

Green capitalism, and the cultural poverty of constructing nature as service provider

Sian Sullivan investigates the bonanza of ‘green’ business opportunities for capitalist investors in environmental crisis. But do communities who live in some of the world’s most biodiverse environments offer ways of relating with nature that are irreducible to monetised economics?

“People differ not only in their culture but also in their nature, or rather, in the way they construct relations between humans and non-humans.”¹

Loss

We hear a lot these days about loss. In April 2009, the International Monetary Fund (IMF) estimated that banks, insurance instruments and pension funds have ‘lost’ some US \$4.1 trillion from the global economy.² The amounts lost to taxpayers via government removal of the toxic assets littering the financial sector are so huge as to be almost meaningless. According to the IMF, UK taxpayers have already lost over £1.2 trillion to Britain’s financial sector,³ while in North America the Inspector General of the Troubled Asset Relief Program (TARP) stated recently that potential government/taxpayer assistance could total \$23.7 trillion.⁴ Meanwhile, the International Union for the Conservation of Nature (IUCN) asserts that the wildlife crisis actually is worse than the economic crisis, with almost 900 species lost already in an analysis of some 45,000, and no fewer than 16,928 of these currently threatened with extinction.⁵ Habitat loss to ‘development’ is a major cause of these extinctions. Greenpeace reports of the Brazilian Amazon that “one acre [is] lost every 8 seconds”, the hamburger-cattle sector identified here as the major driver of clear-felling in this landscape.⁶

Crisis capitalism and the creation of ‘value’

Notwithstanding the complexities beneath these alarming figures, they do seem to signal some sort of crisis, both of capitalism, and of ‘the environment’. Intuitively it makes sense to think that these crises might be connected in two key ways. First, that economic exploitation and the profit motive, in driving production and transformed consumption of ‘natural resources’, is causing and contributing to ecological crisis. And second, that the ecological crisis arising from these pressures is itself generating crisis in the global economy, through making manifest the material limits to economic production and consumption. This is the so-called Limits to Growth argument of the 1970s,⁷ which posited resource limits to economic growth, and the need to sensibly distribute resources as well as reducing production and consumption to avert both economic and ecological crises.

But this intuitive view – that ecological loss is entwined with and also signals economic crisis – seems to be somewhat naïve. To look at these connections another way is to see that capitalism thrives on crisis. This is its engine of innovation and creativity. As with the Kafkaesque derivatives markets that in part have pushed the international finance market into such recent toxicity,⁸ capitalism makes a virtue of crisis. If the risk of loss or hazard can

be priced, and this financial value captured via trade and speculation, then economic growth – the unassailable good of capitalist ‘culture’ – will be maintained, to the presumed benefit of everyone.

It also is in times of crisis that new forms of capitalist value, new frontiers of accumulation, and new enclosures and dispossessions, are created. In *The Shock Doctrine*, Naomi Klein forcefully argues that various crisis events, from natural disasters to terrorist attacks, in fact are central to the creation of the openings required for incursions of corporate capital investment, thinly masked by the seemingly liberating guise of instituting free markets and democracy.⁹

In this zeitgeist of crisis capitalism, the environmental crisis itself has become a major new frontier of value creation and capitalist accumulation. Referred to by terms such as “market environmentalism”,¹⁰ “green neoliberalism”¹¹ and “green capitalism”,¹² the understanding is that if we just price the environment correctly – creating new markets for new ‘environmental products’ based on monetised measures of environmental health and degradation – then everyone *and* the environment will win. If nature can be rationally abstracted and priced into assets, goods and services, then environmental risk and degradation can be measured, exchanged, offset and generally minimised. At the same time, the new financial

values accruing to nature's assets, goods and services might in and of themselves attract more financial value via speculative trade on stock exchanges. Indeed, stock exchanges focusing only on new environmental products now are arising, the Climate Exchanges in London and Chicago being key examples. These have been established for the sole purpose of brokering and trading the new commodity/currency of tradeable carbon – created as the vehicle via which climate-change-causing carbon emissions can be measured and ostensibly reduced.

