

# The antinomies of nature and space

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## Introduction

Maria, Irma, Harvey, Katrina – these have become more than names. They represent several of the most recent hurricanes that have devastated communities across North America and the Caribbean. As nature–society encounters, these massive storms elevated a range of historical, sociocultural, and political economic issues to the fore – from colonialism and race, to growing patterns of inequality, government mismanagement, and the politics of knowledge related to climate change. Media coverage of these events recalls early scholarly interventions by critical disaster studies scholars that highlighted the myriad ways that ‘disasters’ are not only results of climatic or geologic forces, but are connected to historical, sociocultural, and institutional dynamics. It has become increasingly accepted that race, caste, ethnicity, income, and other patterns of inequality must be considered when evaluating the risk and outcomes of storms, earthquakes, droughts or other ‘natural’ events. Indeed, the recent aftermath of hurricanes in the Caribbean cast a spotlight on long-standing political and economic inequalities between the U.S. and its quasi-imperial territories of Puerto Rico and the Virgin Islands – whether about the pathways and futures of inequality and vulnerability on the islands, or the slow and inadequate governmental response.

That ‘there’s no such thing as a natural disaster’ (Smith, 2006) should no longer be a surprise. Rather, the recent headlines highlighting inequalities, histories of colonialism or risk generated by uneven political economies and colonial histories validate long-held insights from political ecology, environmental justice (EJ), and critical disaster studies. Undoubtedly few relish in this validation and would have much preferred to be proven wrong. In this current moment of more general acceptance of some of critical

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scholarships' difficult lessons and insights we face what appears to be a long list of contradictions and tensions.

At once, environmental injustices and patterns of inequality have been stark for so long they should be impossible to ignore. Yet, the enduring and widespread nature of these phenomena can also mean that they may be easily taken for granted or viewed as inevitable. And even as evidence of environmental inequality and injustice piles up, there is a strong current of retrenchment and resistance to address such concerns – from climate change denialism to an unabashed politics of dismantling environmental regulation. We also witness skyrocketing levels of income and wealth inequality in many contexts (see Dorling, 2014), which echo sharpened divergences between the distribution of benefits of environmental change for some, and the costs for others. Such unevenness propels, shapes, and at times intensifies political ecologies, 'violent environments' (Peluso and Watts, 2001), and patterns of environmental racism and injustice (see key works by Robert Bullard et al. (2007), among others). Millions of people have lost their homes, livelihoods, and ways of life to extreme storms and shifting weather patterns (i.e. Inuit, Pacific Islanders, Sundarbans islanders, and others). These violent environments are not new and are maintained and at times are intensified through the uneven geographies of colonialism, impoverishment, and injustice. Kyle Powys Whyte (2017) of the Citizen Potawatomi Nation describes climate injustice as 'déjà vu' for Indigenous people. As Anishnabeeg scholar Leanne Simpson (in Simpson and Klein (2013)) explains, 'Indigenous peoples have lived through environmental collapse... since the beginning of colonialism'. While some work tirelessly to respond to and dismantle these injustices, we continue to also observe trends and evidence in opposite senses – there is a concurrent rise in xenophobic nationalism, communalism, authoritarian populism and exclusionary practices of governance that strive to further separate the haves from the have-nots, and to build literal and figurative walls that cement key divisions and inequalities in various sites across the globe (Jones, 2012).

Environmentalism and conservation have never been immune from similar tensions and contradictions, including those associated with reactionary politics, elitism, fence building, and boundary work. Colonial conservation practices, including the creation of wildlife reserves (Anderson and Grove, 1987), scapegoated resident populations and their agricultural, grazing and fire-setting practices as causes of environmental degradation and as harmful to wildlife. The complex negotiations between colonial science and conservation practices often led to ongoing dispossession from lands and livelihoods (see Anderson and Grove, 1987; Fairhead and Leach, 1995). Today, people continue to be dispossessed by postcolonial practices and development interventions pitched as ecological improvements, including the re-emergence of large dams – now justified as bringing environmentally 'clean' hydropower, yet with negative local ecological as well as social and gendered impacts (Erensu, 2013; Mehta, 2009). Neo-colonial 'fortress-like' conservation policies and enclosures are ongoing, implemented in areas under stated goals of forest and wildlife conservation (Brockington et al., 2008), while the last decade has seen a new wave of large-scale foreign investments in parts of Asia, Africa, and Latin America for commercial crops and biofuels for export. Although the actors and dynamics are varied, these global land, water and 'green' grabs generally tend to dichotomize nature and society and draw on narratives of 'empty and unproductive' lands in ways that ignore and sideline the lives, livelihoods, and ecological relations sustained by these territories (cf. Borrás et al., 2011; Fairhead et al., 2012; Mehta et al., 2012).

