

VALUING COUNTRY**Jane Gleeson-White**

IT WAS READING Alexis Wright's novel *Carpentaria* (Giramondo, 2006) in 2007 that introduced me to the idea of 'country': land as a living being with meaning, personality, will, a temper and ancient reciprocal relationships with its people governed by law. This made sense to me. I've felt the living presence of this land and I care deeply about how we treat it. I'm especially interested in how our thinking about land shapes our behaviour towards it. And I've been preoccupied by ideas of country and two new ways of conceiving it – 'natural capital' and 'rights of nature' – that seek to address the many ecological crises currently afflicting our planet.

I first heard about natural capital in 2010 when I was writing about accounting and grappling with the fact that traditional methods of calculating the wealth of a nation make living nature invisible. In that terminology a tree is worth more dead than alive, felled for timber rather than providing shade, shelter and homes for animals, making oxygen from carbon dioxide, bolstering soil, filtering water. Because of this anomaly, pursuing economic growth, or increases in gross domestic product (GDP), encourages us to trash and exhaust the natural world – which we have been doing so successfully.

The economist and politician Marilyn Waring had first alerted me to this dangerous omission. After becoming the youngest ever member of the New Zealand parliament in 1975, she had discovered that the things she most valued about her country – its pollution-free environment, safe drinking water, forests, lakes and beaches – counted for nothing in its economic measurements. Some four decades on, to address this, environmental accounts are being developed to measure and value so-called 'natural capital'. In 2012 the United Nations published its first guide to creating environmental accounts to measure natural capital and relate it to economic accounts. Called the System of Environmental-Economic Accounting (SEEA), this was the UN's first new statistical standard since 1953, when it released its System of National Accounting (SNA) as part of the postwar reconstruction of Europe. The SNA inaugurated an era of national GDP accounting and growth economics. It's been hailed as one of the great inventions of the twentieth century. The SEEA, designed to demonstrate the environmental impacts of economic growth, has similar epoch-shaping potential.

I was directed to the idea of rights for nature by a scientist from the Bureau of Meteorology in Hobart in 2013. At the end of a talk I'd given on the history of accounting, he asked if I'd read Christopher Stone's 1972 article 'Should Trees Have Standing?', which he thought was an interesting – and possibly better – way of addressing the problem of nature's invisibility in the monetary economy. I hadn't, but thanks to him I did.

The question Stone's title asks had come to him, a professor of law, when he was teaching a class on the evolution of property law. Sensing his students were losing interest at the end of a lecture, he caught their attention by wondering aloud: 'So, what would a radically different law-driven consciousness look like?... One in which Nature has rights... How would such a posture *in law* affect a community's view of *itself*?' As he recalled in 2010, 'This little thought experiment was greeted, quite sincerely, with uproar.' He had no idea how a tree could have rights, but to restore his credibility he set out to demonstrate that the idea of nature having legal rights was not 'incoherent'.

This he rapidly did, publishing an article about a case then due to be heard by the Supreme Court of the United States: *Sierra Club v Morton*. The suit was brought by the club to restrain federal officials (Morton) from approving the Walt Disney Company's plan to build a ski resort in California's Mineral King Valley. In his article, Stone argued that the valley ought to have legal standing because it was the entity threatened with harm, not the Sierra Club. While the Supreme Court ruled that the club did not have standing to bring a case for harm to the valley, Stone's argument was famously endorsed by the dissenting opinion of Justice William O Douglas, who concluded by remarking that environmental objects should be able 'to sue for their own protection'.

These arguments inspired a movement to protect the natural world by using Western legal constructs, such as personhood and rights, to shift its status from property to a subject in law – just as the abolitionists and suffragettes had shifted the legal status of African-American slaves and women from that of property to rights-bearing persons. Led by the US-based Community Environmental Legal Defense Fund (CELDF), the first law recognising the rights of nature was passed in 2006 by Pennsylvania's Tamaqua Borough. It was both unprecedented and controversial. In a derisive piece, *Forbes* said it 'flies in the face of thousands of years of Western legal precedent that treats nature strictly as property'. But as environmental destruction continues apace, this movement has only gathered force. In 2008, Ecuador became the first country to recognise rights of nature in its national constitution, and since then rights-of-nature laws have been passed in Bolivia, New Zealand, India and Colombia.

