as water and soil.”⁶

This view of the common good and ultimately, therefore, of the ‘good life’ is unavoidably substantive. As Sandel (1996: 5–6) observes, since self-rule requires specifically civic virtues, “this means that republican politics cannot be neutral toward the values and ends its citizens espouse.” More typically, Barry (2012: 258) avers that “Green republican politics does not require that there be one commonly held view of the good life.” This is true of exact forms of that life, subject to the agonistic contestation which republicans favour over bland consensus and one-size-fits-all abstract ideals, brutal when they are not vacuous. Nonetheless, it would be disingenuous not to admit that in a republican or indeed any sane polity, ecocentrism, for the reasons I have already given, is not merely one option but a view which, *qua* principle, is fundamental and necessary. Furthermore, ‘bads’ can only be

recognized as such and avoided, as Barry advocates, in relation to the regulative ideal of an overall good.

The pretence at complete openness, being impossible in practice, was always unconvincing anyway. Even radical and plural democracy, say, requires adhering to that very principle as its non-negotiable basis. One is also reminded of the so-called ‘neutrality’ of the liberal state, which has been effectively skewered by John Gray (1993) as an empty formalism disguising an unavoidable commitment to a particular view – liberal, secular, *etc.* – of the good life.

Republicanism too has its effectively ultimate guiding value and ideal: the self-determination of citizens. So putting forward an ecocentric polity in that place is not the radical change, let alone disruption, it may appear. The only qualification needed, I think, is a disciplined and habitual awareness of always moving towards its realization. But the principle itself must be non-negotiable.

A republican polity thus has itself a duty to encourage and, if necessary, enforce the indispensable duties of green citizenship, and to try to render the wellbeing of the Earth proof against meddling by anthropocentric self-interest.⁷ As Oldfield (1990: 164) says, “The moral character which is appropriate for genuine citizenship does not generate itself; it has to be authoritatively inculcated.” ‘Authoritative’ does not necessarily entail ‘authoritarian’, of course, but it does have to be *actively* pursued. And it’s not as if we aren’t already not only ‘nudged’ but often coerced in ways that are overwhelmingly irrelevant or hostile to ecocentric conditions: compulsory education, taxes, the toxic scourge of advertising and above all, in all these and other contexts, the overarching iron cage, no less for often being virtual, of neoliberal values, views and activities.

How to protect an ecocentric common good as the guiding and regulating value of the polity is thus a key question for eco-republicanism. It has at least two parts. For the first, after Fremaux (2019), I see no alternative to strict constitutional and

legal measures keeping arguments over precise forms of ‘the good life’ within the boundaries set by the Earth’s natural limits.⁸ As Sylvan and Bennett (1994: 90) put it, the task now is “to set anthropocentric concerns within ecocentric concerns” – something which must be accomplished legally and formally, as well as personally, socially and culturally.⁹ As a minimal benchmark, in the absence of which any eco-republican project must be viewed as a failure, there must be a universal presumption *against* all uses of nature, requiring them to be ecologically justified, instead of what we have now: a presumption *for* ‘development’ requiring a justification for not proceeding.

In his openly republican *Discourses*, Machiavelli remarks that finally, the only defensible purpose of a prince is to establish a republic. These days, we might say the same of a state. (Here and elsewhere, civic republicanism sometimes belies its reputation for tough-minded realism by relying on something more like optimistic idealism.)

Nonetheless, assuming such enlightened leadership is not actually an impossibility, how could it avoid the accusation of coercion for necessary green measures when they are highly unlikely to be approved by a majority of human voters, now or foreseeably? Such a charge would be unfounded, as we have seen – maintaining ecosystemic integrity is not a minority interest! – but it would have to be vigorously rebutted nonetheless, and the precise limits and boundaries would also need to be interpreted and defended.

The second part of eco-republican duty concerns encouraging and inculcating good practices of ‘green’ citizenship. As Fremaux (2012: 4) says, to tell people that “from now on, they will have the choice between their feet, their bike or the public transportation to travel while they are used to their personal car, motorbike or cheap flights to Majorca, will obviously not sound to them as an extension but rather as a reduction of what is a ‘good life.’” It’s true that ecologically virtuous behaviours, especially if embraced but even when driven, offer humanly enriching

“possibilities in terms of sharing, meeting, discovering new ways of life,” on both bigger and smaller scales.¹⁰ Nonetheless, it would probably be a hard sell. In the longer run, a vital part of the answer would be universal ecological education: full-spectrum eco-literacy, plus Barry’s (2012) excellent suggestion of compulsory ‘sustainability service’ (from which the children of the rich would not be exempt!).

The goal of an eco-republican project, and the result, to the extent it succeeded, would revise and extend but, it seems to me, substantially remain liberty as republicanism has always understood it (Skinner, 1998). Nevertheless, I don’t think that is the way to sell it, so to speak. One reason is that our contemporary understanding of liberty has been thoroughly stamped as freedom-to-do-whatever-I-want. Another is that, if I may be permitted a huge (but defensible) generalization, most people, not to put too fine a point on it, prefer security – or the promise of security – to freedom, and are quite willing to make extensive compromises to obtain it.¹¹ I suggest, therefore, that eco-republican liberty be presented rather as offering true security.

Important though persuasive arguments are, however, it will take much more to ensure an ecocentric polity. The problem of both establishing and maintaining an eco-republican polity today points us to the continuing relevance of the state, along with the need for genuine leadership. As the history of 20th century tyranny attests, it is certainly not desirable to try to get rid altogether of the painfully acquired relatively democratic state, legal protections and so on. If anything, these need renewing but also, crucially, redirecting in an eco-republican context. Part of that context is the point that what the state must guarantee is not duties to itself but to one’s fellow-citizens, both human and nonhuman. That would keep the door open to self-organizing on smaller scales, and to mixed-species communities of all kinds. (Barry [2012] includes an excellent discussion of this and related issues in terms of a republican

“As the history of 20th century tyranny attests, it is certainly not desirable to try to get rid altogether of the painfully acquired relatively democratic state, legal protections and so on.”

approach to sustainability and the economy.)

Another argument for not jettisoning the state altogether was stated earlier by Oldfield. There is little evidence that 'left to themselves' (whatever that means), humans will always or automatically do the right thing – a truth which again points to the limits of the idea that ecocentrism can be achieved entirely through self-determination. Machiavelli's clear-sighted realism is summarized by Skinner (1998: 33) to the effect that "if civic virtue is to be encouraged ... there will have to be laws designed to coerce people out of their natural but self-defeating tendency to undermine the conditions necessary for their own liberty." Relatedly, the problem of irresponsible 'free riders' will have to be tackled. The relevant contrast is with Rousseau's sentimentality about 'the noble savage' – the other side of the coin, ironically, to his brutal collectivism. Eco-republicanism rejects both.

Such realism will also be perceived by some, however – and long has been – as immoral. Let me be clear about this common misunderstanding (and not always by sincere error): Machiavelli was not a proponent of the view that 'the end justifies the means'. Nor did he extoll bad behaviour as such. Rather, he held that in defending republican liberty, it is sometimes necessary to do something that could indeed be construed as morally wrong, and be able to handle not being a completely pure soul. (The essence of his criticism of Christianity was that by putting personal salvation first, it made being a good citizen much harder.) In other words, life sometimes unavoidably requires hard choices and prioritizing, even triage. Of course, humane solutions are always preferable, and next 'soft' coercion; but even that is not always possible.

