



BRILL

WORLDVIEWS 20 (2016) 238–250

WORLDVIEWS

brill.com/wo

## Hybrid Encounters in Reconciliation Ecology

*Jeremy Kidwell*

University of Edinburgh, UK

*jeremy.kidwell@ed.ac.uk*

### Abstract

Over the past century, environmental scientists have developed a range of conservation approaches. Each of these, from management to restoration has embedded within it certain dualisms which create exclusive spaces or agencies for “human” and “nature.” I begin with a critique of these binaries as they occur in philosopher, Florence R. Kluckhohn’s influential model and in more recent narratives about the “Anthropocene,” and then turn to examine some of the novel features of “reconciliation ecology” as it has recently been deployed in the environmental sciences. Though this model is beginning to see wider use by scientists, it has not yet been explored within a religious framework. Taking up Miroslav Volf’s suggestion that reconciliation involves a “double strategy” I highlight ways that reconciliation can (1) provide a viable model for promoting an “embrace” of the other and (2) better integrate the past history of negative human biotic impacts.

### Keywords

reconciliation ecology – restoration – postdualism – hybrid geographies

### 1 Introduction

Given the relatively recent development of conservation biology and ecology as scientific disciplines it should not come as a surprise that the concept of “conservation” and the mode of action implied in conservation science has developed in significantly novel ways in the last century. Dualist accounts of humans as masters of nature undergirded a series of crass technocratic visions of nature “management,” first developed by late-Enlightenment German forestry pioneers that have subsequently left earth’s current inhabitants

with a wide range of mono-crop plantations.<sup>1</sup> The conservation of “wilderness” marked an attempt to move away from such optimism about “mastery,” and accommodate a form of preservation through the forced absence of human persons. More recently, conservationists have turned towards a contrasting notion of “restoration” which emphasises the careful, but active involvement of persons in restoring natural places that have been severely impacted by human impact. In this paper, I highlight a new turn which is underway, and has been especially highlighted by urban ecologists and human geographers encompassing “reconciliation ecology.” What is particularly interesting about this new third turn towards reconciliation (in contrast to “conservation” and “restoration”) is that it mobilises post-dualist ontologies in order to reconfigure the human disposition towards the place of conservation and habitat. “Reconciliation” is still a minority view and the use of the term has not been examined within a religious frame. I begin this essay with an examination of ways that binary configurations have undermined attempts to situate care for nature over the course of the twentieth century in order to highlight some of the possible advantages that a reconciliation account might offer. I will particularly examine benefits of “reconciliation ecology” in light of the resonant conversations within political philosophy and religious studies.

## 2 Conceptualising Nature and 20th Century Dualisms

Critical reflection on the environment in the twentieth-century was characterised by a persistent juxtaposition surrounding the relationship between “humans” and “nature.” Among social scientists, this was put paradigmatically by Florence R. Kluckhohn who argued (from the early 1950s) that the “man-nature” value <sup>■period added, ok?</sup> orientation could be categorised along a continuum in one of three ways: as “subjugation-to-nature,” “harmony-with-nature,” or “mastery-over-nature” (1961, 13). These categories have been tremendously influential (though usually credited to Lynn White within the discourse in religious studies as I shall discuss below) and thereby, testing for a “mastery-over-nature” orientation has dominated social scientific research into environmental attitudes (EA), particularly EA studies of religious persons and communities (Wolkomir, Futreal, Woodrum, & Hoban, 1997, Hand & Van Liere, 1984). Following Kluckhohn’s lead, in the latter half the twentieth-century cultural theorists went on to assign categories to a variety of cultural groups and nations, with America

<sup>1</sup> For an excellent environmental history of early German forestry, see (Lowood, 1990).

serving as a common example of a civilisation wholly oriented around “mastery-over-nature.” Though he was not the first to do so, Lynn White embedded this spectrum of sustainability categories in a historical context. In particular, White argued that a mastery-orientation was not established in a widespread way until 1850 (White, 1967, 1203). Yet, as White went on to argue, seeds for the attitude which eventually gave way to a specific set of technological practices were planted far earlier, in the midst of medieval Christendom.