THESE THREE DIFFERENT ways of thinking about the natural world – country, natural capital, rights of nature – are critical to any consideration of place in Australia in the twenty-first century. And there are resonances between them that are worth exploring.

Kimberley traditional custodian and scientist Dr Anne Poelina sees rights of nature as a way of representing her Fitzroy River country in Western law. This connection is made clear in the 2016 Fitzroy River Declaration, which recognises the river as a living ancestral being with its own life force, its own personality and right to life, and the duty of its traditional owners to protect the river for current and future generations.

'It's the first time in Australia that both first law and the inherent rights of nature have been explicitly recognised in a negotiated instrument,' Poelina says.

While the Fitzroy River Declaration has limited legal power, the Yarra River Protection (Wilip-gin Birrarung murrn) Act 2017 recognises a river as a living being with a right to exist in Western law. Informed by Elders of the Yarra River's Wurundjeri nation, the act is the first Australian law with a rights of nature 'flavour', as Bruce Lindsay, a lawyer with Environmental Justice Australia, describes it. And in the legal initiatives undertaken by the Australian Earth Laws Alliance (AELA), Dr Michelle Maloney also works closely with traditional owners. In August 2018, after consulting with Aboriginal custodians, AELA launched a petition to recognise the legal rights of the Great Barrier Reef.

There's also an unexpected connection between rights-of-nature thinking and natural-capital accounting – at least in the view of national accountant and SEEA lead author and editor Carl Obst, who's called their relationship a 'match made in heaven'. At first, his claim shocked me: nature's rights seemed to relate more to Aboriginal country than to ecosystem accounting. Obst was to show me otherwise.

But it's almost impossible for me to reconcile Obst's view of the natural world – as a resource for human consumption that we could manage better with ecosystem accounting – with writer Bruce Pascoe's thinking on country. In his award-winning book *Dark Emu: Black Seeds – Agriculture or Accident?* (Magabala Books, 2014), Pascoe reveals how Aboriginal people managed country – including growing, irrigating, harvesting and storing crops.

In November 2017, when I asked Pascoe why he'd written the book, he said:

My ambition is that we uncover what Aboriginal people were really doing, because the centre of Aboriginal law right around the country, even though there were 420 language groups in Australia, every one of them believed that Earth was our mother and that our whole responsibility was to the mother. We came second. It was the earth itself that was the most important thing and our law, our spirit and our economy were wedded. We couldn't do anything which damaged the earth.

Pascoe was speaking by phone from his home near Melbourne to a climate-change lab in Robert Rauschenberg's studio on Captiva Island off Florida. Each guest had been asked by the organisers – Tabitha Jackson from the Sundance Film Festival and artist Lynette Wallworth – to invite one person to talk by Skype during the six-day lab. I'd chosen Pascoe because I wanted to ask him about the opening lines of *Dark Emu*: 'The fate of the emu, people and grain are locked in step because, for Aboriginal people, the economy and spirit are inseparable.'

The economy and spirit are inseparable. Such a sentence is unimaginable in Western economics, a spiritually bankrupt mode of thought completely dissociated from the ground beneath our feet. But that ground, that imperilled earth – our only real wealth – is the foundation of the knowledge of country that Pascoe is intent on sharing.

The key idea is that humans come second to Earth. Given climate change, given the way we're ruining the Earth as if it were not our only home, such knowledge is vital. As Pascoe understands it: 'Human survival on a healthy planet is not a soft liberal pipe dream; it is sound global management and the deepest of religious impulses.'

Responding to another question from Captiva – about the widespread belief that the development of agriculture helped to create our competitive, warring culture, compared to *Dark Emu's* picture of Aboriginal people growing crops and peaceably distributing the surplus – Pascoe explained:

We had yam fields that stretched across hundreds of kilometres and they were managed by groups of people, and the people at one end of that field couldn't understand the language of the people at the other end of that field, but they had a spirit language or a commercial language which transcended their own language, with which they could communicate about management of the land and passage across that land.