An ecosystem at your service?¹³

Behind this monetisation of environmental crisis is a logic and language that transforms the global environment – Nature – into a provider of services for humans. This conceptual capture, and the economic rationalisation of nature's value that it permits, is facilitating the creation of markets for the exchange of 'ecosystem services' in the form of Payments for Ecosystem Services (PES).

Arguably this construction and discourse is justifying *right now* what in time might be considered a critical, cultural transformation in how relationships between humans and the non-human world are conceived, valued, managed and governed globally.

Conservation biologists have been labelling nature as service provider by using the language of ecosystem services since the 1970s.¹⁴ As noted above, this is a decade which also saw the first globalising statements of concern regarding the ecological limits to [economic] growth and the emergence of environmentalist discourses requiring development to be ecologically, as well as economically, 'sustainable'.¹⁵ Some years later, Robert Costanza and colleagues brought the concept of ecosystem services firmly into economics by estimating their annual value globally to be \$16-

54 trillion.¹⁶ The ensuing alliance between environmental economists and environmental campaigners has emphasised "convergence between commercial interest and environmental imperative" in demonstrating "the business case for sustainable development".¹⁷ At the same time, assertions of the monetised values for defined ecosystem services has led to the corresponding conclusion that currently they are not being valued for what they are worth, and that somehow they should be paid for. As Jean-Christophe Vié, Deputy Head of IUCN's Species Programme, stated recently: "[i]t's time to recognize that nature is the largest company on Earth working for the benefit of 100 percent of humankind – and it's doing it for free."¹⁸

In recent years, two phenomena have conspired to push these concerns and concepts together to generate a utopian win-win scenario of both mitigating environmental degradation *and* facilitating economic growth through pricing the ecological services provided by nature. The first is the 2005 publication of the influential United Nations Millennium Ecosystem Assessment (MEA), which highlights human-generated change of the biosphere and overwhelmingly uses the language of ecosystem services in speaking of the non-human world. These are further categorised into provisioning services (food, water, timber, fibre, etc.), regulating services (floods, droughts, land degradation and disease), supporting services (such as soil formation and nutrient cycling), and non-material cultural services (recreational, spiritual, religious, etc.).¹⁹ Through combining the quantification skills of ecological science and economics, the MEA proposes that breaking nature down into these increasingly scarce services,²⁰ quantifying their functionality, and assigning a price to them, will assist conservation by asserting their financial value; at the same time as fostering economic growth by creating new tradeable

assets.²¹

The second is the creation of a multi-billion dollar market in a new commodity – carbon – intended to mitigate (i.e. minimise) climate change by providing the possibility of profitably exchanging one of the gases contributing to anthropogenic global warming. As noted above, this is generating a market-based context for approaching the broader environmental concerns of the MEA. Like Adam Smith's putative economic 'invisible hand',²² the assumption is that both good environmental governance and the equitable distribution of environmental services will derive from the correct pricing of quantified environmental goods and services, combined with the self-regulating market behaviour that will emerge from their market exchange.

In this case, the financial price attributed to carbon is allocated to, and therefore captured by, heavy industry emitters. It is they who gain tradeable carbon credits (i.e. the currency representing carbon), for example, under the European Union's Emissions Trading Scheme.²³ Some (currently minimal) scarcity is built into the market by allocating credits at a level below what major installations require to cover their emitting levels, so as to meet the emissions reducing targets set by the Kyoto Protocol of the UN Framework Convention on Climate Change (UNFCCC). Once these credits enter the international financial system their future value can be speculated on (as with any other currency or commodity, including derivatives) and significant profits can ensue. In the wake of this, a veritable ecosystem of economists, stockbrokers and financial advisors has emerged to service trade in this new commodity, as epitomised by the Europe Climate Exchange in the City of London. This is "the leading marketplace for trading carbon dioxide (CO₂) emissions in Europe and internationally",²⁴ and basically a stock exchange for the

currency of tradeable carbon credits. Interestingly, the website of the Europe Climate Exchange provides very little information connecting this exchange with environmental impacts through the reduction of atmospheric CO₂. Such presentation seems to emphasise that this is a product with a great deal to do with trade, finance and profit, operating at a rather large remove from the materiality of global climate and eco-systems.

