

Natures, Rights and Political Movements

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Abstract

Natures are partly composed of rights and rights are partly composed of natures. Every history of natures is a history of rights, and vice versa. Thus, private property rights in land tend to come with a particular nature associated with hedges, fences and cadastral surveys. Similarly, the rights to global carbon-cycling capacity that are today parcelled out to industrialized countries under international agreements are tied to a novel, partly computer-engendered nature called “the global climate”. Emerging political movements for “rights of nature” aimed at countering evolving capitalist movements for “rights to nature” need to be aware that such contrasting regimes of rights/natures are constantly in play, and are being used by all sides, on the “middle ground” that defines this conflict.

Natures fit for capital

The word *nature* has a lot of meanings, and they are always changing. For Raymond Williams (1983, p. 219), it was “perhaps the most complex word in the [English] language”. Distinguishing nature from what is not nature is an unending struggle. When we grow crops, are we dealing with nature or something that is not nature? Maize, rice and potatoes have been with us for millennia, we influencing (creating) them and they influencing (creating) us. When we look at a forest, we are almost always looking at something that has been shaped by millennia of human burning, planting, sharing, cultivating and gathering. Are we looking at nature or at something that is not nature? Or at both? In what circumstances do we even want to ask such questions?

I think about what it is for me to remember my way home. My eyes fall on that familiar rock, I lift my head and there is that old tree in the distance, and after that there will be two more streets, the bend in the road and then the building with the butcher shop. Is my memory something that I have inside me that is separate from nature, or is my memory also in nature – in the pathway, the rock, the tree and the streets? No need to travel to Melanesia (Strathern, 1980) or the Amazon (Viveiros de Castro, 1998) to find places or circumstances in which nature/culture bifurcations to which we may have grown accustomed suddenly look odd.

Nevertheless, our schoolteachers told us that behind all the different things human beings do there is an unchanging background consisting of things like atoms and energy. Human societies are like characters in a cartoon. Captain America walks around in the foreground, but the background often stays pretty much the same from frame to frame. This background, our schoolteachers said, is called “nature”. So, we’re surprised when we learn that for many Amazonian societies, it is, roughly speaking, the background that is culture, and what move around in the foreground are natures (Viveiros de Castro, 1998; Kohn, 2013).

Which raises the question: what are the reasons for dividing nature from society in the peculiar way that our schoolteachers advocated, and to say that this is the most important distinction there is? In societies dominated by capital there are in fact many such reasons, probably more than there ever were before. These reasons tend to be “free-floating” in the sense spelled out by Daniel Dennett

(2018). They don't presuppose intelligent, intentional prior design, comprehension or even consciousness. They are unlikely to be reasons that individual capitalists, for example, can be said to "have". They don't necessarily need a Descartes to articulate them. But they're adaptive for the accumulative environments that have proliferated especially since the 16th century, which they continually modify in turn. They are there in the way people and things act (Zizek, 1991; Marx, 1976 [1867]) even if not in what they believe. For example, human beings are divided from land so that they can be put to work and produce surplus that becomes profit. Various processes result in the half-successful creation and re-creation of supposedly non-natural humans who can make commodities out of supposedly non-human natures, which are created and re-created through similarly half-successful procedures. The bifurcation is then sharpened and generalized globally through fossil-fuelled mechanization (Huber, 2008) and thermodynamics (Lohmann and Hildyard, 2014; Caffentzis, 2013). Relationships are reconfigured in millions of ways that result in the emergence, by the 19th century, of *relata* (Barad, 2007, pp. 136ff.), consisting of real abstractions (Moore, 2015, pp. 30, 55-56, 197) known as "resources" (potential or actual) and "labour" (potential or actual), that is, of new forms of non-human and human. For example, when people move into centres of mechanization, the land they leave behind changes as well as the people themselves. Farmland changes into large-scale plantations, mineheads or reservoirs. Fertility of the agricultural fields that remain changes from being a matter of manuring, firing and rotation with local cultivars towards being more a matter of importing guano from Peruvian islands, saltpeter from the Atacama, or Haber-Bosch nitrates from gas extracted from new fracking sites in the US. Each import entails certain kinds of treatment of human beings and land far from the fields where the new fertilizer itself changes the soil structure. Animals change over time, too. The 19th century saw a difference in the treatment of horses when they became part of the steam economy (Forrest, 2017), and the 20th century in the treatment of cattle and chickens when they were isolated and amassed on feedlots and factories, their recourse to commons cut off and their rates of growth reorganized according to the free-floating rationales of capital. The domestic beast-that-can-be-tortured was part of a nature that was as artifactual as the mythical, purely wild deer and buffalo of the "primordial" Americas (Hribal, 2012; Mann, 2006; see also Berger, 2009).