Pascoe is fascinated by the fact that people could co-operate across such large distances and over such a long period of time, sharing the harvest of the land. When asked how long this was, he said: 'Our people believe that we've always been here on this continent and the archeological evidence is supporting that now.'

This ancient Aboriginal lineage and the knowledge of country that Pascoe speaks of remind me of Douglas's dissenting opinion in *Sierra Club v Morton*. Speaking of the issue of 'standing', Douglas said that if nature had legal standing, although its non-human beings – 'the pileated woodpecker as well as the coyote and bear, the lemmings as well as the trout in the stream' – could not speak for themselves in court, 'those people who have so frequented the place as to know its values and wonders will be able to speak for the entire ecological community'.

This seems like sound reasoning. Australia's First People have watched seas rise and ice ages thaw. They have *so frequented the place* that they know its values and its wonders in the profoundest possible way. *Tracker* (Giramondo, 2017), Alexis Wright's collective biography of Aboriginal economist Leigh Bruce 'Tracker' Tilmouth, gives a striking illustration of this intimacy with place. Sitting by a lake one day, Tracker pointed to a lily and said:

We have stories about the petals above, about the stems, about the roots, we have different stories about each different part of that lily, not just the lily, but every part of that lily we've got different stories about it. That's how deep our understanding and our knowledge of the country is.

Such knowledge of country acquired in an unbroken tradition over millennia is unique. But what power of caring could be unleashed if we all took the time to attend to the particularities of our places?

OPENING THE FIRST international Rights of Nature Symposium in New Orleans in October 2017, Professor Oliver Houck of Tulane University Law School clearly stated the potential of this new legal paradigm: 'Capitalism is fundamentally opposed to preserving nature. We need to limit capitalism and the rights of nature is a powerful way of taking on capitalism.'

Houck was part of the original wave of lawyers who formulated the first national environmental laws in the US in the 1970s. With snowy hair and grey suit, he seemed an exemplar of conservatism. But pacing the floor, gesticulating emphatically, he recalled how his mind had opened to the necessity of rights-of-nature law, moving from 'who needs it?', to 'I'm curious', to 'voila!'. When the question of nature's legal standing first hit the radar in 1972 with *Sierra Club v Morton*, Houck was practising environmental law in Washington, DC. He thought it was interesting, but perhaps not relevant. He didn't give rights of nature a second thought until his Ecuadorian graduate students raised it three decades later; to learn more, he started teaching a seminar on it. His own 'eureka moment' came while watching a flight of whistling ducks over the Mississippi levy: he realised they were there for themselves and had a right to be there.

From there, four things flowed. First, that all the legal battles he'd ever been involved in were between two sets of humans fighting over how to use nature, but nature usually lost. In the rights-of-nature model, suddenly there was a third party at the table: nature. And it had its own interests, which were measurable: in biophysical counts such as parts per million, cubic feet per second, the diversity of trees. From this came Houck's second realisation: that nature's needs became a new bottom line – a potentially powerful idea because it posited a measurable limit below which environmental protection could not fall.

His third insight was that in recognising that nature had a right to exist, he was being very honest, because he'd actually been representing nature all along without realising it. And he knew, in this dishonest age, that there was power in such honesty. Last but not least, he understood the connection between rights of nature and what he called 'the untapped power of the human DNA and the human heart' – or the power of love.

If that power of love were tapped, he said, I have a feeling it could do great things for the planet. Think of the irony of this. Rights of nature may be one of the best ways...of humanising human beings. It's a mind change.

In New Orleans in 2017, I scribbled down Houck's words with mounting excitement. Could the future of human life on Earth be about the power of our hearts to open our minds?