In the face of these ongoing tensions and intense politics, what is the role of scholarship? We created *Environment and Planning E: Nature and Space* in the spirit of interrogating and

responding to this question from as many angles as possible: to document and critically analyse ongoing nature–society dynamics, to trace and consider evolving political ecologies and environmental politics, and to contribute to debate, policy responses, and on the ground processes related to these issues. We hope to do so by questioning consensus and dominant framings of nature and society, showcasing alternative voices, illuminating historical patterns and root causes, and highlighting connections between diverse sites, scales, and politics of knowledge, justice, and sustainability struggles. As a journal focused on critical, historical, geographic, justice oriented, and intersectional understandings of nature–society linkages and dynamics, *EPE* follows on a strong lineage of key publications in these fields as part of the broader Environment and Planning series (notably *EPA* and *EPD*, see 50th anniversary list of key publications). In the first half century of the series, nature–society work became a growing and important facet of E&P’s published material. Over time it became clear that there was a need to offer a dedicated outlet for this work. Last year, as part of a broader effort to more clearly delimit the remit of the other E&P journals, *EPE* was created to fill this need.

This editorial introduces and inaugurates *EPE*. In what follows, we sketch some of the varied approaches to nature–society scholarship that the journal aims to draw together, distilling some key insights from the literature of the past several decades, while also highlighting key imperatives and ways forward to make progress on these themes and concerns. We are cognizant that there is no way to comprehensively map all of the currents of research and thinking that will allow us to engage with the range of nature–society challenges and questions we currently face. We are hopeful that neglected and newly imagined approaches will be brought to our attention as we work collectively on this journal in the coming years.

## The antinomies

It is perhaps most appropriate to begin with our journal title, to foreground a key and enduring antinomy. The ‘and’ of our subtitle (‘nature and space’, where space refers to a geographically inflected understanding of society) suggests the joining together of two discrete realms. Yet, consistent with critical work on the nature–society distinction more generally, our journal proceeds from a now axiomatic recognition of this distinction as a false binary. To reinforce this, we recall Massey’s (2008: 493) argument that spatial relations must be theorized in embodied ways that extend beyond theory or academic aspirations. Her project, and our project in the pages of *EPE*, is ‘to bring space alive’, and more specifically ‘to bring it alive politically’ (Massey and Warburton, 2013: 264). To do so will require vigilant attention to the nature–society distinction has persisted since early philosophical discussions (Gold, 1984) and that continues to find resonance with Western and Enlightenment conceptions of ‘the human’ (which has rarely if ever included *all* humans). ‘Humans’ and ‘society’ are frequently positioned as distinct from, and often in hierarchical relation to ‘nature’, including a range of nonhuman others (animals and otherwise). Critics have long pointed to this artificial split between humanity and environment as a key impediment to our understanding of, and appropriate engagement with, environmental issues (cf. Braun and Castree, 1998). As Swyngedouw (1999: 445) suggests,

contemporary scholars increasingly recognize that natural or ecological conditions and processes do not operate separately from social processes, and that the actually existing socionatural conditions are always the result of intricate transformations of pre-existing configurations that are themselves inherently natural and social.

Critiquing the society–nature divide may seem by now a well-trodden path. But simplistic narratives and conceptions of nature, space, and society remain prominent. As we briefly indicated above, nature–society dichotomies can be seen in conservation as it unfolds in various sites. Such conceptions can also be observed, repackaged, in emerging narratives about the global or planetary scale. Influential analyses suggest that we have entered the Anthropocene, a new epoch in which human activities have become the dominant driver of many earth system processes, from the climate, to biogeochemical cycles to ecosystems and biodiversity (Rockström et al., 2009). This perspective highlights potentially catastrophic thresholds, with a focus on nine planetary boundaries on which human life depends (Rockström et al., 2009). Insights and responses related to what would constitute a ‘safe operating space for humanity’ gesture to a return to the 1970s Limits to Growth discourses (Meadows et al., 1972) with many crises narratives and concurrent debates focused on scarcity, population growth, and security.<sup>1</sup> While these efforts help to focus on a range of processes and indicators (biological, atmospheric, or otherwise) at the planetary scale, they have also led to a new kind of conservationism (see McAfee, 2016).

As an example, the prominent response from self-named ‘ecomodernists’ (i.e. Shellenberger and Nordhaus, 2015) shows that efforts to consider nature–society’s entanglement or potential responses to uncertain ecological futures does not necessarily yield analyses of social and spatial dynamics in ways that are attuned to power, history, inequality, and socio-political difference but instead may lead to a reconsolidation of focus on technology, nature’s limits, and other decidedly apolitical ecologies (see a collection of responses to the ecomodernists in Crist and Van Dooren (2016) and Rutherford (2018, this issue)). What is thus missing is a sense of unevenness in how these processes play out in different parts of the planet or how and why these shifts affect diverse locales, species, or social groups in markedly different ways. This makes the high stakes of such engagements clear. Our use of the term antinomies in our essay title is precisely to highlight some of the core tensions and uncertainties that motivate and frustrate where we find ourselves at present. These same tensions and contradictions also necessarily animate our collective work moving forward in the pages of *EPE* and in associated political movements concerning the future of our world.

As a response to these challenges, *EPE* aims to advance social science, humanities, and ‘critical’ perspectives that acknowledge the social and power relations that shape environmental outcomes and relations – and as such understand that these linkages must be central to any treatment of ‘environment’ or ‘nature’, including associated political and policy responses. Environmental crises from local to planetary scales are always also profoundly ‘human’ and ‘social’, both in their cause and effect (e.g. Neumayer and Plümper, 2007, see also our forthcoming *EPE* special issue on Disaster Justice in Asia’s Urban Transition), and indeed, they are often times intensely politicized by powerful actors (e.g. Mehta, 2005; Sainath, 1996). Equally, our responses to key environmental challenges, or our ability to undertake ‘pro environment’ behaviours or to benefit from ‘environmental goods’ all unfold unevenly across space and time, and between and among various species and social groups. In particular, disproportionate environmental harm occurs to societal groups with less access to power (understood across intersections of gender, race, ethnicity, class, caste, colonial relations, location, and linked axes of socio-spatial difference, e.g. Bullard et al., 2007; Pulido et al., 1996).