Almost by definition, resources are passive and under threat from society. To survive the threat, they have to be "managed sustainably" by experts who inhabit an ancestral line that stretches back at least to the 18th-century European foresters working to keep insular colonial plantations productive (Grove, 1997). To put it another way, sooner or later many resources have to become as "renewable" as possible. Alternatively, the "populations" to which resources are counterposed have to be surveyed, reorganized, "digitized" and trimmed (or expanded). Or certain resources have to be cut off from contact both with ordinary people, and, to some extent, with individual capitals, and placed under legislation establishing protected areas or other special reserves. Such actions – usually undertaken by states – embellish, embroider, elaborate and strengthen existing Cartesian bifurcations still further, adding their bits to help produce the "nature" and "society" of educated people, which seem always to have been there and to be "separate from the practices in which they are brought into being and reproduced" (Mitchell, 2002, p. 296).

These capitalist environmentalisms – together with regulation more generally – tend to generate their own imaginary featuring powerful managerial agents situated above both nature and society that can step in to govern their mutual relations. In one limiting case, this even includes fantastical agents charged with "ending capitalism" while keeping capitalist nature more or less as it is. (For a contrast between such "global" imaginaries and alternative "spherical" imaginaries, see Ingold, (2000).) Law, mapping, school curricula, statistics, economics, climatology and other disciplines and institutions help to stage, produce, format and secure a bifurcation of the world into implementation and plans, material and discursive, real and abstract, material and technological, violence and law, "exchange and rules for exchange", "objects and ideas, nature and culture, reality and its representation, the nonhuman and the human" (Mitchell, 2002, pp. 10, 82–83). "Biopower"

(Foucault, 2003), in tandem with its more recent complement “geopower” (Yanez, 2018; Bonneuil and Fressoz, 2016; see also Moore, 2015; Robertson, 2004), add immense detail and density to these reifications. Maintaining these bifurcations – which are manifested in innovations such as “the economy” (an object datable very roughly from the 1930s) and “the climate” (a similar object emerging over a longer period) – is itself, as Timothy Mitchell (2002) argues, key to maintaining elite power in contemporary capitalist societies. But the reasons for their entrenchment remain free-floating and generally evolutionary and need not invoke either “agency” or “structure”.

A new stage: ecosystem services

A further stage in this history – one of special contemporary interest – is ecosystem services. This particular new nature, and the “free-floating” reasons for its emergence, have evolved in a context of crisis afflicting earlier capitalist environmentalisms. Later 20th-century overaccumulation saw increasing reliance on the production of waste-based consumption as a means of absorbing surplus (Pineault, 2016; Foster, 2011) at the same time that post-1970 environmental legislation was promulgated in what amounted to both a symptom and a cause of the “maxing out” (Moore, 2015, pp. 119–120, 226) of free waste sinks that industrial capital had long relied on. Exchange of ecosystem services was expressly designed as a way of cheapening that regulation (Lohmann, 2006) – which from its earliest days had been questioned as a dangerous check on economic growth (Lane, 2015, p. 28) – or making it more flexible, “reasonable” and streamlined from the point of view of commercial developers (Robertson, 2004). Instead of reducing their environmental impact at home, businesses could now comply with environmental norms and laws by buying low-cost units of environmental compensation (CO₂ emissions reduction equivalents, units of bat conservation, units of watershed quality, internationally transferred mitigation outcomes and so on) from the other side of the country or the other side of the globe. That helped align regulation more closely with neoliberal business models in which profit rates had to depend more heavily on crude dispossession, neo-extractivism, wage reductions, financial engineering and speculation and plunder of the public sector.