In his original 1972 article, Christopher Stone had mused similarly on the mind-changing, humanising potential of rights-of-nature thinking. Having examined the legal rationale of his idea, he speculated on the 'psychic and socio-psychic' implications of leaving behind the Enlightenment view of nature as a collection of 'useful, senseless objects' and giving trees standing. Such a shift might make us see that our wellbeing and that of nature are so inextricably linked – part of a continuum and not mutually exclusive – that we could conceive of 'a new "us" that includes the environment'. More than forty-five years ago, Stone already understood that such expanded awareness of collective human-nature identity would entail relinquishing 'some psychic investment in our sense of separateness and specialness in the universe', relinquishing some hubris. This mind shift sits at the heart of his essay. It also recalls Pascoe's words: 'I'm just trying to encourage people to think about the Earth first rather than themselves in the way we conduct ourselves in the world.' These ideas – Stone's from 1972 and Pascoe's from over 65,000 years of experience – are now further charged by the many existential threats to life on Earth, and are today finding their own new time and audiences.

Michelle Maloney followed Oliver Houck's introduction in New Orleans, bringing an Australian perspective to the opening panel at the symposium. As AELA's indefatigable national convenor, Brisbane-based Maloney also represents Australia at the Global Alliance for the Rights of Nature. In her view, Australia might be 'the last coal colony on Earth', but she also described it (in legal terms) as the longest continuous bioregional Earth-centred governance system on the planet – and one only more recently overridden by medieval (British) property laws. Maloney had co-founded AELA in 2012 to promote Earth jurisprudence over those more recent laws that define nature as property. For Maloney, this movement is inspired and led by Indigenous traditions of Earth-centred law and culture, but it's also 'whitefellas talking back to the white system': 'it's looking back to the Western legal governance system and [asking], "What kind of culture develops the systems we have now that created such devastation? Can rights of nature be a bridge into a different, Earth-centred way of being?"'

Australia's first and so far only legislation with a rights-of-nature component is the Yarra River Protection (Wilip-gin Birrarung murrong) Act 2017. Passed by the Victorian parliament in September 2017, it affirms both the Wurundjeri people as the Yarra River's traditional owners and their understanding of the river as a living system with intrinsic value.

In June 2017, Wurundjeri Elders introduced the bill into the Victorian parliament with planning minister Richard Wynne. Addressing the gathering, Elder Alice Kolasa described the Birrarung (the Yarra waterway and land) as 'central to our cultural, spiritual, social and economic wellbeing since the Dreaming'. With this act, she noted, the parliament was simply catching up to her people's ancient knowledge: 'The state now recognises something that we, as the First People, have always known, that the Birrarung is one integrated living entity.' The act's title and preamble are partly written in Woi wurrung (Wurundjeri language), and the preamble's English translation includes the following statement: 'The Birrarung is alive, has a heart, a spirit and is part of our Dreaming. We have lived with and known the Birrarung since the beginning.'

The act was developed with extensive community consultation, led by Yarra Riverkeeper Andrew Kelly and Environmental Justice Australia lawyer Bruce Lindsay. Lindsay has described the act's rights-of-nature element as a 'flavour' that can be detected in its treatment of the river as a single integrated system – which was how both the Aboriginal custodians and the legislators wanted to see it. For Lindsay, there's a 'very strong association between Indigenous law, perspective and practices, and the rights-of-nature model'. Importantly, the act allows for a long-term Yarra strategic plan, which Lindsay and Kelly saw as critical. 'We wanted something that continued over fifty years,' Kelly told me, alluding to both the traditional owners' long-term view and the importance of long-term planning for ecosystems.

Lindsay also stressed the historical and symbolic significance of the Wurundjeri people's involvement in drafting this act, unique in Victoria and possibly Australia. He hopes this will lead to a bicultural understanding of the river. Dr Erin O'Donnell, a water law expert at the University of Melbourne, has also noted the act's bicultural character. To her, it has the potential to bring together First Nations and all Yarra River stakeholders, and to provide a powerful model for the rest of Australia.

'It can be used as a genuine move towards reconciliation,' she said. 'It's a pathway to legitimacy for holistic views of the river and acknowledgement of First Nations.'

This combination of acknowledgement of First Nations and ecological views of the river is also critical to Michelle Maloney's work with other landscapes for the AELA. It shaped the laws she drafted with CELDF to recognise the Great Barrier Reef as a living entity with a right to exist, thrive and evolve. Contained in the AELA petition launched in August 2018, these proposed laws are a way of challenging the reef's ongoing destruction by climate change, coal mining, land clearing and pollution, despite the efforts of Aboriginal nations, scientists and environmental groups to stop it. The campaign grew from frustration with existing laws and policies that support a growth-driven economic system that defines the natural world as property. At the very least, Maloney sees it as a way of opening up a different conversation, especially about the flaws in our current legal system.