As such, unevenness and difference are key themes to illumine contestations and inequities that condition access to, control over, and management of resources or ‘natures’, from the local to the global (Jasanoff and Martello, 2004; Peluso and Watts, 2001). Analyses that focus on, and further insights along these lines often emerge under

the shorthand of political ecology, EJ, or critical socio-natural studies. Such analyses frequently extend beyond scholarship – they have a political life, to paraphrase Massey (2008) – by engaging with normative approaches to social justice and promoting equitable responses to, and engagements with diverse and changing ‘natures’. We consider these literatures as among the key touch points of this journal, alongside linked approaches in science and technology studies (STS), the humanities (e.g. historical, literary, and eco-critical approaches) and social theoretical interventions – from postcolonial studies, to critical race, feminist and queer theory, to posthumanism and animal studies (as detailed below).

### *Marxist and poststructural legacies*

Within political economic approaches to ‘nature’ and ‘space’, emphasis has long been on the role of capital-centric economic pathways, and the common or even necessary contradictions, inequities, and externalities that these imply. Smith’s (1984) invocation of the ‘social production of nature’ transformed early discussions of nature and space and drove a robust current of Marxist research (see Castree, 2000; Smith and O’Keefe, 1980). Marxist ecological approaches during the 1990s helped to expand upon Marx’s discussion of ‘metabolism’ to demonstrate how new socio-natural forms are continuously produced as a result of the drive towards capitalist accumulation (see Benton, 1996; Burkett, 1999; Foster, 2000; Grundman, 1991). The evolution of the social production thesis and other Marxist insights led Harvey (1996: 186) to argue that there is nothing intrinsically unnatural about New York City and in doing so further argued that human activity cannot be viewed as external to ecosystem function as has historically been the case. Harvey (1996: 427) went on to suggest that

It is inconsistent to hold that everything in the world relates to everything else, as ecologists tend to, and then decide that the built environment and the urban structures that go into it are somehow outside of both theoretical and practical consideration. The effect has been to evade integrating understandings of the urbanising process into environmental-ecological analysis.

A key focus of early political ecology studies, many Marxist analytics have re-emerged with force, particularly in response to neoliberal and market approaches to environmental management and politics, as well as multiple food, energy, financial, and climate crises (Büscher et al., 2014; Heynen et al., 2007). These empirical changes have reinvigorated the engagement with Marxist concerns of accumulation and dispossession and the need to use new tools to study the commodification and financialization of nature. The excellent scholarship in the past decade on land, water, and green ‘grabs’ (see Borrás et al., 2011; Fairhead et al., 2012; Mehta et al., 2012) is one such example. This work draws on theories of accumulation as well as poststructuralist critiques of ‘efficiency’ and ‘productivity’ to show how food, water, fuel, and minerals have become the focus of intense global and local political contestation where focus on ‘efficient’ or ‘economically productive users’ has at times caused resource shortages and physical, social, and economic dispossessions, damaging livelihoods and infringing rights of local resource users. Work under the banner of ‘neoliberal natures’ also challenges the prevalence of econometric, technocentric, and apolitical visions and understandings that drive relationships and politics regarding the uses and valuation of nature. Critical nature scholars seek to demystify market logics as the fundamental lens through which we understand nature and society relations in the early years of the 21st century (e.g. Dempsey, 2016; see also Dempsey and Bigger, 2018, this issue; Heynen et al., 2007; Mansfield, 2007; Robertson, 2006). As these scholars note, distribution

of environmental goods and services, or other environmental challenges, cannot be adequately or sustainably solved through the ‘market’ (Büscher et al., 2014). Emergent work increasingly focuses on the role of specific financial and market instruments to better understand how these distribute risk, or as leading to certain patterns of accumulation or social and environmental change – important considerations for future scholarship going forward (see Christophers, 2018, this issue). Another abiding theme is the social and political inequities and ecological degradation that are tethered to particular market, financial, and neoliberal ideological and political orientations (e.g. Bakker, 2010; Budds, 2013; Furlong, 2013; Harrison, 2014).

In line with the general insight that power, politics, and contestation are central to nature–society interactions, allied work usefully challenges other depoliticized treatments of ‘environmental issues’. For instance, contributions engage critical and postcolonial interrogations of notions of sustainability introduced into mainstream academia and policy by the Brundtland Report (WCED, 1987; see Lele, 1991), or more recent discussions of ‘resilience’ or ‘adaptation’ that largely ignore social, political, and power dimensions (Cameron, 2012; Cote and Nightingale, 2012). Critics of such ‘apolitical concepts’ duly highlight how the politics of knowledge shapes what counts as ‘sustainable’, or ‘resilient’ or not (cf. Leach et al., 2010) as well as how uneven power relations contribute to environmental change, progress towards achieving these goals, or the very definitions these terms. As an example, while elements of fostering resilience are clearly needed in the face of climate change and other uncertain futures, it is also clear that to maintain systems in line with resilience thinking may also work to safeguard existing economic, political, and social systems – the very systems that we might also understand as unjust and unsustainable (Ziervogel et al., 2017). Such insights lead critics to call to question the goals of resilience and adaptation, asking for whom, for what, and at what scale (Meerow and Newell, 2016; Rodina, 2018; Watts, 2013, 2015, echoing questions that were posed earlier for sustainability scholarship, e.g. Lele, 1991; Sneddon, 2000).