The result is a range of significant actionable implications in a number of ecological contexts where purely human interests are now destroying, or are set to destroy, wild lives and places. Global human over-population as a whole, and immigration into already over-populated

areas – both in terms of specifiable criteria of genuine sustainability – demand both sticks (such as fiscal penalties for large families and strict but colour-blind immigration quotas) and carrots (such as more female education and empowerment, and assistance integrating into the host society).

At the far end of the range, most poachers are bent on murdering their profitable victims down to the very last individual, and invasive species – a problem created by humans, note – are exterminating not only individuals but whole species as well as ecosystems. The purity of never doing anything morally wrong or even questionable in a non-ecocentric perspective amounts to a death-warrant for wild animals.

Admitting limits to everything, however, I would add that an ecological common good would also provide an opening to what the foregoing attitude tends to lack and therefore need, namely an ecofeminist ethics of care – or as MacGregor (2007) prefers to put it, feminist ecological citizenship.¹² I see such ethics as not just additional to eco-republicanism but integral. The frankly masculinist provenance of civic republicanism points to the same need, but also the promise. Is this suggestion simple-mindedly gendered? But I have already mentioned Machiavelli's occasional romantic idealism ("Behold, a city of free self-governing citizens!"), and tough-minded pragmatism is by no means the sole province of men, any more than care and compassion are solely that of women. So integrating ecofeminism would bid fair not only to make eco-republican practices of citizenship more effective, and indeed sustainable, it would also enrich the tradition itself.

I am of course aware of the countless practical questions and objections that could be raised to an eco-republican project, but I don't think they mean it shouldn't be explored, let alone attempted. In the words of Machiavelli himself:

[I]t is the duty of a good [person] to point out to others what is well done, even though

“At the far end of the range, most poachers are bent on murdering their profitable victims down to the very last individual.”

the malignity of the times or of fortune has not permitted you to do so for yourself, so that of the many who have the capacity, someone more beloved of heaven may be able to do it. ■

Notes

- 1 I didn't want to simply write a commentary on other texts, which can be tedious. However, several texts have informed my own views, and taken together they constitute a kind of dialogue. So I shall compromise by putting direct comments on other work into footnotes.
- 2 See, minimally, Pettit (1997), Skinner (1981; 1984; 1998), Pocock (1975), Oldfield (1990), Honohan (2002), Maynor (2003) and Sandel (1996). There are many translations of Machiavelli's *The Prince* and *Discourses on Livy*.
- 3 Liberalism's philosophical roots lie especially in Thomas Hobbes and John Locke, as well as J.S. Mill and Jeremy Bentham. It has too many modern exponents to name, although John Rawls must be.
- 4 I use the term 'eco-republicanism' to distinguish it from Barry's (2012; 2016) 'green' republicanism, which he describes as weakly anthropocentric. To the extent he is correct about that (which is not easy to ascertain), it is in my view a failing. His defence of "enlightened anthropocentrism" (2012: 5), for example, falls foul of the problem with 'enlightened self-interest' (of which anthropocentrism is an instance) noted by Mary Midgley (1997: 94): namely, it is "by its nature rather unenlightened and hard to enlighten." Nonetheless, Barry's work is invaluable and indispensable in this context, although that of Fremaux (2019) and Cannovò (2018) is also important. See also Curtin (1999), Slaughter (2005) and Curry (2000), although regarding the last, see note 6 below.
- 5 See Curry (2017; 2018) and Washington *et al.* (2017).
- 6 Relatedly, in an earlier paper I argued that "Civic *virtù* is thus a subset of ecological *virtù*" (Curry 2000: 1067). I now think that statement is misleading, because (1) although civic virtue may well be a subset of ecological virtue, it is also a special kind appropriate to humans; and because (2) although it might be possible to make a persuasive case that ecological *virtue* can be classed as a kind of republican virtue, I'm not sure it would be worth it or is necessary. A more urgent job is to argue, as I do in the present essay, that civic republicanism must become eco-republicanism in order to be true to itself, to fulfil its promise and, *a fortiori*, not to fail. So I would now rather say that there are ecological communities which all living beings comprise, including a subset of human communities with

its own additional attributes. (This should not be understood as yet more human exceptionalism! Cheetahs have their own attributes, as do termites, as do...)

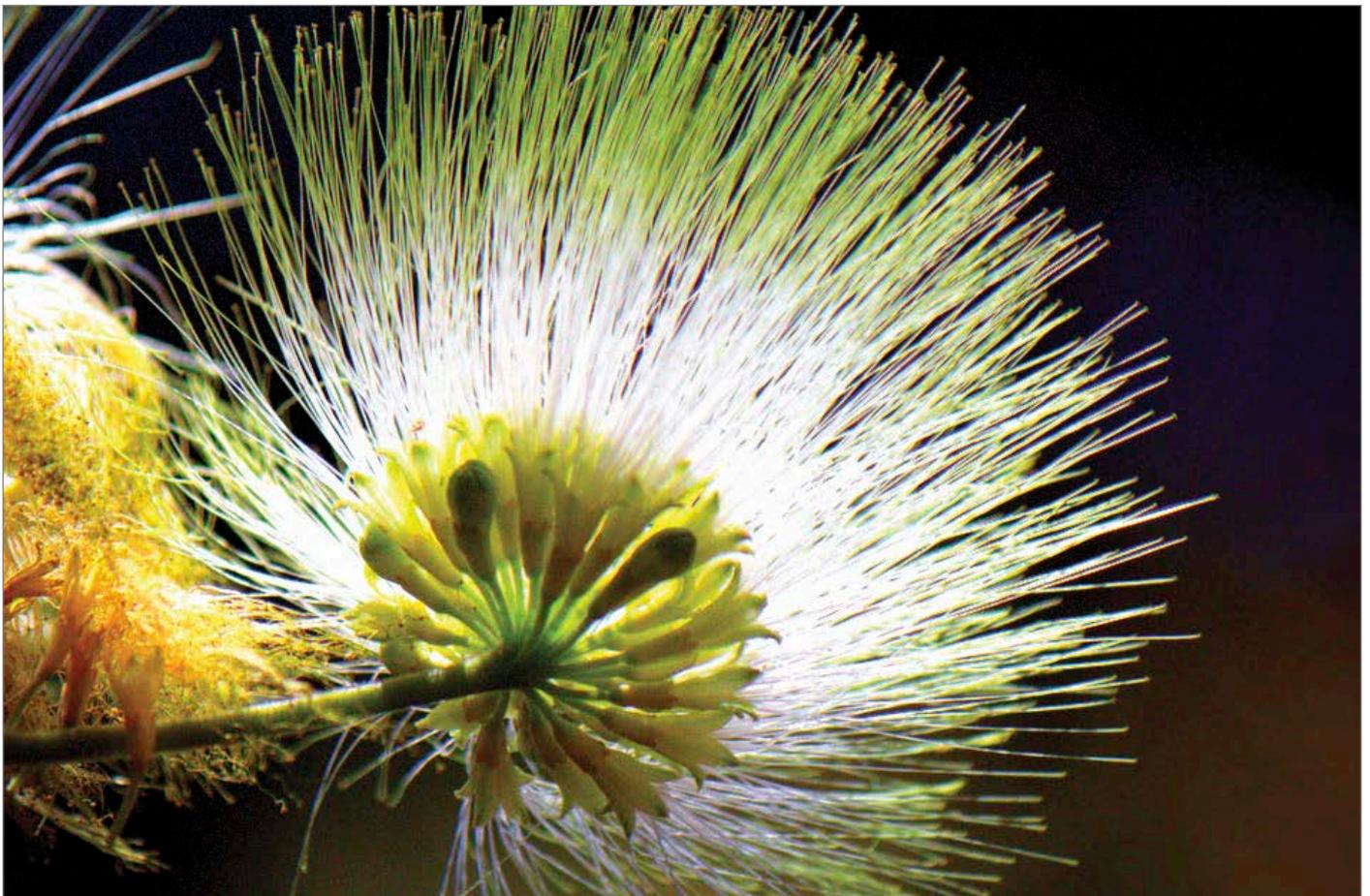
- 7 It is a signal virtue of Fremaux's work (2019) that it doesn't shirk this awkward and difficult but unavoidable question.
- 8 On republicanism and limits, including or especially ecological, see the excellent paper by Cannovò (2018).
- 9 This point is already being addressed by the admirable campaign to criminalize ecocide.
- 10 This is also a point made by Barry (2012) and Crist (2019).
- 11 From Czechoslovakia to China, majorities of the populace have regarded their political dissidents with a mixture of envy, exasperation and indifference.
- 12 MacGregor does careful and important work on feminist ecological citizenship, although it is, as usual, anthropocentric. Ultimately, however, I feel that her determination to take an eco-feminist ethics of care out of the private realm and into the public runs the danger of sacrificing what makes such an ethics valuable in the first place. More generally still, after Maoism we should know to be very careful about completely politicizing the personal.