'If the reef had rights, Adani would be dead in the water. Our legal system has failed. The reef deserves a different system,' she told me.

As part of AELA's work to empower communities, Maloney and her team are developing a model called 'GreenPrints' to connect planetary boundaries (such as limits to biodiversity loss, chemical pollution and ocean acidification) and Earth system science to local regions and lives. Describing it to the hundred-strong audience at the New Economy Network's first regional symposium on Magnetic Island in July 2018, Maloney – like Houck – used the language of the heart:

With GreenPrints we start with love: What do we love about this place? What can you do creatively within your bounds? Let's get up close and personal with our bioregions.

To help people do this, GreenPrints is developing an online mapping tool so individuals and communities can learn about their bioregion – an area defined by common features such as geology, landform patterns and plant and animal communities – and work together to plan for their community's future ecological and human health. The aim is citizen governance.

GreenPrints will connect the enormous amount of existing environmental data with bioregion-based planning laws, in order to create Earth-centred governance models for bioregional Australia. As AELA puts it, just as there are 'blueprints' to document the design of building and engineering projects, so 'greenprints' would construct governance systems for building Earth-centred human societies that can flourish in a post-carbon, climate-changed world and care for the 'Earth community'. This community includes all living creatures and their places. And this approach involves extensive collaboration with experts from the natural sciences, Indigenous knowledge systems, planning, natural resource accounting, ethics, economics and the arts. 'Think global, act local' is a phrase with a long and resonant political history. Now, relating the planetary to the local is an exercise in mapping. It draws on the accepted classification system of the Interim Biogeographic Regionalisation for Australia (IBRA, version 7), which divides Australia into eighty-nine bioregions – including the Australian Alps, the Cape York Peninsula and Central Kimberley. It also happens that the IBRA map of Australia's bioregions bears an uncanny resemblance to the map of Aboriginal nations.

WHILE AELA IS developing this vision of Earth-centred jurisprudence to challenge existing laws and models of economic growth, another sort of mapping project is underway that reconfigures nature as natural capital in the name of sustainable development. In November 2015 I travelled from London to Edinburgh by train through a snowstorm for the second World Forum on Natural Capital. On the last afternoon of the conference I joined a small audience for a panel asking, 'Is it internal decision-making or external reporting that's going to drive this change to natural-capital accounting?' Given business's favourite catchcry – 'You can't manage what you can't measure' – I wanted to hear how managers were planning to get their heads around measuring and reporting the impact of their daily operations on nature.

Natural capital accounting was such a new idea at the time that no businesses were represented on the panel. Instead, there were investment advisers and two accountants, one from the Institute of Chartered Accountants in England and Wales, and one from the United Nations in Geneva. Or so I thought.

This latter was Carl Obst, who had led the team that finalised the SEEA in time for its launch in 2012. The SEEA is a framework designed to measure the biophysical stocks and changes in stocks of so-called 'environmental assets' – such as water, energy and forests – and the benefits they provide us. It follows a similar accounting structure to the UN System of National Accounts, which generates figures such as GDP. This is critical: it means that the two sets of accounts can speak to each other in order to show the interrelationships between economic and environmental data – or, the impacts of economic growth on the environment, and vice versa.

In Edinburgh, Obst explained that the SEEA applies accounting concepts such as assets, stocks and flows to measuring the condition of ecosystems. Also known as 'ecosystem accounting', it treats the various stretches of the natural world not as conventional economics and accounting do – as invisible regions outside the economy with an infinite capacity to provide clean water, fresh air, carbon sequestration and so on – but as *assets* that produce these *ecosystem services*. Using this accounting logic, the assets must be measured, their condition tracked over time to show wear and tear (depreciation), and investment made so their condition is maintained over the long term in order to sustain the production levels of their ecosystem services. This is analogous to the standard practice for managing economic assets, such as buildings, infrastructure and machinery.