The Ecosystem Marketplace

Of course, payments for the environmental services produced by nature's labour do not go to the environment itself, but to whoever is able to capture this newly priced value. A key logic is that such

by water-users upstream and PES schemes may be established to alter upstream behaviour so as to maintain downstream water quality and access. Paradigmatic here is the case of Vittel (Nestlé Water) in north-east France, who came to a financial agreement to compensate farmers for altering their nitrate-based fertilising practices upstream which were contaminating the aquifer producing the bottled mineral water sold by the company.²⁶ In this case the key parameters were relatively clear to define. They included the environmental good (uncontaminated water), the potential 'servicers' of that good (nitrate-using farmers), the environmental problem (contamination by nitrate-based fertilisers), and the purchaser of the environmental good (Vittel). Further

alternatives, prior to the long-term establishment of a PES scheme. Even with these factors, the initiative cost Vittel some 24.25 million euros to develop in its first seven years (an estimated 980 euros per hectare per year),²⁷ and it took some ten years following the initial four-year period of research for the scheme to become operational.

Increasingly, PES involves the creation of derived environmental 'products' that are agreed by sellers and buyers to represent some sort of measure of environmental health or degradation. An example might be the creation of schemes financed as commercial deals by private investors whereby new products representing a defined environmental good are sold both

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payments will act as compensation for economic opportunity costs in contexts where environmental-use practices are altered so as to conserve ecosystem services. As stated by Conservation International, “the payment for ecosystem services concept helps address the destruction of Earth's habitats, landscapes and ecosystems by assigning a value to these services, and compensating the people, communities and countries whose actions enhance or protect ecosystem services and the costs that work incurs.”²⁵

This might take the form of relatively simple direct payments for transformed behaviour to maintain a particular and clearly defined environmental good. In water management, for example, the water available to those living downstream can be directly negatively affected

critical factors are embodied here with implications for the applicability of such initiatives elsewhere and over broader geographical scales, such as between contexts in the urban industrialised north and the rural 'underdeveloped' south. The wealth of the purchasing company and the continued market value of their product, provided economic sustenance for their interest in pursuing the ecosystem services exchange. The land constituting the source area for the water is enclosed as private property under clear tenure arrangements, permitting the establishment of relatively direct contracts between service purchasers and providers. And Vittel was able to collaborate with a professional and well-funded prolonged (four-year) period of research on the connections between farming practices, water quality and potential collaborative

to fund conservation practice and to generate a return to investors. The Malua Wildlife Habitat Conservation Bank (MWHCB), also referred to as the Malua BioBank, in Sabah, Malaysia (www.maluabank.com) might be considered a paradigmatic example here. In this scheme a collaboration between private investors and the Sabah government has created saleable 'Biodiversity Conservation Certificates', each representing 100m² of rainforest restoration and protection. Over a 50-year license of conservation rights to the BioBank from the Sabah government (via the regional state organisation Yayasan Sabah, www.yynet.org.my), the sale of certificates is intended to “make rainforest rehabilitation and conservation a commercially competitive land use.”²⁸ It is projected that the initial US\$10 million of private investment

committed for the rehabilitation of the Malua Forest Reserve over an initial six years will be recovered from the sale of these certificates and also will endow a trust fund (the Malua Trust) to fund the long-term conservation management of the BioBank over the remaining 44-year period of the license. In this case, investment is via the Eco Products Fund, LP, a private equity investment vehicle managed by the international asset brokers Equator Environmental, LLC (whose self-defining phrase is “creating value by investing in ecosystems”, equatorllc.com) and New Forests Inc. (www.newforests-us.com). As a member of the collaborative Clinton Global Initiative (www.clintonglobalinitiative.org) between governments, the private sector, NGOs and “other global leaders”, the Eco Products Fund commits US\$1 million over 6-10 years towards finding ways, globally, “[t]o realize value from illiquid environmental assets such as carbon, water, and biodiversity, and to use innovative financial structures to represent the value of these critical services in the marketplace.”²⁹

