

Foreword: To be or not to be?

Rethinking the conservation question through inhabited environments

Susanna B. Hetch

To be or not to be? This is no longer a lead in to a joke, or even to one of the most famous soliloquies in the English language. Now as we trudge through the corpses of the sixth extinction, the question of what will remain as Earth catapults into an increase of more than 3.5 degrees centigrade, and we have transformed much of the world's tropical forests – key ecosystems for CO₂ absorption – into car fuel, cosmetics, and animal flesh, the issue is no longer an idle question, or a poetic inquiry. It is an existential issue: what remains of the Anthropocene when we and this now unruly planet are through with each other. In another realm of great poetic lines from epic tragedies, is that lament of Faust's: 'linger a while, you are so beautiful', a yearning we might soon be echoing about our ravaged Earth. Faust, as one recalls, is the person who sold his soul to the devil. Wikipedia tries to answer the innocent questions posed by the Faust narrative: 'Who was Faust? An Alchemist, which is a kind of scholar of natural philosophy.' Alchemy had at its practical heart the idea of turning base materials into gold. Next question: 'What does selling your soul mean?' The answer is a bit more ambiguous than 'sacrificing everything for power or knowledge' the Wiki's tweetable response. If we add nature into the interrogations, the questions are much more profound because of transformations that imply the very annulling of the version of the planet on which we had learned to live until the last 200 years, and where, now, turning everything into gold seems to be the central ambition. We always expected some kinds of continuity of the world we have known: we'll always have elephants, *and* Paris, insects will annoy us to the end of time, now perhaps by outliving us, although perhaps not, since an insect apocalypse also seems to be underway. It's useful to juxtapose Hamlet and Faust, because Hamlet remains paralysed by and wracked by his inability to act even as he invites his own doom by inaction. Faust, the alchemist dreams of domination. There are a few endings to the Faust tale, both in the original conceptualizations of the poet Goethe, and the subsequent elaborations by other writers such as Thomas Mann. In one version, Goethe is carried off to hell, by that poodle who turns out to be Mephistopheles, the fallen angel. This is the declensionist tale of knowledge, greed, and power leading to destruction. But there is a redemptive version as well. In that

version, Faust's striving for knowledge actually saves him – his understanding is in the end part of his salvation. It is a bit more complicated than I have made out, but the point is that there is more, can be more, than one ending, and this is perhaps how we should begin to think about the dynamics of conservation in the ever rougher Anthropocene that now confronts us. The recent IPCC report (The Intergovernmental Panel on Climate Change 'Global Warming of 1.3 degrees Centigrade') and from the US National Climate Assessment Report in 2018¹ are not bearing good news about the magnitudes and speed of change that climate dynamics are causing. The recent World Wildlife Fund's *Living Planet Report*² further describes levels of population decline by more than 60 per cent globally for mammals, birds, fish, reptiles, and amphibians, and levels greater than 80 per cent for the tropics, all this since 1970. We are in a new climate regime on a planet we seem intent on killing. So, we can remain wracked by our indecisions, thrust in to hell because we refuse to change, or possibly we can transform the trajectory, attenuate or at least modify its processes. These are not issues that have a solution per se. They are the outcome of long social processes and how we live with them and how to transform them involves a great deal of rethinking.

As Mike Hulme, a famous analyst of climate change has suggested, climate change is an environmental, political, and cultural process that is re-casting the way we think about ourselves, our societies, and humanity's place on earth.³ We have some examples of profound and interesting responses of people to major historical climate events, such as the US Dustbowl,⁴ and the Tambora volcanic explosion in 1815,⁵ this last seems to have stimulated Mary Shelley to compose 'Frankenstein' – the parable of a destroying and desperate hybrid nature/culture monster. Since our planet is now a suffering hybrid, it is useful to take some time to rethink and recalibrate so that we don't slump off in howling despair at the ruin we created. But what we confront now requires a quite different set of approaches which have principles within them that can address the diversity and power of the transformations ahead of us. In this context of unrelenting challenges, we do have a few tools, but also, we need to reimagine what our relation to the world will be. We are no longer masters of our own destiny, but maybe we can be partners in it. This will require reviewing our paradigms of conservation which is exactly what matrix ecology does.

The question of the matrix – which is thoroughly explained in this book – thus moves into one of the central issues for climate, conservation and rural livelihoods. The Matrix idea and theory, which is a broader ecosystem and landscape approach to conservation, is especially relevant as we need to share our habitats with wildlife of animals and plants, both for protected areas and for the habits of daily life. The idea of domesticated landscapes has deep roots everywhere – but has recently been most strongly articulated for the tropics in terms of the basic planetary infrastructure of environmental services and rural livelihoods.⁶ What this means is that matrices between old growth

systems, in the world of fragmented ecologies – the ecologies that define our globe now – rather than being a kind of stigmatized degraded territory between valued ‘primary landscapes’, become the beloved fulcrum on which conservation depends. Furthermore, survival of rural populations are likewise dependent, relying on an array of benefits, from firewood, commercial and food crops to pollinators, that derive from such agroecologies and ecosystems; and even we, who reside in cities, whose profuse carbon output is rapidly sucked up by these secondary and complex systems whose rate of uptake is far more rapid than those of mature forests, we would be in far worse climatic shape without the active management of the inhabited environments by their landscape stewards – small farmers.