There are two risks that lie in wait for those scholars who make use of a continuum for cultural analysis. The first risk is that, as categories along a continuum are deployed over time for analysis of different peoples and groups they may come to absorb unintended descriptive features. A brief examination of Kluckhohn’s categories reveals how this has been the case. An example of the subjugation-to-nature orientation was identified in her fieldwork with Spanish-American shepherds. As Kluckhohn described it, their attitude towards nature were generally fatalistic, they “believed firmly that there was little or nothing a man could do to save or protect either land or flocks when damaging storms descended upon them” (Kluckhohn, 1961, 13). At the opposite end of the spectrum, according to Kluckhohn, is the mastery-over-nature orientation, wherein one assumes that “[n]atural forces of all kinds are to be overcome and put to the use of human beings ... The view in general is that it is a part of man’s duty to overcome obstacles; hence there is the great emphasis upon technology” (13). In the middle, lies the harmony-with-nature orientation. Here, in Kluckhohn’s definition, “there is no real separation of man, nature, and supernature. One is simply an extension of the other, and a conception of wholeness derives from their unity” (13).

Though these categories can seem, on the face of things to be relatively tidy and bounded (which may perhaps explain some of their subsequent influence), what lies in the gap in-between “harmony” and “mastery” is, for lack of a better term, the possibility of benevolent mastery. I do not mean this in the sense of some technocratic writers who have commended various forms of “dominion,” but rather in the way that Thom van Dooren has recently drawn attention to the forms of violence that can be inevitable in cross-species care. Van Dooren draws upon the example of the captive breeding program which has sought to save the precariously endangered Whooping-Cranes to draw attention to the entanglement of agencies and motives involved in interventions to save endangered species. As he puts it, “the care that is practiced at the dull edge of extinction is often intimately and inextricably entangled with various forms of violence. In short, it is a violent-care” (van Dooren, 2014, 116). Yet, in Kluckhohn’s account, the very use of the word “harmony” excludes the kind of dissonant practices which may be involved in individual interactions between human and non-

human. Instead, she focusses upon the absorption of individuals into a single whole. Interaction, conceived of in such ideal terms excludes the possibility of humans acting upon the other in a way that is coercive or violent but nonetheless caring; and thus, all forms of “interaction” whether seeking mastery or harmony, are absorbed into the far-right category and swept up in the surveys based on this conceptualisation. Given contemporary evidence of the “violent-care” model, we can see how this arrangement of categories is symmetrical with the problematic dichotomisation of “wilderness” and human habitation so famously critiqued by William Cronon (1996).

The second risk that is actualised in categorising human values along a continuum is that the horizontal line of one’s categories may be conflated with the horizontal line of historical progression. While White argues strenuously against a conservationist mentality that concerns itself with the preservation of spaces that exclude humans and their activities, his initiation of the mastery-over-nature category as the intellectual child of Western Christianity colludes with a broader skepticism over the ability of modern humans to co-exist with other creatures. It is important to note that this historicisation of Kluckhohn’s continuum of environmental attitudes looks very much like a Western Christian lapsarian anthropology, anchoring at a particular time the point at which human civilisation became unsustainable. The debate by professional geologists, now focussed in the Anthropocene Working Group, over whether to declare a new geological era, the “anthropocene” has drawn into sharp relief the problematic nature of this move to locate a historicised destructive fulcrum within the history of human interaction with nature. In actual fact, the moment of lapse is very difficult to isolate decisively. Since Paul Crutzen first suggested (in 2002) that the mid-nineteenth century might be the start point of a new geological epoch, a range of studies have proposed a variety of alternatives, including 1945 (the great acceleration) and a range of “early anthropocene” theories which place the crucial transition at the rise of agriculture or the first human manipulation of combustion with the discovery of fire (Steffen, Grinevald, Crutzen, & McNeill, 2011; Ruddiman, 2003; Smith & Zeder, 2013). What is common to all these suggestions, however, is that they follow this temptation to historicise the lapse in human ecological values which is predicated upon an account of non-interaction. This follows a map laid down by Western Christian interpretations of the fall of the human person in Eden, thus prescribing a particular reading of Genesis to narrate the “genesis” of ecological destructiveness.