In the case of the Malua BioBank, any profits from the sale of biodiversity certificates are to

be shared between the forest management license holder and the investor. The purchase of certificates does *not* constitute an offset against rainforest impacts elsewhere, and as such is designed to constitute a simple purchase of conservation. It is projected that by the end of the initial licensing period the initial endowment “will be fully capitalized and this funding can be used either to renew the conservation rights to the Malua Forest Reserve or to establish a conservation bank on another property with high biodiversity value.”³⁰ Within-country ‘conservation banks’ and ‘species banks’, involving the creation and trading of ‘credits’ representing biodiversity values on private land, also are proliferating, particularly in the US.³¹

While purchase of the Malua BioBank’s biodiversity certificates is not designed to offset environmentally damaging activities due to the transformation of landscapes through economic development elsewhere, much of the anticipation regarding the new pricing of ecosystem services revolves around exactly this. Thus the attribution of new prices to conserved land already owned by commercial companies

might be mobilised so as to offset environmental degradation caused through resource extraction elsewhere. Even more attractively, companies might be able to trade newly priced marketable ecosystem services on appropriated land that they now own, thereby capturing new financial value from the new construction of nature as service provider. Mining conglomerate Rio Tinto, for example, are exploring with the IUCN “opportunities to generate marketable ecosystem services on land owned or managed by the company.”³² These might include “potential biodiversity banks in Africa, as well as the opportunity to generate marketable carbon credits by restoring soils and natural vegetation or by preventing emissions from deforestation and degradation.”³³ Environmental credits rewarded to businesses for ecosystem improvement activities also might be “‘banked’ against future environmental liabilities” or sold to other land developers “to compensate for the adverse environmental impacts of their projects”,³⁴ with a new generation of “commercial conservation asset managers” required to broker these exchanges and revenues.

These new forms of ecosystem value

Acronyms of ‘green’ capitalism

ARIES	Artificial Intelligence for Ecosystem Services
CI	Conservation International
CONFENIAE	Confederation of Indigenous Nationalities of the Ecuadorian Amazon
ECX	Europe Climate Exchange
EUETS	European Union’s Emissions Trading Scheme
FAO UN	Food and Agriculture Organisation
IMF	International Monetary Fund
IUCN	International Union for the Conservation of Nature
MWHCB	Malua Wildlife Habitat Conservation Bank
MEA	United Nations Millennium Ecosystem Assessment
PES	Payments for Ecosystem Services
REDD	Reducing Emissions from Deforestation and Degradation
TARP	Troubled Asset Relief Program
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNFCCC	United Nations Framework Convention on Climate Change
WBCSD	World Business Council for Sustainable Development
WWFN	World Wide Fund For Nature

thus become conventional business opportunities for investment: the ensuing transformation of ecosystem services into marketable assets provides “new trading opportunities” such that buyers and sellers of these services can generate profit that “does not imply the loss of natural assets.”³⁵ Large corporations, investors and investment brokers now are moving to claim slices of emerging ecosystem markets, and the potential finance flows accruing from newly priced species, ecosystems, services and environmental products.

The new global multi-billion dollar trade in carbon, in particular, is providing a market-based model, embraced by both business and major environmental organisations, for pricing and exchanging environmental products across the environmental spectrum under the rapidly proliferating arenas of PES and the proposed programme administered by the United Nations Environment Programme (UNEP) for Reducing Emissions from Deforestation and Degradation (REDD). A critical component of the logic underlying these approaches is an assumption that environments, emissions and effects in very different locations somehow are equivalent and therefore substitutable, such that they allow negative impacts in one location to be offset against environmental investments in another. So the REDD programme proposes equivalence



Figure 1.

The world according to the World Business Council for Sustainable Development: a smooth earth populated by corporate logos. From the WBCSD display at the 2008 World Conservation Congress of the International Union for the Conservation of Nature.

between carbon emitted in the fossil-fuel fumes of cars and industry etc., with that stored in living and decomposing biomass in the myriad configurations of long-evolved and diverse assemblages of species. Emissions therefore can be offset against newly priced carbon stored in standing forests, principally in ‘developing countries’. An accompanying logic is that the new financial value accruing to standing forests will act to reduce the carbon emissions produced by their potential transformation into different landscapes which currently might be more economically profitable (to some people at least); examples might include the clear-felling of the Amazon for hamburger-cattle, soya or oil production.