In the context of the natural world, as Obst acknowledged, this was very new stuff in 2015. 'We're at the beginning,' he said. 'The main thing is to get started.'

I soon learnt that this was classic Obst. A former head of national accounting at the Australian Bureau of Statistics and a trained economist (rare among accountants), Obst has a boyish enthusiasm for disparate ideas and a bowerbird-like approach to incorporating them into his accounting vision. In the face of apparently insurmountable obstacles, the complexities of working across many different disciplines and wide-ranging scepticism and resistance, he's willing to have a go. Summing up in wintry Edinburgh, he saw that the SEEA had started a conversation. Now work was needed to co-ordinate its application by the private sector. Obst's closing remark made me request an interview: 'Economists need a paradigm shift. It turns out that accounting is actually quite useful because it's quite agnostic about this.'

It also turns out that Obst doesn't live in Geneva but in Melbourne. And the following January in a café in Flinders Lane – using coffee cups and saucers – he explained the agnosticism of accountants, or the difference between their thinking about the environment and the common thinking of economists about the environment.

To do this he distinguished between the perspectives of 'environmental economics' and 'ecological economics'. Environmental economics he described as 'focused on the impacts that different economic units have on each other. For example, assessing the impacts of one firm's pollution on other firms and society generally. These impacts are viewed as externalities and environmental economics puts a dollar value on externalities.' In other words, it still sees the environment as a system that is external to the economy – and he moved the cup/economy away from the saucer/environment to illustrate this.

On the other hand, ecological economics is 'a different way of seeing the world': it sees the environment and the economy as inextricably linked. To demonstrate which, he returned the cup to its saucer. In this view, the relationship between the environment and the economy is internalised by creating a single nested system.

The flexibility or agnosticism of accountants derives from their concept of the production boundary, an arcane concept that delineates the field of economic production being measured. It currently excludes natural processes that take place without human involvement. But if they were included, this would change 'the extent of the story you tell', as Obst put it. If accountants want to include the natural world in their measures, they don't get tangled in the economic concept of externalities. They can simply extend the production boundary to include the environment. Suddenly, 'you've got a bigger story'.

To Obst, ecosystem accounting is better than the economic idea that nature is an externality now worth considering, because 'it's trying to define boundaries for measurement and analysis based on observed transactions rather than on value assertions about what is good or bad for society'.

At the time, this made only a glimmer of sense. It took several more conversations over the next two years for me to grasp the reach of this idea more fully. And in fact it was only through ongoing questioning about a throwaway remark Obst made about my book *Six Capitals* (Allen & Unwin, 2014) that I began to understand what he meant.

Six Capitals charts the contemporary accounting revolution that demands we account for nature and society. Given this, I had not expected Obst to say that of all its sections, the twenty-four pages at the end about the rights of nature had most interested him. I'd included it as a way to think beyond the excruciating dilemma I'd been wrestling with – one that seems inherent in any discussion of 'accounting for nature'. Addressing it forced me to walk a gossamer thread between finding a way to value the natural world – to make it visible in the economic conversations that direct policy – and ascribing a monetary value to it. Because money has become our default measure of value, this thread is infinitesimal indeed. At one point, I almost abandoned the book because the problem seemed so intractable and caused me such great anguish.

IN FACT THIS problem had silenced legendary former Macquarie University accounting academic Dr Ruth D Hines altogether. Hines spent much of her scholarly career agonising over how to value nature. In her 1991 note 'On Valuing Nature', she wrote: 'What is the link between nature and accounting? I must confess, I do not know.' Fourteen years later, in 2005, she vanished into the ether. Friends and former colleagues have been unable to trace her – although it's said she left academia to write poetry and children's books.

She had ended her 1992 essay 'Accounting: Filling the Negative Space':

There are no 'conclusions' to this paper, to fill and close off the 'negative space' of the Feminine or Yin realm, much less hard directives for future research... Unpopular though it may be, in the world at present, I wish to affirm the silence.