Finally, the politics of nature are inseparable from knowledge – highlighting concerns related to the diverse knowledges that are brought to bear or are elevated as relevant and important to deal with key nature–society challenges (and conversely, those that are sidelined or marginalized in such contexts). *EPE* will focus on issues of knowledge, epistemology, or ontological politics critical to how nature is assessed, understood, and governed (e.g. Blaser, 2014; Yates et al., 2017). Among key works in this field, there is a long-term focus on Indigenous knowledge (IK) or traditional ecological knowledge (TEK) and its relationship with ‘western’ science (e.g. Agarwal, 1995; Berkes et al., 2000; Thompson and Scoones, 1994). Scholars also highlight the politics of sidelining local, Indigenous, or gendered knowledge (Cameron, 2015; Daigle and Sundberg, 2017; Davis and Todd, 2017; Nadasdy, 1999, 2003; Rocheleau et al., 1996; Simpson, 2014; Todd, 2016). Ideas of objectivity or rationality are also called into question, especially in terms of how they have worked to condition and naturalize specific nature–society relations (namely patriarchal, colonial, and capitalist, e.g. Haraway, 1989, 1997, or the naturalization of specific ‘scientific facts’, such as those related to the hydrologic cycle, Linton, 2008).

Many thus suggest that refashioning nature–society relations to achieve greater equity or sustainability requires key shifts in our knowledges of, epistemological approaches to, and ontologies regarding nature – moving away from hierarchical, techno-scientific, and command and control approaches that have often worked in service of domination over nature and towards a relational approach, and ways of knowing that are conducive to an ethic of care, or other features required for visions of sustainability (see Castelden et al., 2017; Hanson, 2010; Harcourt and Nelson, 2015; Singh, 2017, as well Indigenous and

ecofeminist contributions, e.g. Bauhardt, 2014; DiChiro, 2008; Whyte, 2018). Recalibrating, questioning, and realigning nature–society relations and understandings through attention to multiple and diverse ontologies, epistemologies and politics is also an increasingly important focus of attention, with compelling arguments that doing so would also potentially serve broader equity, sustainability, conservation and linked goals – debates that have often been led by, and through critical engagement with, Indigenous ontologies, epistemologies, lifeways, and ways of knowing (e.g. Armstrong, 1996; Davis and Todd, 2017; McGregor, 2014; Theriault, 2016; Whyte, 2017, 2018). Yet, as Hunt (2014) cautions it is important to not to simply treat Indigenous thought as a source of ideas for ‘environmental’ or ‘sustainability’ aims, but rather to understand it as a complex body of knowledge that is living, practiced, and of critical importance for reciprocal relationships between Indigenous peoples and extensive human and nonhuman relations.

### *EJ and political ecologies*

The literatures associated with political ecology and EJ are among the subfields that are particularly prominent in steering intellectual progress on the issues mentioned above, from the politics of knowledge to critiques of technocentrism and analyses of changing access to resources and implications for diverse locales and populations. As described by Blaikie and Brookfield (1987: 17) “‘political-ecology’ combines the concerns of ecology and a broadly defined political economy”. Robbins (2012) extends this foundational definition by defining political ecology as ‘empirical, researched-based explorations to explain linkages in the condition and change of social/environmental systems, with explicit consideration of relations of power’. He goes on to suggest that political ecology is less of a methodology or certain set of concepts than a ‘community of practice’. Peet and Watts’s influential edited volumes (2004, 2010) highlight the synergy between political ecology and poststructural social theory to examine the linkages between knowledge and power in environment and development and the role of social movements in challenging dominant development discourses and agendas. In parallel, work in EJ emerged more centrally in North American contexts and focuses attention on the centrality of race, poverty, and spatial relationships in shaping exposure to environmental injustices (or conversely, uneven access to environmental ‘goods’). EJ scholarship steadfastly pairs such analyses with attention to political responses to these uneven exposures (as exemplified by De Lara and Pulido, 2018, this issue). While there are some geographical and conceptual differences between EJ and political ecology approaches, there are also clear resonances, and increasingly there are efforts to link these traditions and promote learning across these fields, domains, and interests (see Ranganathan and Balazs, 2015). These efforts focus geographically on internationalizing EJ work (e.g. bringing in multi-scalar attention to globalization and global EJ), connecting EJ frameworks and understandings to broader patterns of inequity associated with colonialism or uneven trade relations (Nixon, 2011). In parallel, there are linked efforts to bring political ecology concepts and approaches to Northern contexts (e.g. McCarthy, 2002, 2005; Reed and Christie, 2009; Wainwright, 2005).