But significant questions remain. Are the molecules of CO₂ emitted through fossil-fuel burning really equivalent to the carbon stored in complex terrestrial ecosystems whose assemblages have evolved over many millennia? Do such offsetting schemes actually reduce environmental impacts (e.g. levels of CO₂ emissions), or do they instead provide incentives to continue to profit from these emissions and their trade? And how does trade in derived environmental products relate to and affect the peoples, livelihoods and lifeworlds located in the landscapes from which these products are derived?

Nevertheless, new markets for ecosystem services and other ecological products now are proliferating, with an accompanying array of brokers advertising ecological wares online. Websites and companies abound with names such as ‘Ecosystem Marketplace’ (www.ecosystemmarketplace.com), ‘Species Banking’ (www.speciesbanking.com) and ‘Climate Change Capital’ (www.climatechange-capital.com). At the same time, the major global conservation charities such as

Conservation International (CI), The Nature Conservancy, and the World Wide Fund for Nature (WWF) are embracing PES as a critical tool for generating and distributing the finance needed for conservation activities. A CI glossy brochure called *Nature Provides*, published in August 2009, thus announces the forthcoming launch of ARIES – Artificial Intelligence for Ecosystem Services – described as a “web-based technology... offered to users worldwide to assist rapid ecosystem service assessment and valuation at multiple scales, from regional to global.”³⁶ This alliance between investment capital, business and environmental organisations is being fostered by the world’s oldest and largest global environmental organisation – the International Union for the Conservation of Nature (IUCN) – a network of governments, donor agencies, foundations, member organizations and corporations (www.iucn.org). An onlooker at the four-yearly IUCN World Conservation Congress in Barcelona in October 2008, for example, would be forgiven for thinking that multinational corporations now are the planet’s conservationists. At this event, the World Business Council for Sustainable Development (WBCSD) was particularly visible. This is a network of the Chief Executive Officers of some 200 corporations, whose mission statement is “to provide business leadership as a catalyst for change toward sustainable development, and to support the business license to operate, innovate and grow in a world increasingly shaped by sustainable development issues.”³⁷ The image in Figure 1, taken at the prominent WBCSD stand at the 2008 World Conservation Congress, is suggestive of its planetary reach and ambition. It depicts the brand logos of many of the world’s largest multinationals, stretching across an abstract earth, smoothed of difference, diversity and inequality. This is a world good for capital.

But is it also good for cultural and ecological diversity?

A unifying language?

Recently, the UNEP and the IUCN described ecosystem services as a “unifying language” in global environmental policy.³⁸ This indeed may be the desire. Significant questions remain, however, with serious relevance for an anthropology concerned with the distribution of power and voice in global decision-making. Who is creating and writing this language and for whom? What are the ontological and epistemological assumptions built into the construction of nature as service provider – i.e. what is understood to be the nature of nature? And what are thereby legitimated as appropriate

Some of these questions can be approached through the brief descriptions of PES concepts and schemes outlined above. The construction and monetisation of nature as service provider clearly produces a range of significant transformations. Through PES the non-human world in all its diversity and mystery becomes the provider of services for humans. People dwelling in areas now valued for the ecosystem services they provide to people in other locations become the necessary custodians and providers of these services, with recompense from service-users being dependent on services received. This may be a double-edged sword for people living in newly priced service-providing landscapes, especially in the global south. Continuing a long history of displacement for

the creation of new ecological commodities and markets – accountants, brokers, bankers and assisting ecological scientists – become the expert mediators and managers of monetary value for both.