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Towards a half wild Earth

The 'Half Earth' goal for protecting biodiversity is rightly gaining momentum, yet most discussions say little about how to implement a goal that would require we expand protected areas on land four-fold and in the sea 20-fold. This article gives an overview of the specific steps that would take us far towards assuring that at least half of our planet is wild and complete in its biota. The suggested steps are essential to stemming the extinction and climate crises. However, they will not be sufficient if the human overpopulation problem – too many people consuming too many resources – is not also addressed.

Wild Earth must be saved and restored in a stepwise fashion. Biology can lead the way, if politics and economy will allow, but imagination and art will be equally critical.

More and more conservation biologists and wildlife advocates agree that if we are to preserve life on Earth in anything close to its pre-human diversity and abundance – if we are to stem the extinction and climate crises – we must designate as nature reserves at least half the area of terrestrial and aquatic ecosystems. This equitable sharing of Earth, as popularized in books by conservation biologists Reed Noss and EO Wilson and other conservation leaders (e.g. Noss, 1992; Noss and Cooperrider, 1994; Wuerthner *et al.*, 2014; 2015; Wilson, 2017), would mean expanding protected areas on land about four-fold and in the seas about twenty-fold.¹

Before describing some low-hanging fruit for reserves, let me remind any conservationist who has temporarily forgotten, that unless we compassionately stabilize then lower human numbers, we will not halt the extinction and climate crises, even if our land-saving efforts are heroic. Among the first steps toward a planet that is livable for all are worldwide access to effective and safe birth control, increased resources for education of girls and empowerment of women (in culturally fitting ways), and men accepting their share of responsibility for family planning.²

Moreover, an ecologically sound vision for the future must acknowledge the incompatibility of present fossil-fuel-based affluent lifestyles (particularly those in my home country, the US) with the well-being of the natural world. In a better, wilder world of the future, a much smaller and healthier human population will live more frugally and thoughtfully, richer in arts and cultural cross-pollination, but much less extravagant in its consumption of natural resources. As my friend Paula MacKay, author and carnivore ecologist, once succinctly put it: *Here's to a future of big wilderness and small gardens.*

Here, let me also echo other conservationists' calls for stories and songs to convey our messages and visions. Clearly, good science is not enough to save the day. Scientists have known many of the steps to avert ecological disasters for decades, yet the biological melt-down continues apace. Stories move people more than do facts. So in this essay, without pretending to be either a storyteller or a scientist, I'll suggest some elements of a good story for the future of life on Earth.

Forever wild: Protection of public lands

Those reminders made, it must now be asked: *what* do we protect and *how*? The easy answer is that we protect every place we can, by whatever fair means are

John Davis

About the author

John is executive director of The Rewilding Institute and editor of its online publication *Rewilding Earth* (www.rewilding.org). He is a volunteer land steward in Split Rock Wildway, which links the Champlain Valley with the Adirondack Mountains.

Citation

Davis J (2020) Towards a half wild Earth. *The Ecological Citizen* 3(Suppl C): 39–45.

Keywords

Conservation; protected areas; rewilding; visions

“In the race to save places and species before it is too late, and until there is a paradigm shift amongst policy-makers towards ecocentrism, finding ways to account for the utilitarian benefits of wildlands may be necessary to securing them.”

available. Where public lands are sizeable, permanently and fully protecting them by law (as with Wilderness designation on public lands in the United States) or by constitutional fiat (as with Forest Preserve lands in New York’s Adirondack and Catskill Parks) will take us much of the way toward a Half Earth goal. Public lands and state trust lands in the US comprise about 700 million acres, or nearly a third of the land base. In Canada, federal and provincial Crown lands and First Nation lands comprise the vast bulk of the country, and are still largely intact. Mexico is more challenging, from a conservation perspective, as public lands are few and far between; and the *ejido*, or community-land, system does not easily lend itself to designating protected areas. Still, in North America as a whole, a Half Earth vision could be achieved largely by conserving public lands for their highest and best uses: as wildlife habitat open to quiet recreation and supported by accounting for the economic value of ecosystem services, particularly carbon sequestration, pollination, and watershed renewal.

I hasten to add: wild lands and species have intrinsic value and beauty of their own, and should not have to be justified in economic terms. However, in the race to save places and species before it is too late, and until there is a paradigm shift amongst policy-makers toward ecocentrism, finding ways to account for the utilitarian benefits of wildlands may be necessary to securing them.

A caveat about depending on public lands, with or without such a needed paradigm shift: most public lands deserve ‘Forever Wild’ protection, but many natural communities and ecosystem types are not well represented on public lands (which tend to be what was left after the lands most desirable for colonial usurpation were given to corporations and settlers). Hence, adequately protecting waterways, shorelines, grasslands, valleys, temperate forests and other biologically productive landscapes and seascapes will require wildlands philanthropy and strong incentives for private lands conservation.

Wildlands philanthropy

In continents other than North America, public lands may play smaller roles. In many places, including North and South American countries, wildlands philanthropy – buying and saving land – is a critical part of a larger conservation agenda. As Tom Butler explains in his inspiring book *Wildlands Philanthropy*, many of North America’s (and a growing number of South America’s) National Parks and other celebrated natural areas owe their existence at least in part to the generosity of private donors (Butler and Vizcaino, 2008).

