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From Vicious to Virtuous Cycles Contribution to GTI Forum [Which Future Are We Living In?](#)

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With regards to flourishing of the human species and other life, the world in 2022 appears to be currently dominated by more worrying than hopeful trajectories. Since 2002, when the [Great Transition essay](#) was published, there has been a proliferation of global initiatives (such as the School Climate Strikes, Extinction Rebellion, Transition Towns movement, etc.) which perhaps begin to represent the [New Paradigm](#) or [Eco-communalism](#) trajectories so elegantly described by Paul Raskin et al., though we can appreciate the need for pragmatic realism in how these “niche” initiatives may struggle to flourish under dominant regimes. This is especially true given the almost inevitable near-term environmental and social shocks we face, which may lead to growing [barbarization](#). As just one example, mass human migration under climate change can prompt “knee-jerk” psycho-social reactions towards “survival mode” tribalism and xenophobia, which hamper progressive consciousness transformation. As the flow of climate refugees accelerates from a trickle to a flood, countries scramble to build walls more quickly.

Of course, change is also often nonlinear, and things can get worse very quickly (or better, though more on that shortly). “Vicious cycles” likely exist where we are locked into dynamics of decline, for example how political failure to address disaster risk is leading humanity into a “spiral of self-destruction,” as a United Nations Office for Disaster Risk Reduction report has warned.¹ There is strong evidence for several negative feedback cycles, such as (1) how environmental degradation causes shocks that lead to less international cooperation and failure to make progress on transboundary environmental problems (e.g., pandemics, climate change, and water scarcity); (2) how the loss of nature in urban areas leads to lower levels of nature connectedness in citizens, which in turn means fewer pro-environmental behaviors; and (3) how financial and

social insecurity leads to the election of right-wing leaders who promote private benefits to select individuals and companies at the expense of wider society and the environment, thus creating yet more volatility.² Understanding how far different societies around the globe are along such vicious cycles (or whether any have managed to turn them around into “virtuous cycles”) is an outstanding empirical challenge.

Reversing vicious cycles is, of course, hugely challenging due to the range of “lock-in” mechanisms that prevent system transformation.³ Systems may even turn out be “interlocked,” wherein the possible solution to one vicious cycle is constrained by the existence of others (this is analogous to how a group of divers would be unable to move if they were all stepping on each other’s flippers). For example, some ecosystems are known to have the potential to “tip” into unfavorable regimes that provide fewer benefits, such as food production, for humans. The Great Dust Bowl in 1930s America was caused by interactions between land management (e.g., vegetation removal) and drought, leading to degradation in food production potential from which recovery was challenging.⁴ Droughts are, of course, much more likely under climate change—a phenomenon that has its own vicious cycles. For example, climate change causes extreme events which erode the human and financial capital that enable climate mitigation. And, of course, the expansion of intensive land use for food production also contributes to climate change. Thus, food systems and climate systems may be “interlocked” as part of interacting vicious cycles. In terms of unpicking such a Gordian knot, the challenge is daunting, though perhaps there will be more leverage in non-material (psychological and cultural) factors than in structural/institutional and biophysical factors. At the very least, complementary actions on all fronts are needed; hence, the value in new initiatives like that from the UN Development Programme aiming to transform food systems through consciousness-raising approaches, going beyond traditional economic or technological “fixes.”⁵

Some might gloomily suggest that with so many vicious cycles at play in our linked social and ecological systems, the game is up. There are indeed whole new online forums, such as the “deep adaptation” community, who seek to find meaningful ways to live as part of a “human endgame.”⁶ Personally, I am more agnostic. In addition to the vicious cycles that we are starting to understand, there are no doubt many hidden virtuous circles. With such complexity of system dynamics at play, and the inherent deep uncertainty in emergent outcomes, anticipating system

trajectories with any credibility is challenging. Of course, adopting an optimistic, as opposed to fatalistic, outlook, is also likely to be a prerequisite to create the necessary agency and motivation to steward the planetary system towards more positive outcomes for humanity and wider life. I propose to be rationally agnostic while emotionally optimistic about our current and future situation. This includes recognizing the urgent need for much better empirical understanding of socio-ecological trajectories, which might hopefully shed light on the most fruitful intervention points for earth system stewardship.

Endnotes

1. United Nations Office for Disaster Risk Reduction, "Humanity's Broken Risk Perception Is Reversing Global Progress in a 'Spiral of Self-Destruction' Finds New UN report," press release, April 26, 2022, <https://www.undrr.org/news/humanitys-broken-risk-perception-reversing-global-progress-spiral-self-destruction-finds-new>.
2. Tom Oliver et al., "A Safe and Just Operating Space for Human Identity: A Systems Perspective," *The Lancet Planetary Health* 6, no. 11 (2022), <https://www.sciencedirect.com/science/article/pii/S2542519622002170>; Tom Oliver, *The Self Delusion: The Surprising Science of Our Connection to Each Other and The Natural World* (London: Weidenfeld & Nicholson, 2020).
3. André Dornelles et al., "Towards a Bridging Concept for Undesirable Resilience in Social-Ecological Systems," *Global Sustainability* 3 (2020): e20.
4. Richard Hornbeck, "The Enduring Impact of the American Dust Bowl: Short and Long-Run Adjustments to Environmental Catastrophe," *American Economic Review* 102 (2012): 1477–1507.
5. For more on the UNDP Conscious Food Systems Alliance, see <https://consciousfoodsystems.org/>.
6. The Deep Adaptation Forum can be accessed at <https://www.deepadaptation.info/>.

About the Author



Tom Oliver is a Professor of Applied Ecology at the University of Reading. He has advised the UK Department for Environment, Food and Rural Affairs and Government Office for Science and Technology on building national resilience against long term trends. He has been a member of the European Environment Agency scientific committee and authored *The Self Delusion: The Surprising Science of Our Connection to Each Other and the Natural World*.

About the Publication

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