All these transformations emphasise conceptual difference rather than continuity between human and non-human worlds. Nature somehow is backdrop to, rather than co-creator of human activity. At the same time they reinforce somewhat Hegelian master-servant relationships between human and non-human realms, extended further to those between ‘experts’ on and inhabitants of newly priced service-providing landscapes.⁴⁰ Nature serves culture; and those dwelling in landscapes newly monetised for their provision of ecosystem services are themselves



Photo: S. Sullivan

Figure 2. Nathan #Uina Taurob and family greet and gift the spirits of the land in |Giribes plains, North-west Namibia.

methods for claiming ‘nature knowledge’? How are human/non-human relationships being structured, both materially and conceptually, in the process of creating and instituting this ‘unifying language’? And what knowledges and experiences are being othered and displaced through the parlance and practice of ecosystem services markets?

environmental conservation,³⁹ food-producing practices and cultures may be restructured and constrained in the process of shifting from direct production for subsistence and livelihoods to producing environmental service-oriented landscapes. And finally, those numerate in the labyrinthine abstractions accompanying

constructed as servers for visions of the appropriate nature of these landscapes, as perceived by policy and technical experts who, while globally mobile, frequently are based in distant urban locations.

These transformations are critical for cultures as well as for landscapes worldwide. I opened this article by

noting the ways in which economic and ecological crisis narratives revolve around assertions of loss. To complete the picture, the 2009 United Nations Educational, Scientific and Cultural Organisation (UNESCO) Atlas of the World's Languages in Danger announces the loss of 233 known languages, with a further 574 classified as "critically endangered"⁴¹. If language is a key lexicon through which culture is expressed, exchanged and made meaningful, then the loss of languages equates with the demise of cultures. The causes are complex interactions of marginalisation, 'acculturation' to modern monetary and capitalist culture, and direct displacement. The outcome is a subtle 'culturecide': the death of collective identities through displacement by a dominant and globalising culture that has among its norms and values certain disciplining assumptions about the nature of reality. These include rather strict conceptual separations between culture and nature (echoed by that between mind and body, male and female, civilised and wild and so on) – separations which tend to privilege the first part of each of these binaries; together with the elevation of monetised exchange as the key measure and mediator of value. As indicated by the global loss of languages, the peoples, cultures and epistemologies that are othered in this capitalist structuring of values can become rather "disposable"⁴² in part through constructing them as poor, marginal, and often as environmentally problematic.

As an extension of a globalising capitalist culture which has these assumptions at its heart, it is difficult not to see the unifying language of ecosystem services as part and parcel of these processes of cultural displacement in the realm of human/non-human relationships, understandings and values. In part this is because the proliferating freedoms and futures espoused by free-market environmentalism simultaneously close off possibilities

for other freedoms and futures in how relationships between human and non-human worlds are practised and expressed. Many forms of value, appreciation, understanding and experience of non-human worlds simply are incommensurable with economic pricing mechanisms, and are displaced or closed off completely in the process of pricing for monetised exchange.⁴³ Where money and capital are the measures of wealth, economically marginalised indigenous cultures frequently are seen only as materially poor and thus requiring intervention to foster economic development. A recent UN Food and Agriculture Organisation report thus focuses on the desire to better capture the ecosystem services provided by dryland ecosystems globally, in part through shifting the livestock-based livelihoods of 'the poor' who dwell in such lands.⁴⁴ As I have noted elsewhere,⁴⁵ the 'poor' in these contexts include peoples as diverse as Maasai of East Africa, Raika pastoralists of India's Rajasthan, and Quechua-speaking highland herders in Peru: a global fabric of rich and different cultures sustained through mixed farming practices of which livestock constitute a major part. Importantly, such peoples may not define themselves and their land-entwined lifeworlds as 'poor', as indicated by Maasai in the strong statement that "the poor are not us."⁴⁶

A particular irony here is that many of the endangered languages noted above are those of so-called indigenous cultures; of people who retain and can trace some form of coherent connection with the landscapes with which their lineages are entwined. Often these connections seem to be in landscapes that currently are highly valued for their biodiversity and other environmental riches. At risk of essentialising or romanticising, perhaps it might be that the complexities of indigenous cultural engagement with these landscapes have something to do with their current conservation

value. It might also signal that disappearing languages and their associated cultures have something relevant to say and teach about other possibilities for what it means to be and become human today, in dynamic relationship with non-human worlds.