There is also steady growth of attention to urban environmental questions that should continue to inform intellectual progress within the pages of this journal moving forward. Early standouts in this domain (see Hurley, 1997; Melosi, 2000; Tarr, 1996) helped inform the growth of urban political ecology (see Kaika, 2005; Keil, 2003; Swyngedouw and Heynen, 2003) that worked to more explicitly connect the material conditions central to urban environments within the uneven power relations of who benefits and who suffers from decisions made about how cities are constructed, produced, and evolve. This work in turn

continues to prompt new and exciting research that transcends more historical and Marxist approaches towards a range of new engagements to complicate how we understand uneven urban power relations, including race, gender, sexual orientation, physical ability, as well as other embodied processes, as they shape cities (Doshi, 2017; Patrick, 2014; Shillington and Murnaghan, 2016). Specific aspects of cities are gaining increasing attention, for instance issues related to air pollution (Buzzelli, 2008), climate (Rice, 2014), food systems (McClintock, 2010), parks, trees, and green spaces (Grove et al., 2018; Heynen et al., 2006), and other domains.

Staging productive dialogue between EJ and other nature and society approaches that emphasize uneven racial development and colonial histories-presents requires centring race and processes of racialization and colonization (see Coulthard, 2014; Finney, 2014; Gilmore, 2000; Simpson, 2014). The proliferation of Black Geographies within the last decade (see Gilmore, 2017; McKittrick, 2006, 2013; McKittrick and Woods, 2007), which includes attention to work that has long been largely neglected (i.e. Du Bois, 1935; Robinson, 1983), is prompting new and deeply engaged inroads to follow and further expand upon (see Heynen, 2016; De Lara and Pulido, 2018, this issue; Pulido, 2015, 2016), including emerging work that draws together racial capitalism with environmental racism (Ranganathan, 2016). Learning from this work, racial formations are not secondary considerations to nature, but are principle in the production of nature.

So too with (settler-)colonial formations. Scholars of settler-colonialism urge attention to its unique social and ecological formation, to how colonialism was and is ‘about changing the land, transforming the earth itself’ in a ‘project of erasure’ (Davis and Todd, 2017: 770). These scholars also point us to long-standing political movements and strategies to resist and refuse a settler-colonial project that is, crucially, incomplete (Coulthard, 2014; Simpson, 2014; Whyte, 2017). These core insights not only open up intellectually provocative and politically important ways to proceed for discussion of nature and society but also in turn are likely to yield important new insights about uneven racial and colonial development.

### *Critical feminist, anti-racist, and queer approaches*

Feminist political ecology (FPE) is also central to the project of speaking to the struggles of diverse social actors dealing with, and contesting, environmental change. FPE aims to analyse ‘gendered experiences of and responses to environmental and political-economic change that brings with it changing livelihoods, landscapes, property regimes, and social relations’ (Hovorka, 2006: 209). FPE explicitly engages with the politics of knowledge and feminist epistemology to highlight the importance of ‘situated knowledges’ and multiple ways of knowing (see Rocheleau, 2011; Rocheleau et al., 1996). Further, Mollett and Faria (2013) work to integrate logics from not only feminist approaches, but also critical race scholarship, working towards a ‘postcolonial intersectional analysis’ – a subfield that has been growing but that nonetheless still requires substantial ongoing development. In response, feminist political ecologists are building on, but also moving beyond, a focus on the gendered production of access to nature and knowledge about nature, insistently pushing to ensure that other forms of difference, including class, ethnicity, kinship, religion, caste, nature, and race are explicitly accounted for and theorized. In naming these forms, we can not only more fully comprehend socio-natural problems, but also propose more robust and far-reaching solutions (see also Asher, 2009; Gezon, 2006; Gururani, 2002; Harris, 2006; Nightingale, 2011; Sultana, 2009; Sundberg, 2003).

Some of the abovementioned work in feminist and black studies is particularly influential for scholars theorizing capitalist natures, or the forms and functions nature takes under

capitalism. Nature assumes many roles in capitalism – natures ‘work’ (White, 1995) – they absorb waste; they serve as material for food, shelter; they provide innumerable ‘services’ as even the too often apolitical language of ecosystem services tells us. Debates over whether these natures produce value directly, or not, are longstanding (see Kay and Kenney-Lazar, 2017). Until now these debates largely sidestepped similar conversations over decades among feminist political economists and socialist feminists, who analyse the role of unpaid work of social reproduction, largely conducted by women – work that is, similar to nature’s ‘work’, highly generative for capital accumulation, but largely unpaid, unpriced, and undervalued – ‘cheap’ (Moore, 2015). These feminist and critical race interventions are increasingly informing scholarship that aims to theorize the production, roles, and politics of capitalist natures (Battistoni, 2017; Collard and Dempsey, 2017a, 2017b; Dempsey and Bigger, 2018, this issue; Moore, 2015; Patel and Moore, 2017). In particular, feminist theorizations of capitalism – as relying on the unpaid work of social reproduction – are useful for scholars seeking to understand how and why capitalism needs and breeds cheap natures.