Outstanding examples of wildlands philanthropy in the Americas, examples worth replicating and multiplying, include the following:

- Kahtahdin Woods and Waters National Monument and other wildlands in Maine purchased for conservation by Roxanne Quimby.
- Adirondack Park’s hundreds of thousands of acres of former timber company land purchased through the decades by Adirondack Land Trust and other land trusts and usually resold to New York State for addition to the Forest Preserve;
- Hawk Mountain Sanctuary in Pennsylvania, inspired and sponsored by wildlife defender Rosalie Edge;
- the Arc of Appalachia, where director Nancy Stranahan and team have purchased scores of parcels across thousands of acres to create a wildly improbable reserve system in an otherwise heavily developed area in south-east Ohio’s Edge of Appalachia region;
- Southern Appalachian forests in biological hotspots saved by the Stanback family and other wildlands philanthropists, often donated for public parks and forests;
- Great Smoky Mountains National Park, funded in part by school children collecting pennies to donate to its creation;
- Corkscrew Swamp and other bird sanctuaries in Florida inspired by the legendary Marjory Stoneman Douglas

- and protected by Audubon Society and various land trusts;
- Tallgrass Prairie reserves in Kansas and Nebraska secured by The Nature Conservancy;
 - the Southern Plains Land Trust, which has purchased big blocks of Shortgrass Prairie and gradually rewilded them with missing species like prairie dogs, burrowing owls and bison;
 - Catspaw and Mountain Island conservation ranches in western Colorado, protected by Mellon family heirs;
 - Ted Turner's conservation ranches in New Mexico and Montana;
 - Grand Teton National Park, one of many protected areas the Rockefeller family purchased and donated to the public;
 - redwood groves rescued by Save the Redwoods League and partners;
 - cores of inholdings in Alaskan parks and refuges purchased by The Conservation Fund and added to the public domain;
 - a dozen world-class parks and two million wild acres secured by Tompkins Conservation in Chile and Argentina...

The list goes on and on, thank goodness, but the point is made: private individuals, groups and businesses can marshal their economic clout to save wild places. Indeed, there is no nobler use of money today than to save and restore wild places and species.

Green economics

For centuries now, dominant economic systems have essentially been built on wrecking nature. To avert ecological collapse, we must shift to *restoration economies* (Cunningham, 2002; McKibben, 2008). This will be complicated, but might be greatly assisted by putting a high price on carbon. Much of what industrial growth economies now do is remove carbon from the ground, where it belongs, and put it in the atmosphere, where in excess it is a pollutant. We must reverse that trend.

Among steps toward green economies could be providing tax breaks and other economic incentives for broad, forever wild, buffers along and around waterways; government buy-out and removal of homes

and businesses from areas that will likely burn or flood or otherwise succumb to climate chaos in the future, and giving these areas back to wild nature; and ending subsidies (like below-cost timber sales and grazing permits, and corporate tax breaks) for resource extraction in remote areas. In general, we should tax ecologically-damaging activities, including removal and burning of carbon from the ground, and reward ecologically-restorative activities, like reintroducing missing species, buffering waterways and replanting native forests and grasslands.

Currently, the incentives for private owners of wildlands are all wrong. Economic pressures (including property taxes) encourage liquidating natural vegetation and selling for development. We should, instead, reward private land-owners for protecting wildlife habitat and providing ecosystem benefits.

Ecological austerity

Much of the human-built infrastructure that fragments wildlife habitat is expensive to maintain. In many places, lands can be reconnected and restored in ways that save taxpayer money. Again drawing examples from the US and Canada, back-country roads on public lands are built and maintained principally for extractive interests, especially logging, mining and ranching; and they cost citizens countless millions of dollars a year. Undoing unneeded roads in wild places and dismantling unneeded dams will restore wildlife habitat even while reducing taxes.

Priority areas for this include US National Forests, presently fragmented by something on the order of 400,000 miles of roads – more than the US Interstate Highway system – that primarily serve loggers and ranchers; and US Bureau of Land Management lands, likely crossed by an even greater, though less well-mapped, road mileage, serving primarily ranchers and miners (Foreman and Wolke, 1988). Although the cost savings may not be so immediate, the thousands of deadbeat dams across North America and Europe ought also to be removed. Initial costs will

“Much of the human-built infrastructure that fragments wildlife habitat is expensive to maintain. In many places, lands can be reconnected and restored in ways that save taxpayer money.”

be more than offset over the long term by reduced maintenance and increased ecosystem services, and life's beautiful bounty restored (including abundant fish runs).

Continental wildways

Wildlife habitat connections need to be protected at all scales and in all regions (Soulé and Terborgh, 1999). To begin with, conservation may gain in the near term by focusing on the broad swaths of lands and waters along regions that remain relatively intact, due to topographic or climatic factors (Foreman, 2004). For North America, these continental habitat connections include:

- Boreal Wildway, across northern Canada and Alaska;
- Atlantic–Appalachian Wildway, running from the South–East Coastal Plain through the Appalachian and Adirondack Mountains to the Acadian Forest;
- Gulf Coast Wildway, along the Gulf of Mexico from Florida to Yucatan;
- Great Plains Wildway, across the largely depopulating Shortgrass Prairie from Chihuahua to Saskatchewan;
- Spine of the Continent, or Rocky Mountain Wildway, encompassing the great mountain chain and adjacent deserts and grasslands;
- Pacific Wildway, centred on the Sierra Nevada and Cascades but also including rivers draining west and wilder parts of the Pacific Coast itself.

Green-lining these continental wildways could make them national and international priority areas for reintroduction of missing native species, installation of safe wildlife crossings on major roads, dismantlement of unneeded dams, tax incentives for private lands conservation, and other land-saving measures. (Here I use 'green-lining' in the sense of circling an area with an honorary pen for purposes of highlighting its ecological importance.) These continental wildways become increasingly important as global temperatures warm, and will encompass many of the micro-climates and refugia that can help imperiled species get through this period of climate chaos

(Hannibal, 2013; Eisenberg, 2014; Davis, 2015).

Last great wildernesses

Priority for protected areas ought also be given to Earth's remaining big core habitats, areas that have so far partly escaped the damages of human overpopulation and industrial economies. These areas include:

- the Boreal Forest and tundra of Siberia, Scandinavia, Canada and Alaska;
- the Sierra Madre Occidental and Rocky Mountains of Mexico, the US and Canada;
- the Amazon Rainforest, Guiana Shield, Pantanal and Ibera wetlands complexes, Andes and Patagonian Steppe, in South America;
- Central African Rainforest, and remote deserts and wetlands of Namibia, Botswana and South Africa;
- the Carpathian and Ural Mountains of Eurasia;
- the Himalayas of the Indian sub-continent;
- the Great Barrier Reef and Western Australia desert;
- coral reefs and mangroves around remote Pacific Islands and along wild Central American coasts;
- most Arctic islands and all of Antarctica, and their surrounding seas;
- the high seas and deep-sea ecologies.

The United Nations and IUCN ought to make protecting these last great wildernesses international priorities. Wealthy nations should find ways to pay for protection of these wild places (perhaps as parts of climate accords), in cooperation with the countries (often developing and economically challenged) home to these places; and, of course, this work should also be done in concert with local people, especially tribes and first nations, and in ways that provide good work for residents of the areas in question.