To make this possible, however, non-human nature needed once again to be reconfigured and reimagined. In addition to the cheap labour and cheap resources that capital had always created and depended on, nature/society dichotomies were now modified and re-enlisted to accommodate mass production of tokens whose use-value was to provide cheap, flexible regulatory relief. The extractive and pollution pipelines that conventional environmental regulation had threatened to pinch off were repaired by novel, standardized products derived from further, second-order appropriations of nature. For example, power plants in Europe could “offset” their greenhouse gas emissions by quantifying and colonizing the photosynthetic capacity of tracts of land in Latin America, Africa or Asia. Corporations could also mine the future for such units by claiming – via arcane numerologies paralleling those deployed by the “quants” of the new finance (Lohmann, 2010, pp. 233-237, 242-246) – that their investments in ecosystem services were preventing a measurably greater increment of environmental degradation from occurring elsewhere, and that their purchase of these digitized increments of “avoided degradation” would cancel out the destructiveness of their own activities. The relative cheapness of such units was not – or not entirely – a given, legislated fact, but emerged largely out of a predictable dynamic of rent-seeking lobbying and regulatory capture; informal, improvisatory negotiation (Robertson, 2007); and entrepreneurial competition to find the most efficient means of mass-producing destruction-compensation tokens, often involving ingenious manipulation of numbers. Prices in carbon markets, for example, generally start out very low and then decline spectacularly: pollution allowance prices under the European Union Emissions Trading Scheme have declined by a factor of at least six over its lifetime, hitting significantly negative figures for many large industries (Pearson, 2010), while prices of the United Nations carbon offsets used in the scheme have dropped by a factor of more

than 100. Few basic commodities – even those most associated with plummeting prices, such as coffee – can match this triumph of cost reduction.

The new nature consisting of ecosystem services thus emerged in a context that joined burgeoning neoliberal responses to profit crisis traceable to stunted growth in labour productivity (Moore, 2015; Caffentzis, 2013) with a “great acceleration” in environmental destruction (Steffen et al., 2015; Angus, 2016; Melathopoulos and Stoner, 2015). But its appearance also owed a great deal to – and is contributing to the further development of – a third factor: the “geopower” mentioned above. Geopower manifested itself in, for example, post-war ecosystem science and the supercomputer-driven global circulation models (GCMs) that enable and constrain the work of the Intergovernmental Panel on Climate Change (IPCC). While the groundwork for both developments had been laid long before in European colonial science (Anker, 2001) and what James Beniger (1986, p. vi) calls the 19th-century “control revolution” tied to the emergence of thermodynamic energy, significant recent factors were post-Second World War systems and cybernetic thinking influenced by military and nuclear-state preoccupations with command, control, communication, feedback and means for wholesale mechanization of interpretative labour (Elichirigoity, 1999, pp. 33–36; Edwards, 2013; Haraway, 1991, pp. 62–68; Gane, 2006; Nelson, 2015). GCMs helped paint an ever more indelible picture of a coherent global climate system “locked into an endless dance of adaptation” with an external, equally blocklike global social system (Taylor, 2015, p. 39; see also Carey, 2014 and Fogel, 2004, p. 109), which both responded to and was supposed to control and manage it (Elichirigoity, 1999, p. 37). Ecosystem studies, for their part, came under growing pressure to develop into an “econoscience” in which “conventional market accounting units and ecosystem accounting units” would be merged in a way that could make national and international trading in ecosystem services credible in environmental terms (Boyd and Banzhof, 2007, p. 626). Thus, the new “nature” defined as ecosystem services included not just species, but also digitized units of “species-equivalents” that could be exchanged one for another to provide the same services to society that less information-intensive conventional regulation would have provided, but more cheaply. It included not just molecules, but also “molecule-equivalents” certified by the IPCC to be “equally” destabilizing to the climate and thus tradeable for one another according to their “global warming potentials” (GWPs). For example, it no longer exhausted the definition of a nitrous oxide molecule to say that it consisted of one nitrogen atom and two oxygen atoms; had certain distinctive, complex effects on global climate; and so forth. Today, a nitrous oxide molecule is also, climatologically speaking, 0.003 carbon dioxide molecules, 0.114 methane molecules and 17.953 CFC-11 molecules (IPCC, 2015, pp. 87–88). The subject matters of natural sciences shifted, in other words, when different species and greenhouse gases began to have to confront each other as service commodities in the way that linen, in becoming a commodity, had to confront coats, corn and iron in certain new ways (Marx, 1976 [1867], pp. 132ff.). To become an acceptable candidate for salvation, capital’s nature itself had to become – in parallel with the human subjects of Foucault’s biopower – something that geopower was capable of “making live or letting die” as well as something sovereign corporations or states could “let live or make die” (Foucault, 2003, p. 241; Ojalampi and Blomley, 2015, p. 53).