There are a number of problems with this bifurcation of time into unfallen and fallen territory. A crucial one, which Malm and Hornborg highlight, relates to the way in which this bifurcation tends to underwrite colonial narratives. The very use of “anthropo-” followed by “-cene” assumes that all humans share in

culpability for ecological crisis, yet this is far from the case (Malm & Hornborg, 2014, 63). Taking climate change as our example, we can see how there are varying levels of culpability for environmental destruction, marked (among other factors) by the rate of contribution to carbon emissions. As Chancel and Piketty have recently argued, measured as a distribution of cumulated production-based historical emissions, North America and Europe are responsible for 47% of CO<sub>2</sub> emissions (Chancel & Piketty, 2015, 14, 29). Yet even within these countries, the burden is not equally shared, as measured by income, emissions per person are massively different, with the CO<sub>2</sub> emissions of the top 1% income-earners being 318.3 tons of CO<sub>2</sub> per year, potentially a hundred times greater than the lowest 10%.

The problem is not merely, as White theorised it, that early modern Christian dualism prevents effective conservation of nature. Rather, attempts at alterity and interaction between the human and other species are undermined at a deeper level by dualistic interpretive matrices (whether Christian or not, cf. the influential secular model by Kluckhohn) which provided an underpinning structure for secular cultural theory. Ironically, the models of cultural critique which resulted—whether oriented towards benevolence or mastery—reified this dualism as is the case with more recent attempts to define the “Anthropocene.”

### 3 Reframing Creaturely Relationships

With these problems in mind, an increasing cohort of ecological thinkers, following Haraway, Latour, Deleuze and Guattari, have begun to frame the relationship between human and other-than-human creatures through a post-dualist or non-essentialist ontology. As Braun observes, “attending to the ‘double circulation of objects that create social relations and social relations that create objects’ ... has meant placing non-humans in our stories from the start, as part of the collectivities within which human life is constituted” (Braun, 2008, 670). The aim here is to account for the dynamism and vitality of other-than-human creaturely life, conceptualising human-nature interaction in such a way that does not embed problematic juxtapositions. Rather, through this approach one can capture the full complexity of human-nature relationships and accommodate the full range of affective and agentic interactions between humans and other-than-human creatures.

In contrast to either the strong version of mastery implied by contemporary management practices or the strong version of human exclusion implied by contemporary wilderness conservation, a range of environmental scientists

and human geographers have begun to develop more subtly interactionist ecological visions. In one example, a team of conservation biologists have launched an attempt at “putting people in the map” with an account of what they call “anthropogenic biomes” of the world (Ellis & Ramankutty, 2008). Acknowledging an emerging scientific consensus that “humans have now transformed ecosystem pattern and process across most of the terrestrial biosphere,” these authors attempt to classify earth regions based upon forms of human interaction (Ellis, Klein Goldewijk, Siebert, Lightman, & Ramankutty, 2010, 590). The perspective by this group of scholars on “anthromes” is helpful inasmuch as it marks a new direction for conservation biology. Appreciating and classifying biomes in such a way that accounts for the forms of human interaction that are present within them offers the promise of expanding ecology to include non-“wild” or anthropogenic spaces, and to break free of the conservationist ghetto which has plagued both environmental science and ecological ethics. However, it is important to note that although the present human imprint may be the greatest it has ever been in natural history, pre-industrial human interaction was not purely benevolent or minimal. The position that much of the world was sparsely inhabited by “natives” and only after industrialisation did land-use change in truly significant “anthropogenic” ways presumes a view of environmental history through a colonial lens, and significantly distorts the degree of human civilisation. Perhaps even more importantly, this view obscures the range of human-nature interactions that may be possible (Denevan, 1992).

Though “restoration” offers a disposition towards ecology that takes into account the flourishing of a variety of creatures and not just humans (as in the management vision), it still nonetheless preserves something of a dualist account of agency. This notion is focused on humans acting upon “degraded” ecosystems in a benevolent way, but acting *upon* through a form of action that is focused on past lives. Seen in this way, “restoration” is an inherently teleological undertaking which seeks to reconstruct a pristine past state of ecological equilibrium in order to bring a present site into that that state of being in the future. The present is reserved as a space for archaeology and transformation, but not for inaction or “dwelling with.”<sup>2</sup>

In seeking to account for lively novel action by creatures to establish new habitats and forms of equilibrium, a team of environmental scientists have put forward the “novel ecosystems” concept (1997). As Mascaro et al acknowledge,

2 It is worth acknowledging here that visions of “restoration” can often veer in description into something much more like what I am calling “reconciliation.” For two commendable examples, see: Van Wieren, 2013 & Artinian-Kaiser, 2015.