Rewilding at all levels

As Arctic explorer and cinematographer Lois Crisler famously said decades ago, "wilderness without wildlife is just scenery" (Crisler, 1958). Along with

“Wildlife habitat connections need to be protected at all scales and in all regions.”

protecting much more land in much more connected ways, we must gradually restore the species we have eradicated from so many regions, including the top carnivores and other keystone species that help maintain natural community stability. In North America, priorities for species restoration efforts should include:

- puma, or cougar, in wilder parts of the East;
- disease-resistant American chestnut trees in the Appalachians;
- wolves where still missing from the West;
- beavers wherever they've been eradicated;
- prairie dogs across the Great Plains and Intermountain West;
- gopher tortoises of the US South-East region;
- American eel in most eastern streams from the Saint Lawrence drainage basin through the Gulf of Mexico;
- brook trout in many eastern streams, and rainbow or cutthroat trout in many western streams;
- salmon in rivers of both North Pacific and Atlantic coasts;
- sturgeon and other threatened fish species;
- all sea turtles of the Atlantic and Pacific seas
- grizzly bears in the Cascades and Sierra;
- bison across the Great Plains.

Sometimes species restoration will require active reintroduction. Other times, our job may simply be to protect critical habitat and expand it by giving land and water back to wildlife, removing human intrusions and letting the wildlife multiply and thrive.

Ironically, though the term 'rewilding' was coined by Dave Foreman of The Rewilding Institute (www.rewilding.org) and given scientific credence by Michael Soulé and Reed Noss in *Wild Earth* magazine (Soulé and Noss, 1998), rewilding work so far is perhaps more advanced in Europe (www.rewildingeurope.com), South America (www.tompkinsconservation.org), and Africa (www.awf.org) than it is in North America. The Rewilding Europe movement is vibrant and growing, and already has

successful beaver and lynx reintroductions to its credit. Many African parks and private conservancies have restored missing charismatic megafauna. In South America, Tompkins Conservation teams are systematically restoring missing species to parks they are creating in Chile and Argentina. Importantly, Tompkins Conservation biologists and strategists are finding that an incremental approach, working closely with local communities, and beginning with uncontroversial species, proves most successful. In Argentina's Ibera parks, for instance, macaws and anteaters and tapirs were restored, before a project for jaguar reintroduction was advanced.

Rewilding will be most successful as a discipline and a movement if it includes work at all scales and in all areas, so everyone can participate (Miles, 2018). Our goals should continue to include reconnecting big wild areas and restoring the full range of native wildlife – including top carnivores – but we should also embrace local efforts and reintroduction of plants, herbivores and micro-fauna. Rewilding should become central to the work of restoration economies. As the Rewilding Europe movement is showing, a lot of good work can happen on marginal farmlands that are enjoying passive rewilding after agricultural abandonment, but landscapes may also need active help to regain their full complement of native species.

Coexistence

Successful rewilding, of course, depends on people's willingness to accept wild animals as neighbors, or at least as fellow denizens of a given region. Achieving such coexistence is especially challenging with animals that many people fear or consider nuisances, like top carnivores, snakes, bats, and rodents. So an integral part of any ecological vision for the future must be, if not the improbable ideal of harmony, at least mutual acceptance between humans and wildlife. Appreciation of wildlife, including these 'scary' or 'vexing' species, should be cultivated and encouraged at all levels of education and in all forms of art.

“Successful rewilding, of course, depends on people's willingness to accept wild animals as neighbors, or at least as fellow denizens of a given region.”

“Satellite images show that big chunks of all continents and many islands still have relatively intact native vegetation.”

Short of a broad-scale ecocentric awakening, wildlife governance reform may be achievable even with the limitations of our present, small and fragmented conservation community. In the United States (to which I keep returning not only because I live here, but also because the US, for better or worse, does often have disproportionate political and cultural influences), so-called wildlife management is largely controlled by the states, and state wildlife agencies are usually run by people from ‘hook and bullet’ interests. The interests of naturalists, ecologists and wildlife watchers – not to say the wild creatures themselves – are underserved, in wildlife management decisions (Laundre, 2012; Stolzenburg, 2016). Grass-roots organizing and entry of younger conservation-minded people into wildlife fields can correct this imbalance, though it will take time.

Coexistence also means making our built environment and other human infrastructure more permeable for wildlife movement, as well as more durable in the face of climate chaos. In many countries, including the affluent US, much of the infrastructure, particularly roads and bridges, is deteriorating from deferred maintenance and worsening weather events. Much of the work of a restoration economy, and a crucial component of coexistence, is installing overpasses and underpasses so animals can safely cross roads, and modifying culverts to make them passable for fish and amphibians (Beckman *et al.*, 2010), as well as removing unneeded roads and dams, as noted above. Refraining from building more infrastructure in wild and semi-wild places is also critical. Studies by the Western Transportation Institute in the US show that wildlife crossings commonly pay for themselves within a decade, through reduced vehicle-wildlife collisions and saved human lives (wild animal lives not being valued in most economic calculations, sadly). Again, too, making our built environment more permeable to wildlife movement can be done in concert with making it more durable for worsening storms.

Conclusion

Protecting at least half of Earth’s terrestrial and aquatic ecosystems for the many millions of other species with whom we share the biosphere is an ecological and moral imperative. Doing so will depend partly on peacefully and equitably reducing human numbers – in terms of both population and excessive consumption. It is not too late, but it soon will be as the Sixth Extinction and climate catastrophes accelerate, if we do not greatly speed the pace of protecting land and sea. Satellite images show that big chunks of all continents and many islands still have relatively intact native vegetation. If we fully protect all public lands, use our surplus wealth to buy and save wildlands, and convert to restoration economies, we can achieve in our lifetimes a better, wilder world, with safe homes for all species – furred, feathered, finned, fingered and foliated. Yes, we have allowed the extinction and climate crises to grow so severe that it will take a virtual miracle to save wild Earth. But then, does not wild Earth comprise miracles? ■

Notes

- 1 I am rounding up figures from the World Database on Protected Areas (<https://is.gd/RPBrUm>).
- 2 Two particularly helpful books addressing the population crisis are Crist (2019) and Cafaro and Crist (2012).

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Ecological civilization: A premise, a promise and perhaps a prospect

Two broad approaches to ecological civilization are here distinguished: the *reformational* and the *transformational*. The reformational approach seeks to limit the ecological impact of modern industrial civilization without changing its underlying human/nature dualism. The transformational approach seeks to change that premise by instituting entirely new modes of praxis that integrate economic production with ecological functionality: forms of economic production are proposed which do not merely limit the impact of production on the biosphere but contribute positively to its ecological health and functionality. *Biomimicry*, understood as a principle of design, is considered as an operating principle for such an economy but is rejected in favour of *biosynergy*, understood as a protocol for engagement. Defined in terms of the twin principles of *conativity* and *accommodation and least resistance*, biosynergy is proposed as a fundamental protocol of living systems. Modes of production guided by biosynergy would not seek to create artificial systems modelled on the design features of living systems; rather, they would engage collaboratively with living systems in ways that encouraged them to provide for human needs while simultaneously enhancing the functionality of those systems. Crucially, this would require us as humans to adapt our ends to those of such systems; in a word, to desire what our ecological-others need us to desire.