When I first read this in 2013, it sounded like a Zen meditation. When I re-read it in the winter of 2016, affirming the silence, vanishing, seemed like sane responses to the trauma inherent in any attempt to link nature and accounting. Hines's writing contains important provocations on the problems that beset not only accounting but all human life on this planet. In the two and a half pages of 'On Valuing Nature' Hines raises questions I've been struggling with since 2011, when the publication of my history of accounting threw me into the turbulent world of contemporary accountants. It is a profession gripped by existential crisis.

The crisis is this. The vast work that accountants do every day to measure the wealth of businesses and economies radically diverges from what most people understand to be the most important wealth of the planet: 'nature' broadly construed, which includes not only the earth's ecosystems, plants, animals, but also us humans, our relationships and cultures and all the wealth of our hearts, minds and souls. Because of this, as Hines argues, we're destroying the natural environment in which we all coexist in the name of net profit, budget surplus and GDP. She describes this in a rumination on a rubber tree in her garden that she'd wanted to cut down, before suddenly realising that it belonged there. And she puts the conundrum like this:

Nature is excluded from accounting valuations. And how could it be otherwise? All in nature are interdependent: my little rainforest cannot be bounded and separated from the Rubber Tree... People are part of nature, aren't they? But accounting, like any language, names, bounds and thus separates.

For Hines, reducing rubber trees to a number, or worse, to a monetary equivalent, 'is likely to have even worse consequences than excluding them from accounts altogether'. For her, quantifying nature only further alienates us from it. Instead, she believed that the best thing she could do for nature, as an expert in financial accounting, was to speak her love for it, declare the limitations of financial accounting and refuse to speak about nature in this language of numbers.

Hines called on other accounting experts to speak out about the discipline's limitations, to demystify it and reduce its power 'to entrance people'. This she believed would make a powerful contribution to changing planetary consciousness.

Having faced accounting's disturbing limitations and discovered the potential of natural capital to address them, I'd also felt – like Hines – the danger that seemed to lurk in its mix of numbers and nature. But I could also feel British environmentalist Tony Juniper's frustration with the impotence of the language of love around the tables of power where decisions are made in numbers and money. A former executive director of Friends of the Earth, after three decades of fruitless campaigning for nature for its own sake Juniper now sees no other way of protecting the natural world than the language of natural capital. Knowing firsthand that rhetoric steeped in beauty and ethics is powerless against the numerical rhetoric of economic growth and development, Juniper argued in *The Guardian* in 2012 that the only alternative is to open a new discourse 'on the field where future environmental battles will be won and lost – the field of economics'. While appreciating the potential dangers of this, he's adopted this language because he believes that economists, not environmentalists, have misunderstood the real costs of growth on a finite planet, and that the only way to get this news to them is by speaking in their terms.

For Juniper, the terminology of natural capital and environmental accounting gives environmentalists and economists a common language for the first time.

Listening to Juniper in London's St James's Park persuaded me that quantifying nature had the potential to shift policy in nature's favour within our current system. But Hines's warnings forced me to see that we also needed systemic change; we need to change the very building blocks of our societies: our laws. The rights-of-nature movement proposes just such a change. Rather than *counting* nature, rights of nature makes nature *count*. It does so by shifting nature's status from that of inert property to be used for human consumption to that of a rights-bearing *entity*. Not until I spoke to Obst in 2018 did I understand that these two apparently disparate ideas were related.

IT WAS THE word 'entity' that had gone on like a light bulb in Carl Obst's mind when he was reading *Six Capitals*. He could see how it connected with ecosystem accounting. Sitting on the wooden steps under the University of Sydney's Law School in July 2018, I asked him to explain this connection and how granting legal standing to a river might help us to protect it.

'The issue expressed the way you've expressed it misses the point of our connection with the environment,' he began. 'Your framing could suggest – and for me this is the problem with a conservation mindset – that humans can divorce themselves from the environment; that we can protect the environment over here, [and] it would have its rights, and we have people over here. It becomes then a potentially adversarial relationship.'

Except that Western law in general is designed to set up adversarial relationships. It currently creates such relationships between humans with legal standing and excludes the natural world (which, with few exceptions, has no legal standing).

'The river does also exist unto itself,' I said.

'No,' said Obst.