Similarly, stemming more from critical race and postcolonial studies, the concept of racial capitalism – ‘that actually existing capitalism exploits through culturally and socially constructed differences such as race, gender, region and nationality and is lived through those uneven formations’ (Lowe, 2015, 149–150) – is productively engaged by scholars of socio-natures (Pulido, 2017). Racial difference, as well as other forms of constructed difference – such as gender (see Federici, 2004) – creates a terrain of differential value, of more and less valued people and places, that capital can exploit to generate profit (Pulido, 2017; Wright, 2006). The concept of racial capitalism thus has substantial implications for socio-nature scholarship of the type we are interested in for *EPE*. First, it suggests that natures are part of the terrain of differential value. Natures are in many cases devalued – or treated as disposable, lesser – in a way that is useful for capital accumulation. Second, the devaluation of nature entangles – but is not the same as – the devaluation of human groups along lines of race or gender (see long-standing debates and earlier interventions from ecofeminism on similar themes, Gaard, 2011). Indeed, categories of ‘natures’ and socio-spatial or political difference are often forged in relation to each other (see Kim, 2019). Overall, this theorizing urges nature scholars – and environmentalists (see Klein, 2016) – to place more emphasis on the logics and narratives of ‘Othering’ (racism, sexism, anthropocentrism) – and the naturalization of what is constructed difference – that underpin these devaluations that are seemingly so functional for capitalism and so destructive for some people and places.

Jumping from feminist and critical race approaches there is also the exciting emergence of queer ecological theory. According to Sandilands (2016: 169), queer ecology

refers to a loose, interdisciplinary constellation of practices that aim, in different ways, to disrupt prevailing heterosexist discursive and institutional articulations of sexuality and nature, and also to reimagine evolutionary processes, ecological interactions, and environmental politics in light of queer theory.

It is ‘on the verge of something new’ due to the unstable connections between ‘LGBT histories and communities and more recent challenges to these terms and political affinities’. Central to these changes, Sandilands draws on Hogan (2010) and Sbicca (2012), to suggest new forms of specifically eco-queer activism are helping to prefigure new coalition politics and solidarities standing together in opposition to status quo homonormative agendas connected to ‘violence, space and, food’. These approaches are already giving rise to generative emergent work on queer agro-ecologies, among other themes (e.g. Edward, 2018).

### *STS, assemblages, and the more than human*

STS offers other innovative approaches that are making headway in nature–society scholarship. Despite their distinct origins, political ecology, STS, and critical nature studies have developed clear synergies (see Goldman et al., 2011), opening up new lines of inquiry. STS notably highlights how scientific and expert knowledge, including ecology, is always situated in local cultural and historical contexts, and how scientific knowledge is equally situated in wider social and power relations (Barnes and Alatout, 2012; Jasanoff, 2004). Work in this genre stresses the importance of ‘seeing multiple’ and situated knowledges, again intersecting in important ways with the feminist and postcolonial critiques of science mentioned above (e.g. Haraway, 1988). For example, the same piece of land, forest, or body of water has multiple meanings for various actors and people, who are themselves differently positioned politically and socially. For example, Rocheleau (2011) draws on an eclectic body of work including political ecology and STS to conceptualize ‘everyday ecologies of home’ as seen from multiple standpoints, giving rise to a range of situated perspectives. These different actors and meanings do not usually command equal power in a given society (e.g. Robbins, 2003). As such, STS is particularly effective at opening up discussion of hierarchies of knowledge, and how this informs the knowledges or politics of certain issues. This focus on diversities and hierarchies of knowledge reveals marginalized perspectives that have long been sidelined related to conservation, deforestation, or climate change (Tallis and Lubchenco, 2014). This work is also useful to question dominant and authoritative discussions of land use, degradation, biodiversity, or scarcity (Dempsey, 2016; Fairhead and Leach, 1995; Mehta, 2005, 2010), or to highlight the ongoing debates related to privileging of scientific knowledge or expertise, in ways that have minimized TEK and IK and ontologies (Blaser, 2014; Nadasdy, 1999, 2003).

Linked to STS, a growing interdisciplinary tradition focuses on the importance of networks, assemblages, and complex ecologies, including relationships of people to each other and networks of plants and animals, physical landscapes, technologies, artefacts, infrastructure, and buildings (cf. Rocheleau, 2011; Tsing, 2015). Scholars writing in this tradition begin from a position that humans and nonhumans are networked together in inescapable ways, that nonhumans have influence in these networks, and that things conventionally considered to be strictly human affairs and achievements – agency, politics, cities, capitalism – are actually deeply relational and dependent on a host of nonhuman actors. Actor-network theory, in particular, provides methodological tools for tracing networks comprised of different social groups, assemblages of plants and animals, as well as material artefacts and technologies. These insights resonate with political ecology, which similarly has long acknowledged that the nonhuman world is not a passive backdrop to human affairs and political struggles (Robbins, 2012). These approaches are used to understand processes ranging from how networks of grasses, chemicals, and people shape each other in US lawn culture and industry (Robbins, 2007) to the role of charismatic animals in environmental politics (Dempsey, 2010). Emergent work on infrastructures also represents a growing and exciting subfield in anthropology, geography, and allied fields, working through the diverse connections and role of nonhuman and more than human ‘things’ and material considerations in forging new socio-natural dynamics and assemblages (e.g. Anand, 2011; Harvey and Knox, 2012; Larkin, 2013; McFarlane et al., 2017).