What is civilization? By civilization I mean those expansive cultural formations established by the sedentary, stratified, usually literate, administratively centralized societies that originated in the northern hemisphere in Neolithic times and predominate in the world today. Such societies were based on labour-intensive, agrarian forms of production. Whereas pre-agrarian societies had looked to natural ecologies to furnish their livelihoods, civilised societies carved out spaces of their own within their environments, dedicating those spaces exclusively to human use. They achieved this, at the cost of great effort, through land clearing, cultivation and domestication – often of exotic species – and through the construction of permanent settlements. Such cultivated and, eventually, engineered scenarios gradually began to replace natural landscapes. Recourse to human effort and artifice rather than reliance on nature ultimately gave rise not merely to agrarian economies and the urbanization

of society but to industrialism, and it is in this industrial form that civilization dominates the world today.¹

Members of pre-agrarian societies, by contrast, depended on the affordances of local ecologies for provender, shelter and other requisites. Whether they were true foragers or what I have elsewhere called *custodials*, practising sophisticated forms of ecological management, their cultures reflected a sense of enmeshment in, and responsibility for, an intricate set of ecological interdependencies (Mathews, 2019). Intimate knowledge of these interdependencies enabled people to ensure, by way of relatively small interventions, that ecosystems themselves would do the work of providing for them. So, in pre-colonial Australia, for example, just by walking through country with a firestick, practising highly selective burning of plant communities, people could promote grasslands and so ensure an ongoing abundance of game (Gammage, 2011); or, by selectively digging out wild yams, they

Freya Mathews

About the author

Freya is an environmental philosopher who lives in Australia.

Citation

Mathews F (2020) Ecological civilization: A premise, a promise and perhaps a prospect. *The Ecological Citizen* 3(Suppl C): 47–54.

Keywords

Visions

could ensure increased propagation of yam daisies in subsequent years (Pascoe, 2014). Such practices, or forms of praxis, relied not so much on effort as on a sophisticated understanding of ecological systems, and on how to tweak them.

For agrarian peoples, sweating in their fields, a knowledge of planting and husbandry was of course indispensable, but otherwise the environment, as a realm of natural ecologies, was relatively discounted, as outside the sphere of the praxical and hence ultimately as outside the sphere of the cultural. 'Nature' in other words tended to become progressively backgrounded to the sphere of human agency – ignored and little understood, it was expected to take care of itself. A deep human–nature dualism thus lies at the core of traditional forms of civilization – a tendency to construct culture as set apart from nature and as the exclusive focus of interest and value.

In the contemporary world, civilization under its industrial aspect has largely overtaken the natural environment. In its ignorance and discounting of the processes and principles underpinning the integrity of natural systems, this form of civilization has, often with little awareness of what it is doing, ransacked and ravaged nature, with the consequence that the health and integrity of the entire biosphere is now under grave threat.

What is ecological civilization?

Ecological civilization, a term of great significance in contemporary China, is here defined by its aim of rendering civilization, as a social formation, consistent with the repair and ongoing renewal of Earth's life in all its abundance, beauty and ecological diversity.

Approaches to ecological civilization have thus far taken two broad forms. The first seeks not to overturn the existing parameters of industrial civilization, nor the dualist ideologies that reinforce those parameters from within, but merely to limit their impact on the biosphere. We might call this the *reformational* approach. The second does challenge those parameters, seeking

to replace them with new parameters enabling economies to be re-integrated into ecosystems in such a way that economic functionality becomes interdependent with ecological functionality – a state of affairs that would in turn reconfigure the inner ideologies of civilization. Since this latter approach would require a complete overhaul of currently prevailing socioeconomic arrangements, we might call it a *transformational* approach to ecological civilization.

The reformational approach

Examples of the kind of strategies used under the first, reformational approach include the following.

- Current capitalist modes of techno-industrial and economic organization are maintained but drastic reductions are effected in either levels of production and consumption, or levels of human population, or both.
- Current capitalist modes of techno-industrial and economic organization are maintained, but areas of land and sea reserved for conservation are vastly expanded, where this affords space for the recovery and regeneration of biosphere processes.

An influential example of the latter approach can be found in the *Ecomodernist Manifesto*, which seeks further to intensify and centralize industrialism – fully 'decoupling' it from nature by restructuring it along circular economy lines – with a view to thereby freeing up land currently under industrial and urban usage for conservation instead (Asafu-Adjaye *et al.*, 2015; *cf.* Wilson, 2016).

Arguably, however, as long as the dominant techno-industrial modes of production prevail, holding the dualistic ideological core of civilization in place, the biosphere will continue to be seen as subordinate to human interests, and the biological resources of the planet will continue to be regarded as the rightful property of humanity, ever available for new forms of exploitation. The end-point to which such an attitude leads in the long

“As long as the dominant techno-industrial modes of production prevail, holding the dualistic ideological core of civilization in place, the biosphere will continue to be seen as subordinate to human interests.”

run is total exploitation: a biosphere that retains only those ecological components with demonstrated utility for human purposes. Currently such components cannot be definitively identified: no one can determine which of the myriad existing species, planetary cycles and systems are truly necessary as underpinnings for human civilization. However, it is already clear that many species are dispensable and, with the development of ever-more-elaborate geo-engineering systems that may replace natural systems with artificial ones, it may turn out that most ecosystem processes will prove dispensable or substitutable by artificial processes in the future.

Logically then, failure to replace the kinds of praxis which give rise to dualist attitudes with forms of praxis conducive to a more integrative view of the relationship between humanity and nature seems likely to undermine any attempt to establish a new – ecological – form of civilization truly consistent with the repair, integrity and ongoing flourishing of the biosphere.

The transformational approach

It might seem then that a transformational approach is required – that it is not enough merely to clean up the impacts of an economic system fundamentally at odds with the biosphere, but that our economic praxis needs to be intimately tailored to the needs of the biosphere from the start. Of course, this is not to say that we might not want to incorporate into our transformational approach strategies identified under the reformational approach, such as population control and the reservation of large tracts of land and sea for conservation. But it is to say that such strategies may prove ineffective unless we also transform our fundamental modes of production in ways calculated to generate new, more integrative, attitudes to nature in place of our traditional dualist ones.

In prefiguring the transformative approach, we need again to distinguish at least two different pathways to transformation.

The first pathway is the approach known as *bioregionalism*. It calls for devolution of the present global, high-impact, hungrily extractive economy into a multitude of small, local, adaptive and low-impact economies. Societies built on this model would substitute simpler, decentralized, ecologically informed, place-identified, value-rich but technically minimal and scale-appropriate forms of cultural and material life for current regimes of centralized, de-regionalized, high-tech mass production and global distribution and consumption. We might call this the *bioregional* version of the transformational approach (Sale, 1985; Snyder, 1995; McGinnis, 1999; Crist, 2019).

Although bioregionalism undoubtedly represents in many ways an optimal contemporary pathway to an authentic non-dualist – ecological – consciousness, and hence to a genuinely ecological civilization, its disadvantage is that it seems, in the context of today's geopolitical realities, a utopian one. A transition towards bioregionalism would require not merely a reconfiguration but a reversal of our prevailing political and economic arrangements. In a world in which net demographic trends are, for a multitude of economic and techno-cultural reasons, strongly towards urbanization and ever greater concentrations of production and of high-density living, conditions for the kind of decentralization and industrial downscaling required by bioregionalism appear unfavourable – unfavourable enough, at any rate, for us to consider a second, less idyllic but perhaps more realistic, transitional version of the transformational approach.