the question remains: “is man part of ‘nature’ or not?” This question has been simmering at the roots of ecological science from its beginnings. The established orthodoxy regarding biodiversity originates from a desire to classify habitats that demonstrate the influence or presence of non-native species (and by extension, often anthropogenic impacts) as “degraded” (R.J. Hobbs, Higgs, & Hall, 2013, 47). Yet, two features complicate such a classification. First, much of the anthropogenic impact on the earth’s ecosystems are both “directional and permanent” (47). Additionally, ecosystems that have undergone anthropogenic change can actually be healthier for the impact, even though these changes have not been introduced deliberately. This more complex account of agency is the basis for the concept of “novel ecosystems,” originally defined by Hobbs et al as exhibiting both “new species combinations” and “ecosystems that are the result of deliberate or inadvertent human action, but do not depend on continued human intervention for their maintenance” (Richard J. Hobbs et al., 2006, 2).

The long-term reliance upon dualistic accommodations to the “anthropogenic” problem, as I have problematised above, has created a situation in which we not only set up programmes to avoid anthropogenic “impacts” on “wild spaces” but we also tend to think of urban spaces as anthropogenic reserves. This inhospitality towards other-than-human creatures is indicated in a variety of ways, from the act of outfitting buildings with spikes to prevent birds from roosting, to the cultivation of inedible urban plants primarily for decoration (with the lawn as the most pervasive example). These attempts to classify “anthromes” and “novel ecosystems” mark a step in the right direction; but, a more comprehensive spatial re-visioning is called for, nonetheless. Against this tendency to establish bifurcate space into human / other-than-human realms, a growing range of writers in both sciences and humanities have begun to argue that we must begin to treat every corner of the earth as (in Popes Benedict and Francis’ words) “our common home.” Towards this end I turn now to an analysis of the concept of reconciliation ecology.

#### 4 Reconciliation Ecology

In an article marking the first appearance of the term “reconciliation ecology,” conservationist Michael Rozenweig appeals to the principle of species-area relationship by emphasising the importance of biogeographical range for biodiversity, in order to argue that reliance upon the twin strategies of conservation and restoration will leave us “doomed to lose nearly every species alive today” (Rosenzweig, 2003). Rozenweig argues that it is highly unlikely that we will be

able to preserve anything greater than the 5–10% of the earth's habitats that are currently unexploited, and that this is insufficient to prevent a biodiversity collapse. On this basis, Rozenweig makes a case for a third approach which he terms "reconciliation ecology." There is no indication of awareness in Rozenweig's article or in subsequent uses of the term by others (including recent use by geographer Jamie Lorimer) that the term has religious provenance. But, as I will go on to suggest in the final portion of this article, attending to the religious context of "reconciliation" and subsequent treatment by philosophers working in the tradition of Hegel and Levinas can add further texture to what is already a highly suitable metaphor. In particular, ecology as reconciliation offers a great deal of promise for a post-dualist spatial ecology. In the material that follows, I will briefly draw geographers and religion scholars into a brisk conversation, in order to briefly highlight some of the ways that a theological account of reconciliation can foreground some particularly appealing possibilities offered by this way of framing creaturely relationships.

I begin by noting that "reconciliation" is a theologically specific term, particularly in English. As the Oxford English Dictionary (OED) describes it, reconciliation refers to the act of restoring a person "to friendly relations with oneself or another; spec. with reference to the restoration of humanity to God through the incarnation and sacrifice of Christ" (OED, 2015). Early mentions of reconciliation in English literature allude to the pattern of divine-human restoration mentioned explicitly by the Apostle Paul in several of his letters (Romans 5:10, 2 Corinthians 5:18–20, Colossians 1:22). In turn, each of these Pauline references connect the reconciliation of God with God's creatures, through special emphasis in Colossians on the "fleshy" body of Christ and mention in 2 Corinthians of the bestowal of a "ministry of reconciliation" as the result of human experience of this divine reconciliation. Taking cues from these texts, a number of theologians have characterised reconciliation as implying a vicarious or empathetic experience of the other (in this case, the vicarious experience of Christ). It is important to note, for our purposes that another way of putting Paul's argument, which also resonates with key texts outside of religious studies, is that Christ was (in the truly Chalcedonian sense) a hybrid person. Hybridity allows us to emphasise the degree to which this vicarious experience of human life was far more than an intellectual apprehension of the experience of the other (as emphasised by Colossians 1); rather, the experience of God in Christ was materially encompassing, including the experience of embodiment (somatic, affective, phenomenological, etc.) and of Christ's creaturely habitat (geographical).<sup>3</sup>

3 A similar line of argument has been taken up recently in a slightly different context with the recent turn to "Deep Incarnation," cf. Gregersen, 2015 and the helpful critique in Eaton, 2014.