The turn to network analysis has coincided with the growing prominence of nonhuman animals in political ecology (Barua, 2014; Collard, 2015; Hobson, 2007; Lorimer and Srinivasan, 2013), emblematic of a wider ‘animal turn’ across the social sciences and humanities (Ritvo, 2007). Powerful calls were made in the 1990s and early 2000s to

‘animate’ urban, social and economic theory, and human geography in particular (Philo and Wilbert, 2000; Wolch, 1996; Wolch and Emel, 1998). Since then, animal geographies and animal studies more broadly are moving animals out from the margins, from the realm of objects, onto centre stage as actors in their own right. Scholars are training their attention on practices linking humans and animals, including wildlife management (Srinivasan, 2014; Yarbrough, 2015), animal husbandry (Hovorka, 2012), and industrial meat production (Gillespie, 2018), among others. Consistently, these studies include animals as among those actors who benefit or, more often, lose out, from environmental change. In doing so, the scholars cited above do not lose sight of how animal practices intersect with uneven power relations between differently gendered and racialized humans living in patriarchal, capitalist, colonial structures. This is especially crucial given how concern with animal welfare has historically amplified and justified colonial and racist interventions (Kim, 2015; Yarbrough, 2015). Exciting new work between animal studies and disability studies directs a similar critique of animal rights activism for relying on ableist metaphors and philosophies (Taylor, 2017).

### *Environmental history, postcolonialism and environmental humanities approaches*

Environmental history is another dynamic and growing field that will contribute substantially to the intellectual project of this journal. Work in environmental history adds texture to our appreciation of socio-natural relations by highlighting the longer time frames and lineages that affect past, current, and emergent conditions. Importantly, environmental history also provides the indispensable lesson that things can, and do change – nature–society–space connections linkages are not fixed by dynamic and shifting. This insight brings nuance to our understanding of why and how certain conditions prevail, but also importantly provides hope and understanding of how and why things have shifted over time. The classic example from Cronon (1995) illuminates how notions of ‘wilderness’ might be problematic to our goals of nature conservation. As well, he clearly shows the understandings of what constitutes wilderness in the North American context have changed, both over time and across space. As such, historical lenses give us a stronger appreciation for the relationships and patterns we observe at present, how and why those relations have shifted and evolved in the past, and might continue to do so into the future. Another key example exposing the interest and value of historical approaches is Pulido et al.’s (1996) tracing of the evolution of racialized space over time, and how this has been crucial to the patterning of observed environmental injustices in the present day.

We can also find key examples of works from a historical perspective that integrate with biophysical perspectives (e.g. using remote sensing and other tools) to show that narratives of environmental change might be as much inflected by colonial/power relations that actual biophysical changes. For instance, narratives of deforestation in colonial Africa were more about assumptions about native populations and assumptions of what ‘pristine or appropriate’ nature was, or should be (informed by Victorian and other landscape aesthetics), than it was about degradation per se. In fact, such analyses show that despite narratives of degradation, forests were often little changed over the time periods of interest (Davis, 2005; Fairhead and Leach, 1995). In the South Asian context, recent environmental history writings avoid static notions of both colonials and locals to reveal the varied and complicated relationships between dynamic environments, power, identity, discourse, and control and how these have influenced ecological outcomes (see Kumar et al., 2011; Rangarajan and Sivaramakrishnan, 2011).

A final thread that we aim to integrate in the intellectual project of the journal is environmental humanities work, including history as well as literary, eco-critical, and postcolonial studies. There are productive conversations to be had between this work and the sizeable social science scholarship of the type referenced above. Postcolonial scholarship reveals that society–nature linkages are often conditioned by power relations not only at the village or national scale, but are fundamentally influenced by colonial relations and imaginaries on much longer temporal or geographic scales. As well, work in the environmental humanities usefully connects the issues of valuation or treatment of ‘natures’ to literatures, film, and other cultural domains where these values and engagements are expressed, and at times challenged. Nixon (2011) provides a compelling example of the centrality of literary approaches to inform these broader questions. An examination of literary works from diverse contexts makes it clear that both environmental issues and violence are not always visible, precisely due to the spatial separation, and also very long timescales of environmental degradation and associated marginalization and injustice. We thus need to have conceptual, analytical, literary, other tools to grasp, represent, and respond to ‘slow violence’ that might appear on fundamentally different registers to those we might be accustomed to (Nixon, 2011). Interestingly, while postcolonial and decolonial theory is very influential in literary studies and social theory (including in fields such as English or interdisciplinary fields such as ‘cultural studies’), there has been relatively little intersection with political ecology and critical environmental studies work more broadly – a theme that clearly deserves greater attention (see Harris, 2014; Wainwright, 2005, among others). Among the issues that are critical to explore further include the ways that the knowledges, territories, and socio-economic relations that condition environmental outcomes are fundamentally conditioned by colonial relations – adding complexity and dimensionality to the broader interest in ‘politics’ as central to evolving socio-natures. Literary, narrative, memory studies, and other humanities approaches are particularly exciting terrains for such future work.