This second pathway to transformation I term *biosynergy*. From this viewpoint, it is not necessary to reverse the demographic tendency of modern civilization. What is required is rather a *design* revolution. Neither capitalism nor techno-industrialism *per se* would need to be given up, but productive practices, as they pertain to the whole manufacturing, agricultural and architectural fabric of our material culture, would need to be reconfigured so as to

“No one can determine which of the myriad existing species, planetary cycles and systems are truly necessary as underpinnings for human civilization.”

“As a key to designing an ecological civilization the philosophy of biomimicry is problematic.”

render these practices productive not only for us but also for biological systems.

Such an approach would involve designing human production systems with reference to biological systems, rendering society materially integral with biosphere processes rather than antagonistic to them. If all production systems, together with our ways of organizing and administering them, were reconfigured so that these systems afforded ongoing sustenance for the biosphere as well as for us, then there would be less need to curb industrialism *per se* or reduce population in the interests of sustainability (though upper ecological limits on human population would necessarily still apply). Like the activities of the legendarily industrious ant, the total biomass of whose many species on Earth is greater than the total biomass of humanity, our own industriousness could nourish and replenish the life-community, rather than obliterating it (McDonough and Braungart, 2002).

One name that has been proposed for such a design approach to ecological civilization is *biomimicry*. This design philosophy was originally popularized by biologist, Janine Benyus, economists, Amory and Hunter Lovins, and architect William McDonough. Benyus (2002: front matter; emphasis in original) writes that:

Biomimicry is a new science that studies nature's models and then imitates or takes inspiration from these designs and processes to solve human problems, e.g., a solar cell inspired by a leaf [...] Biomimicry is a new way of viewing and valuing nature. It introduces an era based not on what we can *extract* from the natural world, but on what we can *learn* from it.

Benyus identifies various principles she considers as characteristic of life processes generally, and hence as underlying nature's designs. Nature, she proposes, runs on sunlight, uses only the energy it needs, fits form to function, recycles everything, rewards cooperation, banks on diversity, demands local expertise, curbs excesses from within, and taps the power of limits (Benyus, 2002: 7). Such principles are

accordingly proposed as the guidelines for biomimetic design. Were our industrial and urban systems modelled along these lines, those systems would, according to advocates of biomimicry, become as productive for the larger community of life on Earth as are the industries and built structures of ants.

As a key to designing an ecological civilization, however, the philosophy of biomimicry is problematic. In itself, such a philosophy can as easily lead to ecologically dystopian as to utopian outcomes – to a form of ostensible ‘sustainability’ that would replace actual biotic communities with artificial systems designed for the exclusive benefit of humanity. Following the lines of an autonomous, organic architecture that self-constellates and self-regulates in adaptation to the environment, exemplified in solar cities that photosynthesize and industrial aggregates that cycle water and carbon and morph in accordance with variable conditions, such ‘genetic architecture’ could be built from the inside out in accordance with the morphogenetic principles of life itself (Chu, 2004). This would pre-eminently qualify as biomimetic, but at its limit, it could dispense with nature altogether, securing a state of ‘sustainability-without-nature’ – that is, a state of sustainability for humanity that spelled death for other-than-human nature (Mathews, 2011).

In other words, it is not enough to *imitate* nature in our production systems. While imitating another does imply a certain respect for their qualities – or in this case for their operating principles – it by no means entails actual consideration for their interests. Consider the Romans' imitation of the Etruscans: what the Romans learned from the Etruscans helped them not only to overpower and displace the Etruscans but eventually to erase most independent traces of Etruscan existence. Imitation is, in other words, consistent with a brutal plagiarism that results in appropriation and displacement.

If imitation or mimicry, then, is not the appropriate category on which to found an ecological civilization, what category

might serve? I think it is true that we do need to 'follow nature' in the design of our production systems if we are functionally to integrate these systems with the biosphere. However, 'following nature' in this connection may be not so much a matter of imitating specific mechanisms observable in natural systems but rather of adopting the behavioural protocols underlying those systems. In other words, to reconfigure our modes of production may be a matter not merely of "remaking the way we *make* things," as McDonough and Braungart put it in the subtitle of their 2002 book, but of emending the way we *engage* with our environment.

The root-protocol observable in nature has twin, co-defining aspects: *conativity* and *accommodation and least resistance*. *Conativity* denotes the impulse of all living things to preserve and increase their own existence. It is only by virtue of this drive towards self-existence that living things count as living at all. But in nature this drive is qualified by the principle of *accommodation and least resistance*: organisms which conserve their energy by adapting their ends as far as possible to the ends of the organisms with which they are in systemic interaction will be naturally selected over organisms which needlessly provoke resistance and competition. We might describe such an evolutionary tendency towards the cross-referencing of conativities as *synergistic*. Synergy is here understood as the adaptive process whereby the ends, indeed the very conativities, of two or more parties are continually mutually refracted via their collaboration. I use the term *biosynergy* to denote the way in which this protocol plays out in the natural world.

Biosynergy has affinities with the Daoist principle of *wu wei* – a term which translates literally as *non-action*, where this may be understood not as passivity but as a process of accommodation and adaptation to the ends of others. *Wu wei* enables one to conserve one's own energy, and thereby increase one's own existence, by (i) desiring what simultaneously complements the desires of others, rather than pitting oneself

against them, and (ii) desiring what others, following their own conativity, are already incidentally providing, thereby saving oneself the effort of providing it (Mathews, 2011).

In the biosphere, the conativity of most species is broadly shaped by biosynergy because this is the strategy that, being energy-conserving, tends to result from natural selection. Conflict, competition and predation do of course still occur in nature. In the case of predator-prey relationships, synergy may occur at the level of the species rather than that of the individual: predation is often a necessary condition for prey population stability. Where the interests of particular parties cannot find a synergistic fit, outright conflict may result. But such conflict will always entail an energy-cost for the parties in question. In order that this cost be minimized, modes of conflict themselves will in turn be shaped by the principle of accommodation and least resistance. At the end of the day, the imperative to internalize the conativity of others by desiring what they need one to desire will be what ensures that every living thing, in seeking its own self-existence, at the same time perpetuates the larger system.

Biosynergy in this sense is clearly a fundamental ecosystem dynamic, well illustrated by the activity of those species described as ecosystem engineers. Beavers, for example, desire quiet shelters, safe from turbulence and predators. They accordingly dam waterways to create still ponds in which stick lodges may be conveniently built. Beaver dams modify and redirect stream flows, in the process hydrating the landscape, mitigating floods, filtering runoff and creating wetlands that provide habitat for myriads of other plant and animal species – where these biodiverse and healthy wetlands afford necessary conditions for healthy waterways and hence for healthy beavers. Healthy ecosystems are held together and continually regenerated by countless such synergies.

As humans, we have the capacity to depart from the evolutionary logic of biosynergy. Throughout the history of civilization,

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we have substituted external sources of power, such as domestic animals, slaves and, more recently, fossil fuels, for the energy available to us from our own bodies. This has enabled us – unlike other species which seek to pit themselves against their biotic fellows but suffer exhaustion and selective disadvantage as a result – to impose ourselves on our environment with impunity. Moreover, through our highly developed reflexivity – our capacity to reflect on and hence change our behaviour – we can also substitute arbitrary, culturally mediated ends for the ends imprinted in us through evolution. In our modern societies we have entirely forgotten about desiring only what Earth-others need us to desire – and, so far, we have gotten away with this.