Placing this concern for conciliatory hybridity of all God's creatures in the context of the spatial turn is especially helpful, as it is often the case that theological expansions of alterity begin from the human person and proceed only as far as charismatic megafauna or companion creatures (i.e. dogs and panda bears). Here we see at play a prominent tendency in early twentieth-century geographical and theological accounts, aimed at grounding alterity in either a comprehensive grasp of the whole earth (or cosmos) or an anthropocentric orbit. As Sarah Whatmore argues in her book, *Hybrid Geographies*, a far more viable way towards an expanded alterity is to begin with a de-centered but also geographically proximate context taking into account the possibility of human egocentrism both in the exaltation of human selves and in the expansion of human perspective (Whatmore, 2002). In this sense, there is an inherently parochial dimension to reconciliation ecology as it arises from the repair of concrete relationships among creatures that share the same land.

I recognise that there is a tension between the approach of reconciliation ecology and biophilic approaches, which seek to anchor care in a concern for all earthly "life" rendered generically. Lisa Sideris helpfully observes how many contemporary eco-theologies draw upon the new physics to convey a relational "ecological model," which she suggests would be more appropriate to call a "field model," namely, the "electromagnetic model," or the "relativity model" (Sideris, 2003, 294).<sup>4</sup> Indeed, biophilia in practice can be quite narrow, as Lorimer notes, focusing on "anthropomorphic cuddly charisma" and ignoring biophobias which may also exist for less familiar creatures such as spiders and snakes (Lorimer, 2007, 919). This proximately situated account of reconciliation ecology is not necessarily biophilic, but rather is something more like Holmes-Rolston's "comprehensive naturalized ethic" (Sideris, 2003). The additional benefit of this kind of proximate-area focus is that it is "low-cost," and thereby works well with a localised effort and a diversity of approaches. In addition to the broad sweeping perspectives that I have noted above, such as "biomes" or "novel ecosystems," this can also include approaches such as the local installation of living roofs and walls, an effort that does not require high-level coordination or theorisation (Francis & Lorimer, 2011).

Within this context of shared space and the new level of attentiveness that reconciliation commends, we may hope for a new kind of everyday ethology. Cultivating new and unexpected affective relationships in the space, that

4 Sideris provides an extended critique of the biophilic approach in Chapter Six. For another assessment of the role that biophilia has taken in religious definitions of "sustainability" see Johnston, 2013.

Lorimer calls “ecological charisma,” includes finding ways to appreciate the ecologically salutary role of bugs, birds, and even bacteria (Lorimer, 2007, 916ff.). In his most recent account, based on nearly a decade of work with conservationists, Lorimer follows Cronon in an effort to reprimatinate the concept of “wild life.” This, I think, is a helpful way to conceptualise planetary life in a hybrid way that I am arguing is a basic component of reconciliation. As Lorimer goes on to argue, wildlife lives among us. “Wildlife” includes the intimate microbial constituents that make up our gut flora and the feral plants and animals that inhabit urban ecologies. Risky, endearing, charismatic, and unknown, wildlife persists in our post-Natural world. Unlike Nature, wildlife also suggests processes. It describes ecologies of becomings, not fixed beings with movements of differing intensity, duration, and rhythm. Wildlife is discordant, with multiple stable states (Lorimer, 2015, 7). The ultimate goal is to pursue reconciliation in the form of an ongoing and deepening acceptance that our common lot as creatures is as Haraway puts it, a state of, “becoming with” others (Haraway, 2008). In addition to this description of reconciliation, as seeking out our mutual cohabitation as “wild life” and the pursuit of “becoming with” others, reconciliation has a second aspect which has received far less notice by environmental scientists. This is the explicit recognition that within the dynamics of reconciliation one of the two (or more) parties involved have committed some act of violence against the other. Attending to the aspect of inter-species violence is particularly apt for this contemporary age of human modification, intervention, and violation of creaturely life on earth. In his influential text on reconciliation, *Exclusion and Embrace*, Miroslav Volf attends to these two movements, as a double strategy. As a theological account of reconciliation, he suggests: “The double strategy of re-naming and re-making, rooted in the commitment to both the outcast and the sinner, to the victim and the perpetrator, is the proper background against which an adequate notion of sin as exclusion can emerge” (Volf, 1996, 73). As Volf rightly suggests, we can only grasp towards a “non-final reconciliation,” but this grasping is marked by several other features (Volf, 1996, 109). Perhaps most important is the intertwined actions of accepting culpability and preserving the memory of wrongdoing. As Volf suggests, “if the perpetrators remember rightly, the memory of their wrongdoing will help restore their guilty past and transform it into the soil on which a more hopeful future can grow” (Volf, 1996, 131).