## **Moving forward**

‘We’ (the always uneven and heterogeneous ‘we’) are staring down a future that appears marked by growing ecological uncertainty and inequality. In this essay we have traced the tip of the iceberg in terms of scholarship emerging in response to explain and attempt to dislodge us from this trajectory. As part of this project, we at *EPE* invite critical attention to a wide range of issues, from notions of ‘crisis’ at planetary scales, to local effects and lived experiences of socio-ecological changes or ongoing injustices, or multi-method and multi-sited studies that seek to attend to broader patterns and ‘linkages in connection’ across sites and scales (Castree, 2008a, 2008b; Jasanoff, 2010). Centrally, we are most interested in narratives, accounts, and analyses that highlight power and injustice, or historic divisions that are important to understand past changes and present responsibilities and realities for those in the global North and global South (see D’Souza, 2015). Likewise the capitalist, racialized, ethnicized, colonial, gendered, and other processes that have led to uneven planetary and species conditions must not be obscured. This is why authors such as Jason Moore (2015) Andreas Malm (2015), and others reject the notion of the Anthropocene and instead focus on the socio-historical dynamics that led to the Capitalocene, thus marking the unprecedented impact of capitalism on humanity’s relation with nature and its far-reaching consequences.

While we are interested in multi- and cross-scalar analyses to populate the pages of our journal, we seek them in ways that refute undifferentiated accounts of humanity, the planet

and history, and in ways that inform understanding broad shifts in ways that are attuned to fine grained analysis. We also hope our journal will focus on how radical societal transitions and transformations in resource use, consumption, and distribution can take place that reconfigure the status quo and wider socio-political and economic trajectories in order to achieve socially and environmentally just futures. With this goal in mind, we offer a series of questions that are on our own minds as we set out on this intellectual and political project. These are the types of questions we hope that contributions to our journal will respond to and reflect on critically. Our list is by no means static or exhaustive; we hope contributors will populate and refine this list of questions as we move forward, collectively. But to begin this conversation, we ask:

- What comes to light with the recognition of the Anthropocene as a new era dominated by human activities and related changes? What features of social, political, and economic relations (e.g. racism, patriarchy, colonialism, capitalism) condition particular socio-natures, and what possibilities are there to reimagine and contest unsustainable or unjust dimensions of those regimes?
- Inspired by work on capitalist natures, feminist political economy and Black Geographies, we wonder what theories and methodologies can expose the ‘underground connections’ (Mies, 1986) that affect how different social groups, places, and natures are unevenly subject to violence and oppression? Linked to this, what potential is there to treat various forms of oppression relationally, considering for instance, how they operate in relation to, and inform, each other?
- What is the role of diverse epistemologies, ontologies, and axiologies in socio-environmental research, and thought more generally? What types of knowledges and ‘worlds’ have been subjugated or discounted, and what possibilities are there for ‘thinking otherwise’ in solidarity with Indigenous scholarship, IK, decolonial debates, or other interventions that invite revising and reimagining environmental thinking and politics?
- Stemming from the previous question, thinking historically, is it possible to rewrite or rethink the archives of environmentalism, and if we did so, who would be its key theorists and activists – what different types of stories might we tell?
- What methodological approaches can we use to understand important processes and shifts that might be occurring at the global scale (e.g. biodiversity loss, climate change, ocean acidification), but in ways that attend to and are informed by locality, history, power, politics, and local meanings?
- How can we develop new tools and methodologies that go beyond market-based ‘exchange value’ to come up with multidimensional ways to value nature and resources, that build on local resource users’ perspectives and experiences? Similarly, how can we extend our critical understanding of the limits of technical approaches that might treat engagements with nature as mechanistic, or primarily the purview of scientists and engineers, to better engage with social cultural and political influences on diverse and changing ‘natures’?
- Given the continuing intellectual silos of the university, and of research, how might we work in more engaged ways with activists, practitioners, artists, writers, communities, and elders to challenge ourselves to work more collaboratively to imagine, and work towards, more just and sustainable futures? What is the role of scholarship, in particular, and of diverse ways of knowing and working to promote different politics, different emotions and affective responses, or different political economic realities and pathways? As well, what is the role of arts based and community engaged methods

in fostering new approaches to knowledge, and as such, new ways to analyse and engage with emergent and desired socio-natures?

- How might our work in socio-natures learn and benefit from social theoretical debates, concepts, and modes of analysis from across the social sciences, humanities, and interdisciplinary critical biophysical perspectives? And what new interdisciplinary and multisectoral linkages might make new thinking and insights possible that better inform politics, policy and practice to be more true to local and marginalized perspectives?
- Last but not least, which alternative movements and approaches might provide ways to reconfigure nature/space/ society relations in ways that have the scope to be truly transformative, or that allows us to reimagine and reconfigure nature-society-spaces ‘otherwise?’

There are few if any easy answers to these questions, but we are excited by the challenges and possibilities they represent. Ultimately, our goal is that *EPE* will play a significant role in substantiating and advancing diverse bodies of work from a diverse group of authors, while promoting mutual learning between different traditions. As we set out, we are mindful of our role and intellectual responsibility to create space for research, insights, interventions, and critique that have the potential to enhance nature–society debates and challenges, particularly in ways that will remain focused on the imperative for more just and egalitarian socio-natures.

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1. Indeed, one could argue that for some the ‘environment’ has been replaced by the ‘Earth system’ (Bonneuil and Fressoz, 2016) given the ways Earth System Science (ESS) deploys satellite imagery and planetary-scale investigation to consider human activities and changes.

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