The matrix also invites us to rethink some other sets of questions and issues that will also be necessary: (1) We will need to change our values and epistememes (that is frameworks for understanding) from one that views nature as simply a platform for our enterprises to one of a more coevolutionary understanding of our relationship, and ourselves, as nature and part of a society of nature. These epistememes are widely found in native, indigenous, and rural populations which makes the survival of these societies all the more crucial;⁷ (2) We need a view that sees nature and non-humans as, in the words of Bruno Latour, *actants*, that is, the non-human elements that shape our world, construct our time and lives as much as we do.⁸ This decentres the questions of power over and power in the world to one in which we come into agreement with nature rather than insisting, incorrectly, that at the end of the day, we have mastery over it; (3) We need to think of ecological justice as well as environmental justice. Environmental Justice asserts that environmental burdens are borne more by the poor who suffer the brunt of climate disruption, pollution toxicities, and human-initiated catastrophic events. Ecological justice involves the recognition that, if the data from the World Wildlife Fund hold true, it is the world’s organisms, large and small – from the rhinos to the beetles just to name the most obvious ones, that are paying for our interactions on the planet with their lives and evolutionary lines and futures. Extinction after all, is forever, and right now we are deciding which evolutionary trajectories will remain open and which are lost for all time.

The matrix ecology model presented in this book provides us with a way forward in both conservation and production landscapes and addresses the environmental as well as ecological justice issues. Biodiversity and the complex chains that support it – the sinews and infrastructures of the biosphere – also require some kinds of justice and, at the very least, a feeling of kinship and engagement. Ecological justice without rural environmental justice – this is the classic conservation set aside, the people less parks – will result in the sacrifice of both. At a moment when de-gazetting of protected areas by formal law or by fiat is rapidly underway everywhere in the tropics, the defensive bulwark of inhabited landscapes still resides with local populations, even if such places remain under deadly assault for their resources and as a prelude to land transformation through political, climatic, and structural transformations.

Currently in play in the conservation realm is the Borlaug hypothesis, the idea that intensification permits more land areas to be conserved, the so-called land-sparing model that would hive off conservation areas, even up to half the planet.⁹ Elsewhere this has been summarized as a world of ‘sacred groves and sacrifice zones’,¹⁰ which, if it would ever be implemented, would constitute the largest land grab perpetrated on almost half of the world’s population, since the greatest conservation ‘reward’ is the diversity that resides in the tropics. There are several problems with this model, besides the injustice of its implied land theft from among the most marginalized populations in the world.¹¹ This is a useful moral argument, but there are other issues as well.

One issue, in the context of avid demand for tropical products, is that of Jeavon’s paradox. Jeavon’s paradox, which is currently being materialized in Latin America’s soy zones, comes into play when technological progress or government policy increases the efficiency with which a resource is used but the rate of consumption of that resource rises due to increasing demand. Thus, while one is doing more with less, the efficient land use expands nullifying the purported conservation gains from efficiency. Therefore, in spite of significant technical change and intensifications in Latin America, soy production has expanded relentlessly to areas with less regulation, cheaper land prices or infrastructural and political benefits, as well as actively predatory land grabs of conservation and indigenous lands. The Borlaug hypothesis, unfortunately, has very little empirical basis.¹² The land-sparing model turns out to incarnate the Jeavon’s paradox as it has applied to the South American soy system, and has condemned 50 million hectares of diverse forests, from Amazonian rain forests, to the Cerrado, the dry Caatinga, and Chaco to monocultures that can only be maintained through massive chemical inputs in lands increasingly vulnerable to climate change.¹³

The land-sharing model, which is predicated on the matrix idea, involves the idea of the multiple landscapes with intensive management through ecosystem-based local knowledge. This model has been the most durable idea for constructing highly diverse forest has produced a reality when aligned with a politics of rights, markets, and justice, which has conserved over 56 per cent of Amazonia,¹⁴ as can be seen in the map (Figure P.1).

What matrix ecology, proposed in this book, helps us do is reconfigure our relationship to the living world. It’s a powerful theoretical and epistemic system, as you will discover, but also an immensely practical way of being in the world of mutuality between people and nature. We are coming up into a bad planetary time, and, although I over-quote him, I think its relevant to repeat the phrase of the great Amazon explorer, Brazilian writer and humanist, Euclides da Cunha, who described the tropic like this: ‘it is the last unfinished page of Genesis, and it is still to be written.’ What remains to be seen is whether the text is redemptive or a simple obituary.

Notes

- 1 United States Global Change Research Program (2018).
- 2 World Wildlife Fund (WWF) (2018).
- 3 Hulme (2009).
- 4 Worster (1979).
- 5 Wood (2015).
- 6 Erickson (2006); Levis *et al.* (2012); Hecht (2014); Hecht *et al.* (2014); Maezumi *et al.* (2018).
- 7 Latour (2004); Descola (2013); Castro (2016).
- 8 Latour (2012).
- 9 Wilson (2016).
- 10 Oliveira and Hecht (2016).
- 11 Wisborg (2013); Davis *et al.* (2014); Balehegn (2015); Goyes and South (2016).
- 12 Rudel *et al.* (2009).
- 13 Oliveira and Hecht (2018).
- 14 Soares-Filho *et al.* (2006, 2010); Ricketts *et al.* (2010); Hecht (2012, 2014); Walker *et al.* (2013).