It is this emphasis on memory and its transformative power that pushes against certain visions of restoration, which seek to bring about a return to a previous ecological state and wipe the slate clean. Instead, reconciliation ecology is about carrying forward a new intention to embrace the other in whatever novel ecological situations present themselves. Framing our ecological

entanglements as reconciliation allows us to attend to the spiritual dynamics of our complicity in harm and use this awareness to inform future cohabitation. Judith Butler highlights the irrevocability inherent in the politics of recognition which undergird the work of reconciliation. She notes that, “[a]n encounter with an other effects a transformation of the self from which there is no return” (Butler, 2005, 28). Reconciliation involves a novel situation characterised by a new level of creaturely entanglement. In this new state of being, we mutually assume a new ecological situation alongside the other, including the possible and persistent hazards that we have helped to generate. This new state is, as Haraway puts it, “a knot of species coshaping one another in layers of reciprocating complexity all the way down. Response and respect are possible only in those knots, with actual animals and people looking back at each other sticky with all their muddled histories” (Haraway, 2008, 42).

Given the brevity of this essay, I have not attempted to provide a comprehensive programme for reconciliation ecology, but rather have offered a provocation in order to nod towards some ways that reconciliation might offer a holistic and realistic mode for ecological relationships. As we seek to find ways of reckoning with human impacts in the so-called “Anthropocene,” reconciliation offers a way forward that can surmount the persistent recourse to dualisms that have beset efforts to manage, preserve, or restore “nature.” In contrast, reconciliation sets up an encounter in which we begin to share space with the other, overcome legacies of exclusion, and embrace the creatures that we find dwelling with us in our proximate contexts. In contrast to the “mastery” management regimes and geoengineering schemes which are gaining contemporary popularity, this is a risky approach in that it faces a novel ecological situation with an openness to hybridity and new creaturely collaborations. With a “reconciliation ecology” in mind, a new future of humanity’s peaceful co-existence and continued inhabitation on the Earth may provide for a hopeful, if less predictable, future.

### References

- Artinian-Kaiser, R.G. (2015). *The resurrection and the restoration of nature: Towards a theological framework for Christian environmental action through ecological restoration*. (Unpublished doctoral dissertation). University of Chester, United Kingdom.
- Braun, B. (2008). Environmental issues: Inventive life. *Progress in Human Geography*, 32 (5), 667–679.
- Butler, J. (2005). *Giving an account of oneself*. Fordham University Press.