The partial reinvention of “nature” in terms of ecosystem services was simultaneously, of course, a partial reinvention of the “society” counterposed to it under the rule of capital. In the course of helping capital overcome regulatory blocks to investment, the averaged, “liquid” nature (Buscher, 2014) defined by an expanded set of market-friendly environmental equivalences finds a counterpart in the averaged, “statistical” person (Heinzerling, 2000) whose fears (Sunstein, 2009) and suffering can be fluently costed out even while specific individuals or communities succumb to uncertainty or disease. Under a geopowered regime of environmental services, the neoliberal state can convert polluting factories, airports or extraction sites into statutorily “non-polluting” installations that local residents have fewer legal rights to challenge, without having to stem a single effluent stream. At the same time, new styles of “social” discipline come into play (Osborne, 2015;

Pena-Valderrama, 2016; West, 2006) in the distant locations that produce the offsets that “neutralize” effluents or extinctions. Each “double grab” performed by an offset (see Re:Common, this volume) is also double in the sense of amounting to a grab of both “nature” and “society”.

Rights to nature

One element missing from the short history of natures sketched above is rights. Natures are partly composed of rights and rights are partly composed of natures. Every history of natures is a history of rights, and vice versa.

For example, the rights of access that form part of the set of relations in which the ecologies of various common irrigation systems in Asia are suspended are tied to obligations not only to common welfare but also to spirits of water, rice, and other aspects of the landscape (Chatchawan and Lohmann, 1991, pp. 102-105). The “bundles of rights” that are commonly held to constitute private property, by the same token, cannot become a reality without the various “bundles of powers” that constitute access (Ribot and Peluso, 2003, p. 153). Those powers in turn rely on technologies that have specific ecological effects. In the modern era, strong private rights over extensive stretches of land have depended, among other things, on the availability of hedges, fences and other labour-saving technologies of exclusion and border-construction that have a marked impact on the face of the landscape and its inhabitants’ relationships (Blomley, 2007). State or public rights over protected areas also go hand in hand with selectively exclusionary techniques and the construction of distinctive “wildernesses” (Neumann, 1998; Lohmann, 1999). The mapping of territories to facilitate the exercise of rights of conquest, ownership or appropriation helps create putatively null spaces made distinct from the material relationships that formerly constituted them (Sack, 1986). Rights over the electromagnetic spectrum, too, depend on possession by the state of technologies to control and generate the relevant aspects of nature. Even the alienable rights to use your own person that characterize labour power, together with the rest of capital’s social relations, become generalized globally only through conflict-ridden fossil-fuelled technologies that reshape non-human as well as human nature (Huber, 2008). The technology-assisted violence associated with creating and enforcing differential private property rights that thinkers as varied as Norbert Elias and David Graeber (2015) see as largely “stored behind the scenes of everyday life” (Elias 2000 [1939]: 238–239) is a violence that makes not only human but also non-human beings what they are.

As one may expect from the history of natures sketched earlier in this chapter, novel elaborations of capitalist nature tend to go hand in hand with the emergence of novel varieties of rights. In the 1940s, for example, it would have seemed outlandish to presume that there could exist rights to global carbon-cycling capacity that could be parcelled out among nation-states. Yet by the year 2000, when ecosystem services had become an aspect of nature, such rights were legally entrenched in global environmental policy (Lohmann, 2006), carrying with them all sorts of financial and environmental consequences. No amount of fences, hedges and cadastral surveys would have been sufficient to make these rights a reality. They become possible only with, for example, continuous emissions monitoring systems (Cole, 2002), satellite imaging, new enforcement systems (Rose, 2003) and a supercomputer-powered conception of Earth as a “vast machine” (Edwards, 2013) endlessly cycling carbon under the controlling eye of nation-states. Just as tradeable wetland-destruction rights ownable by corporations require the production of mounds of “scientifically incoherent” data and propositions that can “circulate in the networks of law and economics” (Robertson, 2006, pp. 375, 377), so, too, ownable rights to use the atmosphere to dump carbon dioxide in (as well as, perhaps at some point in the future, recognized political rights to geoengineer) presuppose a nature that processes of highly mechanized interpretation carried out in part by “intelligent infrastructure” (Jordan, 2018) can “see”, even if others cannot.