Cultured landscapes

Despite a problematic past in service to colonial endeavours, anthropology has relevance here as an academic discipline that at least makes some effort to understand and enter into culturally unfamiliar experiences and conceptions of being human. With Damara or ≠Nū Khoen people living in the dry, open landscape of north-west Namibia, I have been privileged to witness, experience and learn some very different ways of relating with the non-human world. Here, for example, the process of acquiring food and other substances, while a pragmatic effort to procure resources, at the same time also required constant conversation and exchange with the ancestors and other non-human presences populating the landscape. Non-human worlds were alive to be spoken to, and variously remonstrated with and celebrated through words, song, dance and gift-giving. People were not separate and alienated from the non-human world; they were co-creators with it.

To illustrate this, let me relate one story here.⁴⁷ Figure 2 is an image taken in 1995 at a place called !Giribes, which are large open grassy plains to the northwest of a larger settlement called Sesfontein or !Nanilaus. We had driven there early in the morning, and the sun was starting to burn. I had my notebook and plant press at the ready, and was keen to get going with the resource-use documentation – the knowledge collection, if you like – that I hoped to do that day. But the first thing that these three people did – they are Nathan ≠Ūina Taurob on the right, his daughter and her partner – was to move some way away from the car, sit down and start talking out at

the landscape. I remember feeling slightly bemused and impatient at the time, anxious to get on with the ‘real work’ of resource collection and documentation. But I was curious enough to ask what they were doing.

The answer I received was that this was *aoxu* – the practice of connecting with and giving something away to their ancestors remaining in this landscape and to the spirits of the land, to ask for safe passage and for success in finding the foods they wished to gather. They were giving away tobacco – ꞑNū Khoen, particularly of Sesfontein/!Nanilaus, have long been known regionally for the pungent tobacco they grow in small gardens – and also the leaves of *tsaurahais* or *Colophospermum mopane* valued locally for their healing properties. The direction they are facing is to the north – towards the settlement of

relationship with the other sentient beings making up what we now call biodiversity. In this way of doing things, all resource-use practice simultaneously is a conversation, a negotiation and an exchange that binds people into multilayered and multifaceted reciprocal arrangements with ancestors, spirit and with other species. It is not just about something that is taken to be consumed; it also is about something that is returned, through direct material and energetic exchanges with the non-human world. Human beings can thereby communicate with and serve the known and unpredictable manifestations of the non-human world, and in doing so affirm reciprocal moral obligations as well as make moral sense of phenomena that cannot be completely knowable or ultimately controlled. Infusing this is an epistemic and ontological orientation to non-human worlds that

the need for “ensuring effective participation” of indigenous peoples and local communities,⁴⁹ and many such communities may see participation in these schemes as a means of generating income and gaining footholds in global economic structures. Others, however, express resistance to ‘being participated’ on the programmatic terms laid out by these schemes. A recent declaration of Confederation of Indigenous Nationalities of the Ecuadorian Amazon (CONFENIAE) thus states that: “[w]e reject the negotiations on our forests, such as REDD projects, because they try to take away our freedom to manage our resources and also because they are not a real solution to the climate change problem, on the contrary, they only make it worse.”⁵⁰ Such resistance denotes a missed opportunity. This is not in terms of local peoples coming on board in these narrowing

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Purros. This is the land where Nathan ꞑŪina grew-up; it is the landscape that he knew and loved, and with which his heart as a healer was connected. Nathan and his family were no longer able to live there, but in the 1990s they continued to return to these areas, sometimes for several weeks at a time. Most of this movement was completely invisible to the various formal administrations of the region. And some of it meant moving into tourism concessions, run by commercial enterprises, to which they officially no longer had access.