- Chancel, L., & Piketty, T. (2015). *Carbon and inequality: From kyoto to paris: Trends in the global inequality of carbon emissions (1998–2013) & prospects for an equitable adaptation fund*. Paris School of Economics. Retrieved from <http://piketty.pse.ens.fr/files/ChancelPiketty2015.pdf>
- Cronon, W. (1996). The trouble with wilderness: Or, getting back to the wrong nature. *Environmental History*, 1 (1), 7–28.
- Denevan, W.M. (1992). The pristine myth: The landscape of the americas in 1492. *Annals of the Association of American Geographers*, 82 (3), 369–385.
- Eaton, M. (2014). Enfleshed in cosmos and earth: Re-imagining the depth of the incarnation. *Worldviews: Global Religions, Culture, and Ecology*, 18, 230–254. <http://doi.org/10.1163/15685357-01803002>
- Ellis, E.C., & Ramankutty, N. (2008). Putting people in the map: Anthropogenic biomes of the world. *Frontiers in Ecology and the Environment*, 6 (8). <http://doi.org/10.1890/070062>
- Ellis, E.C., Klein Goldewijk, K., Siebert, S., Lightman, D., & Ramankutty, N. (2010). Anthropogenic transformation of the biomes, 1700 to 2000. *Global Ecology and Biogeography*, 19 (5), 589–606. <http://doi.org/10.1111/j.1466-8238.2010.00540.x>
- Francis, R.A., & Lorimer, J. (2011). Urban reconciliation ecology: The potential of living roofs and walls. *J Environ Manage*, 92 (6), 1429–1437. <http://doi.org/10.1016/j.jenvman.2011.01.012>
- Gregersen, N.H. (Ed.). (2015). *Incarnation: On the scope and depth of christology*. Minneapolis, MN: Fortress Press.
- Hand, C.M., & Van Liere, K.D. (1984). Religion, mastery-over-nature, and environmental concern. *Social Forces*, 63 (2), 555–570. <http://doi.org/10.1093/sf/63.2.555>
- Haraway, D.J. (2008). *When species meet*. Minneapolis: University of Minnesota Press.
- Hobbs, R.J., Arico, S., Aronson, J., Baron, J.S., Bridgewater, P., Cramer, V.A., ... others. (2006). Novel ecosystems: Theoretical and management aspects of the new ecological world order. *Global Ecology and Biogeography*, 15 (1), 1–7.
- Hobbs, R.J., Higgs, E., & Hall, C.M. (Eds.). (2013). *Novel ecosystems: intervening in the new ecological world order*. In. Wiley-Blackwell.
- Johnston, L.F. (2013). *Religion and sustainability: Social movements and the politics of the environment*. Sheffield; Bristol, CT: Equinox.
- Kluckhohn, F.R. (1961). Dominant and variant value orientations. In F.R. Kluckhohn & F.L. Strodtbeck (Eds.), *Variations in value orientations* (pp. 1–48). Row, Peterson; Company.
- Lorimer, J. (2007). Nonhuman charisma. *Environment and Planning D: Society and Space*, 25 (5), 911–932. <http://doi.org/10.1068/d71j>
- Lorimer, J. (2015). *Wildlife in the anthropocene: Conservation after nature*. University of Minnesota Press.
- Lowood, H.E. (1990). The calculating forester: Quantification, cameral science, and the

- emergence of scientific forestry management in germany. In T. Frängsmyr, J.L. Heilbron, & R.E. Rider (Eds.), *The quantifying spirit in the 18th century* (pp. 315–342). Berkeley: University of California Press.
- Malm, A., & Hornborg, A. (2014). The geology of mankind? A critique of the anthropocene narrative. *The Anthropocene Review*, 1, 62–69.
- “reconciliation, n.” (2015). OED Online. Oxford University Press. <http://www.oed.com/view/Entry/159781> (accessed December 12, 2015).
- Rosenzweig, M.L. (2003). Reconciliation ecology and the future of species diversity. *Oryx*, 37 (02). <http://doi.org/10.1017/S0030605303000371>
- Ruddiman, W.F. (2003). The anthropogenic greenhouse era began thousands of years ago. *Climatic Change*, 61 (3), 261–293. <http://doi.org/10.1023/B:CLIM.0000004577.17928.fa>
- Sideris, L.H. (2003). *Environmental ethics, ecological theology, and natural selection*. New York: Columbia University Press. <http://doi.org/9780231529495>
- Smith, B.D., & Zeder, M.A. (2013). The onset of the anthropocene. *Anthropocene*. <http://doi.org/10.1016/j.ancene.2013.05.001>
- Steffen, W., Grinevald, J., Crutzen, P., & McNeill, J. (2011). The anthropocene: Conceptual and historical perspectives. *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, 369 (1938), 842–867.
- Van Dooren, T. (2014). *Flight ways: Life and loss at the edge of extinction*.
- Van Wieren, G. (2013). *Restored to earth: Christianity, environmental ethics, and ecological restoration*. Georgetown University Press.
- Volf, M. (1996). *Exclusion and embrace: A theological exploration of identity, otherness, and reconciliation*. Nashville: Abingdon Press.
- Whatmore, S. (2002). *Hybrid geographies*. Sage.
- White, L., Jr. (1967). The historical roots of our ecologic crisis. *Science*, 155 (3767), 1203–1207. <http://doi.org/10.1126/science.155.3767.1203>
- Wolkomir, M., Futreal, M., Woodrum, E., & Hoban, T. (1997). Substantive religious belief and environmentalism. *Social Science Quarterly*, 78 (1), 96–108.