The *rights to nature* referred to in the title of this volume could not have emerged, and could not continue to emerge today, except through such concrete, science-laden histories. As a rule, *rights to nature* as a concept becomes possible only where it becomes possible to recast a wide range of practices and phenomena as if they were relationships between humans and things – between, roughly speaking, Cartesian subjects and Cartesian objects, *persona* and *res* (Tigar and Levy, 1977, pp. 268–269) – whether those humans are peasants or corporate heads and whether those things are rice fields or Ferrel cells pictured in GCMs. Rights to nature, that is, tend to be part of integrated packages that also include fetishized relata bearing labels such as “resources”, “hectares”, “nature reserves”, “units of functional lift” or “the global climate”.

The extent to which *human* rights come out of this same troubled history, while under-explored, should not be under-estimated. To oversimplify drastically, human rights and the relata that are their subjects tend to precipitate out of the conflicts and compromises that accompany the emergence of packages that include natures of a roughly Cartesian, anti-commons type. Just as London’s public parks are no more (if no less) than a residue of embattled commons (Thompson, 1990, pp. 63, 96–184) governance of which passed, over decades and centuries, to middle-class and then municipal organizations (Lefevre, 1910), so, too, a good many of the human rights associated with efforts to limit sovereign power, institute welfare states, combat racism and so forth contain substantial residues (if only residues) of commons-based efforts at self-defence following partial dispossession that have then been reconstituted under other authorities (Linebaugh, 2009; McDermott, 2007). By the same token, some of the first self-identified environmental justice movements tended to present themselves by default as advocating equal human rights to nature (unpolluted air, for example), for the time being leaving latent or inexplicit any underlying opposition to rights to nature (or human rights) themselves. Many mainstream climate justice intellectuals – including delegates to international climate change negotiations as well as academics – have followed suit, basing their work on notions of equal (human) rights to fetishized objects, such as carbon dioxide molecules, development, climate finance, climate risk or economic growth (for example, Baer et al., 2009; Roberts, 2001).

Rights of nature on the “middle ground”

More thoroughgoing resistance to the rights-to-nature framework, of course, does exist in many forms. One form that has become particularly prominent recently are movements for the rights *of* nature, more or less explicitly conceived as opposed to capitalistic rights *to* nature (Ito and Montini, this volume; see also Republic of Ecuador, 2008, Pecharroman, 2018, Arsel, 2012; cf. Stone, 1974). What lessons does the story of rights to nature hold for these movements?

One lesson is that whatever rights of nature may be, conflicts will arise when they are interpreted as rights of any of the abstract natures that have developed under the rule of capital. For example, do natural resources have rights? That amounts to a strange way of talking insofar as natural resources are as a rule constituted in a way that serves commodity production and industrial development, and any rights granted to them would have to be strictly and quantitatively conditioned in order not to hobble capital accumulation.

Similarly, do ecosystem services have rights? That sounds even stranger. Wage workers have rights, but what would it mean for capitalist work itself to have rights? And yet that is what ecosystem services are (Robertson, forthcoming) – the capitalized work of non-humans, organized in part around the goal of helping to immunize private or public industries against environmental laws that governments have passed since the later 20th century. If, on the other hand, it is ecosystem service *providers* that are held to be the holders of rights of nature, other problems arise. For example, how will rights *of* nature be able to challenge capitalistic rights *to* nature if they are modelled on the

rights wage labourers have had to fight for? Are there to be non-human labour movements and non-human labour relations boards? If so, what form would these take?