It took a fairly prolonged period of unlearning of my own encultured assumptions regarding the nature of reality to reach some understanding of what might be going on here. From this and other experiences, I know now that it is possible for human beings to embody an implicit ethos of reciprocity in

embraces continuity with, rather than separateness between, these realms, and that encourages movements with, rather than ownership and management over, dynamic ecosystem processes. I perceive also that this practice and logic is encountered in remaining shamanic cultures worldwide – cultures that interestingly also seem to be those who have maintained currently much sought after biodiversity. There is depth and diversity in the coherent understandings and communications with an animated non-human world embodied by many of the world’s now disappearing cultures,⁴⁸ approaches that are opaque to a modern world whose cosmovision rests instead on fetishised commodities, financial transactions, private property and competition.

International PES policy developments such as REDD assert

trajectories for determining value for the global environment. It is in terms of missed opportunities for listening to and learning from different ways of conceptualising and enacting relationships with the non-human world.

Serving nature?

Green capitalism and market environmentalism are rapidly becoming the dominant policy and political choices linking environmental health with economic development. In this paradigm the creation and capture of market value for the services provided for humans by the non-human world is considered the most efficient and sustainable means of mitigating global environmental problems while maintaining and even enhancing economic growth. In this article I ask some questions of this significant

conceptual reframing of nature as service provider. What might this discourse say of the ways in which our collective relationship with the non-human world is construed and constructed? What is othered and excluded in the process, and what significance does this have for understanding both the phenomenon of nature and for the cultural and epistemological inclusiveness of contemporary environmental agendas? And finally, what potential does the understanding of nature as service provider really have for kindling health in the earth's psychosocial and eco-systems?

Gretchen Daily and colleagues represent a common optimism in claiming that "[t]he main aim in understanding and valuing natural capital and ecosystem services is to make better decisions, resulting in better actions relating to the use of land, water, and other elements of natural capital."⁵¹ Such a statement, however, is devoid of political and epistemological context. It effects an illusion of solution through ecological modernisation⁵² and linear progress.⁵³ At the same time, and in common with most international environment and development initiatives, it uses a depoliticised language that excises the significance of 'for who' and 'by whom' questions in this new governance arena.⁵⁴

The core idea underlying these initiatives is that so-called environmental services have not been correctly valued to date. Of course I would agree that capitalist culture has tended to ride roughshod over both biological and cultural diversity. But it seems to me that *pricing* something financially is not the same thing as *valuing* it.

We are critically impoverished as human beings if the best we can come up with is money as the mediator of our relationships with the non-human world. Allocating financial value to the environment does not mean that we will embody practices of appreciation, attention, or

even of love in our interrelationships with a sentient, moral and agential⁵⁵ non-human world. Instead, it lowers "the moral tone of social life" and, through doing so, it furthers damage to both humans and ecosphere because "the pricing of everything works powerfully as a device for making morality and love... seem irrelevant."⁵⁶

We are bearing witness to another significant and accelerating wave of enclosure and primitive accumulation to liberate natural capital for the global market. Commodification now extends from genes to species and to ecosystems, i.e. to all the domains of diversity that are delineated by the Convention on Biodiversity (www.cbd.int). The continued capture and monetised exchange of the non-human world in the form of Payments for Ecosystem Services (PES) seems set to have an impact on global human/non-human relationships as significant as that which began with the transformation of land into individualised property in England from the Tudors onwards: formalised throughout Europe through escalating Enclosure Acts and accompanying property law, and exported globally via European colonial adventure.⁵⁷ We know from history that this past revolution in capital creation, accumulation and investment had major social and environmental implications, reducing diverse cultures to labour in the service of capital, and disembedding peoples' relationships with landscapes in the process.⁵⁸

It seems clear that collectively we are in need of some radically different ways of valuing the global environment. But is it possible to turn instead for training and inspiration to those who, in many different contexts, and often against the odds, seem to have both valued and served nature's 'services'? And through doing so is it possible to (re)claim and (re)learn communicative relationships with non-human worlds: worlds which express the same moral, creative, mysterious and

playful agencies that humans also embody? Perhaps it might be that ways of relating with and valuing non-human worlds that are othered by modernity and capitalist culture, in fact are those offering openings into possibilities for dwelling that are less hungry, more sustainable, and more meaningful and poetic. But it is only through stopping to listen that it is possible to hear this. ■

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