It is this break from the evolutionary logic of biosynergy that first gave rise to and has since perpetuated our dualistic sense of separation from and superiority to the rest of the natural world. And perhaps we can continue to get away with flouting evolutionary logic in this way, replacing the life-world with techno-engineered systems designed to serve human interests exclusively. But if we wish to restore a rich and flourishing biosphere, we shall have to recover this logic. Thanks to our capacity for reflexivity, it is not impossible for us still to do so, and thereafter to review and revise our desires in order to re-align them with what Earth-life needs us to want.

Biosynergy, understood as a proto-moral principle of adaptative accommodation to the needs of the rest of Earth-life, broadly equates not only to *wu wei*, in ancient Daoist tradition, but to the normative principle, or Law, that is core to Australian Aboriginal cultures and that Aboriginal people read from land itself (Mathews, 2020). Just as negotiating their environment in accordance with Law requires of Aboriginal peoples intimate attunement to the multiple conativities intricately at play in local ecologies, so we too will need to decipher at least the contours of the conativities surrounding us before we can begin to reframe our desires and hence our praxis along biosynergy lines. Discovering these contours, which are none other than the

contours of other-than-human inner life, will draw us into social and communicative relationship with our prospective ecological partners and allies, where this means these actors will inevitably enter our culture via stories that pull us into social and affective relationship with them. Biosynergy will in this sense become enshrined as a root-norm in our culture as much by story as by science.

Biosynergy as a guide to ecological civilization

How then might biosynergy as a protocol or normative principle apply in practice in the circumstances of our 21st century global civilization?

To begin with, there is, on the largest scale, the question of how efficaciously to tackle the problem of climate change. To adopt a biosynergy approach in this connection would involve not the heroic, impose-and-control methods of the dualistic mind-set, such as pumping sulphate particles into the atmosphere, erecting giant mirrors in space or artificially whitening clouds, but, first, acknowledging the conativity of the Earth-system, then considering how that system, left to itself, would correct the problem. Left to its own devices, the biosphere would undoubtedly simply re-vegetate itself. Vegetation is the basis of Earth-life, and maintaining and increasing vegetation is the conative imperative of the biosphere. Re-vegetation would, of course, draw down carbon dioxide and hence in due course re-balance the composition of the atmosphere. A biosynergy, *wu wei*-type approach to climate change would thus simply be to let the biosphere get on with its own business, at most assisting it to do so. In addition to obvious strategies such as re-afforestation, assistance might take the form of providing opportunities for plants such as the fast-growing freshwater fern, *Azolla*, to repeat the remarkable feat of global cooling it achieved 50 million years ago – the so-called Arctic *Azolla* event, when the spread of *Azolla* across a land-locked arctic sea sequestered so much carbon that it converted a greenhouse

“Vegetation is the basis of Earth-life, and maintaining and increasing vegetation is the conative imperative of the biosphere.”

climate to an icehouse one (Brinkhuis and Schouten, 2006).

An ecological analogue to Azolla in present-day circumstances might be giant kelp: with the aid of artificial tethers, marine afforestation with kelp (and other seaweeds) could be conducted in the open ocean. These (unenclosed) kelp forests would not only draw down carbon at a rate and scale comparable to ancient Azolla, but would de-acidify surrounding seawater, affording rich habitat for many marine species, particularly shellfish – to the extent that, with a very minor set of interventions on our part, such marine forests could support sustainable fisheries apparently capable of providing 200 kg of seafood per year, per person, for 10 billion people (Flannery, 2017).

A biosynergistic approach to climate change would thus consist in our assisting the biosphere to get on with its own business of revegetating itself, but ideally in ways that could at the same time incidentally provide for our human needs. For this to work, however, we humans would have to be prepared to adapt our desires to what the biosphere needs us to desire – which, in the case of the kelp scenario, would be seafood as our staple, rather than, say, beef or pork. A deeper understanding of the ecology of climate dynamics would reveal innumerable other ways in which restoring ecological functionality would ameliorate current climate distress, with possibly other incidental benefits for us.

For a further case study pertaining to food provision, we might look to the Veta La Palma aquaculture farm in Spain (see www.vetalpalma.es). The 8000-acre fish farm is part of a larger estate on a marshy island in the Guadalquivir River. Degraded by inappropriate livestock farming in the first half of the 20th century, the marshy parts of the estate were restored in the 1970s and an ‘extensive’ (as opposed to intensive) form of fish farming begun. Extensive farming relies mainly on the natural ecology of farmland to provide for the species farmed. In the case of Veta La Palma, this means that a variety of fish species are sustained by abundant crustaceans

and other naturally occurring aquatic life. Optimum habitat health is maintained by large populations of waterfowl, numbering up to 600,000 at times, and comprised of up to 250 species. Instead of regarding birds as competitors for fish, Veta La Palma sees them, in classic biosynergy, *wu wei* style, as allies – as assistant farmers helping to do the hard work of maintaining conditions conducive to fish flourishing. Human input into the farm is minimal. Staff do regulate the hydrology of the marshlands by way of a network of fish ponds that are artificially flooded to ensure the physical and microbiological quality of the water. More than 100 islands have also been created for the nesting of waterfowl and 93 miles of banks have been revegetated. Twelve thousand acres of the estate have been set aside as a marshlands habitat reserve. The end result of this edifying exercise in intentional biosynergy is provision of seafood of exceptional quality and the creation of the largest waterfowl sanctuary in Europe.

Numerous other examples of an ecological approach to food provision could be cited here. Making full use of ecosystem services and taking advantage of, yet at the same time regenerating, ecological relationships, has long been central to alternative farming and horticultural philosophies, from the “one straw revolution” of Fukuoka, to companion planting of organics, to permacultural synergies between selected plant and animal species that deliver outcomes farmers themselves would otherwise have to labour to achieve.

All such strategies exemplify the biosynergy approach: by accommodating stakeholder-species, by inviting them into synergy with us via the creation of conditions conducive to their flourishing, we can enlist them as allies in the provision of our livelihood, allocating to them the major burden of effort required for such provision. For them, such effort is not an imposition because it is made with, rather than against, the grain of their conativity.

Biosynergy-driven alternatives to traditional agriculture are then readily

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conceivable. I do not have space here to explore the more challenging question of how manufacturing as well as agriculture could be revised along biosynergy lines. For the moment it may be enough to show how, even in our contemporary mass societies, we could in principle return to ways of feeding ourselves that retain continuity with pre-agrarian modalities. In doing so, we would perhaps lay down ideological foundations for a more ecologically adaptive and collaborative relationship with the biosphere that would in time articulate itself through all our systems of production, emanating at last in a new blossoming of planet-wide mutualism properly describable as an ecological civilization. ■

Notes

1 This thumbnail definition of *civilization* of course misses many intermediate forms of society, such as pastoralism, village horticulture combined with periods of herding or supplemented by hunting or forest gathering, maritime societies reliant on trade with agrarian societies, and so on. For present purposes, however, the simplified contrast between agrarian and pre-agrarian will suffice.

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John Ruskin, on ‘utopian’

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