Perhaps, then, the nature that has rights is commons (see Partridge, this volume). But this is not really coherent either. If commons are reinterpreted as a species of natural resource management, as Elinor Ostrom (1990) controversially does, then the difficulties mentioned above with the notion of “rights of resources” re-emerge. If, by contrast, commons are seen as “those parts of the environment for which customary law exact[s] specific forms of community respect”, which lie “beyond [people’s] own thresholds and outside of their own possessions”, which are “not perceived as scarce”, and to which people “ha[ve] recognized claims of usage, not to produce commodities but to provide for the subsistence of their households” (Illich, 1983), then the notion of “the rights of commons” seems peculiar in other ways. One difficulty is that such a notion awkwardly assimilates “forms of community respect” to a model of negotiation between *relata* (Barad, 2007, pp. 136ff.) that emerge from specifically capitalist relationships. This difficulty arises perhaps in its sharpest form where, as is often the case, commons practices are inextricable from a sense of the sacred, whether human or non-human. As one indigenous lawyer puts it, because the cosmos is sacred, to say that it has rights is insulting, like saying that God has rights (Saldamando, 2015). Thus while “common rights” is a comprehensible, fairly unproblematic term insofar as it encompasses diverse notions of mutuality, deference and customary respect, “rights of commons” is less so. Language attributing rights to *territorios* (in the sense used in indigenous Latin America) runs into similar contradictions.

Attributing rights to various elements or aspects of nature rather than nature in the round tends only to complicate the issue. Very roughly, most specific elements or aspects of capital’s natures can be subsumed under the same categories that apply to the whole: “resource”, “protected object”, “ecosystem service”. That makes it problematic to propose rights that can be possessed by specific parcels of land or specific animals, geological formations, deoxyribonucleic acid (DNA) sequences, rivers or plants, or their various activities, with some humans sometimes a partial exception. Under some commons regimes, meanwhile, many aspects of nature also remain more or less in the same framework of the sacred that covers the whole. Yet under other commons or liminal regimes, rights can be attributed to elements or aspects of nature even if not to the whole. For example, although animals may in some circumstances be sacred and removed from the realm of rights altogether, they are also often beings over which humans have rights but that also have their own rights. On the cusp of the early modern era, animals were not only not yet resources in the contemporary sense; famously, they were also often even put on trial for various misdeeds and could be defended in court (St. Clair, 2011). Contemporary animal rights movements are in part a conscious retort – but one that tends not to invoke the sacred – to the increased industrial resourcification of animals particularly following the Second World War. Recent defences of the rights of rivers also belong to this odd, evolving “middle ground” (White, 2011 [1991]) where capitalistic, commons, religious and rights traditions are all uncertainly in play and subject to ad hoc transformations.

Accordingly, the political difficulties of finding or creating a nature that could be an unequivocal subject of rights are not likely to be relieved simply by restricting the focus to elements or aspects of various natures. Should we then just give up this line of enquiry? If “recognizing rights of nature” is no substitute for – and may even undermine – efforts to support and build on existing tangles of commons relationships in their millions, and if the real issue is how to stimulate discussions and other actions directed at more mutually respectful ways of living and being *tout court*, perhaps nature talk should simply be dispensed with. Perhaps the concepts both of rights and of nature are burdened with just too much historical baggage to be usefully retooled as instruments in struggles opposing rights-to-nature frameworks.

But this is probably too hasty a conclusion. The political reality is that many who participate in movements that criticize natural resources and ecosystem services continue to feel a need, in current contexts of public debate, to develop general “oppositional” concepts (Haraway, 1991, pp. 155–156) of nature that are as abstract, general and simplified as those represented by phrases such as “natural resources” and “ecosystem services”. Of course, “commons” itself is one such term (Lohmann and Hildyard, 2014, p. 66), adapting for general use a tradition specific to historical struggles in Europe and Asia and seldom even called by that name there. However, in addition to being equally highly contested, “commons” may still be too obscure in the minds of many middle-class activists and academics to be used as an effective lever in official and international debates, especially since capital has its own free-floating reasons for defending various versions of “commons” (Caffentzis, 2004, 2013; Federici, 2004). At the same time, the active “middle ground” (White, 2011 [1991]; see also Liu, 2006, 2000, 1996) where structures of nature as resources or ecosystem services cannot quite be entrenched by force is currently a lively and fertile site where new and invented congruences – however ludicrous or equivocal (Viveiros de Castro, 2004) – are positing different and provisional “natures” that may at least be stepping-off points for future cooperation and struggle, or moments in a longer process of what Boaventura de Sousa Santos (2005, 20) calls the “dialogical and political work” of translation among social movements. As a gesture of kindness offered by commoners and indigenous peoples to potential allies who have grown up under the sign of “rights to nature”, advocacy of “rights of nature” may still turn out to be capable of preparing the ground for more radical practices of interpretation and re-interpretation.

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