And here we reached a fundamental ontological disagreement. I believe the natural world exists for itself and has a right to exist regardless of human needs. Obst has an instrumental view of nature: we want to protect rivers because we need safe drinking water.

'You need to recognise that there has to be a purpose behind protecting these things,' he said. 'Protecting the environment is a good thing for humanity. It seems to me then that the challenge is to realise that we can't do without the environment and we are part of it, and we need legal and other structures to support this.'

Once Obst had established for himself that 'rights of nature extend not just from the rights of nature itself, but from the rights of people to benefit from nature', he told me that creating natural bodies as environmental assets – as a corollary to rights-bearing entities established in law – became in his view 'a conceptual no-brainer'.

'If you create an entity that has a set of rights before the law, the idea that there's a complementary accounting system that supports understanding the ongoing management of that entity – how it's performing, how it's being stewarded and whether it's changing over time – is obvious: that's just how you manage stuff.'

The idea of humans stewarding ecosystems that are legal entities in their own right is analogous to the existing system of humans stewarding corporations that are legal entities in their own right, Obst told me. And as with a corporation, so with an ecosystem: you have to demonstrate your stewardship in some way. Are you being a good steward or a bad steward? Should you represent your stewardship with public reporting? If so, what sort of standards are to be expected? For Obst, rights of nature and ecosystem accounting are 'a match made in heaven' because they share the idea of an entity and responsibility towards it. And where there are legal entities, there must be the possibility of transactions between them.

'At the heart of what we're doing in ecosystem accounting,' Obst said, 'is creating entities. We create an entity which is not normally identified – "the environment" – and we impute transactions between the environment and us. Obviously those transactions are not revealed in money because we don't go to the environment and give it ten bucks and say thanks for the nice view. But we can use accounting principles to record those transactions even if they're not monetised. So, conceptually, it's common sense. In practice it's a little harder.'

These conceptual speculations about the links between two very different emerging practices – ecosystem accounting and rights-of-nature law – helped me to understand Obst's comment in Flinders Lane in 2016 about transactions versus value assertions. But since then the SEEA had come into its own. In April 2018 the Meeting of Environment Ministers from the Commonwealth, states and territories had endorsed a plan to apply the SEEA for the first time in Australia to undertake a continent-wide ecological accounting.

The aim is to monitor the condition of Australia's ecosystems within a standardised framework to establish which areas are being well managed and which ones are not, and hence which ones might be the focus of policy concern. According to Obst, SEEA's spatial approach requires consistency across every region and over time, a more exhaustive approach than the way existing State of the Environment (SoE) reports are designed and applied. From a national accounting perspective, SoE reporting is just one of a wide range of potential SEEA applications, which also include national park management, carbon and biodiversity offset programs, and payment for ecosystem services.

The SEEA involves getting the best scientists together to ‘tell us how the environment’s going’, as Obst put it; but it also aims to show the connections between the environment and the economy, with the aim of producing information to guide government and business decisions at all levels – ‘farm-enterprise-region-state-national’ – and across all sectors. Using the language of ecosystem accounting, the plan construes land, soil, minerals, rivers, oceans and biodiversity as ‘environmental assets’ that underpin economic growth and our standard of living. It also notes what Marilyn Waring had discovered: that the environment’s ‘contribution to our prosperity and wellbeing are often overlooked in decision-making by governments, business and the community’. Part of this work will involve bringing together the vast amount of existing data on the environment and the economy, to show their interactions and the economy’s dependence on the natural world. The aim is to produce information devoid of policy bias, and to reach an agreed understanding of the condition of the environment as measured by both scientific and statistical experts.

‘What’s yet to be clear,’ Obst said, ‘is how the money [to undertake the study] will be divided up, who will do the work and how it will be planned out. But Australia has the core datasets and the broad range of skills required to be able to compile a first set of accounts that’s reasonable to support all the objectives. It won’t be the end of it, but it will be a very good start.’

Since 2016, Obst and his business partner Mark Eigenraam (who together run the Institute for the Development of Environmental-Economic Accounting in Melbourne) have been applying SEEA principles and methodology to do the world’s first ecosystem accounting at the corporate level for a forestry business. The Tasmanian forestry company Forico (owned by global forestry investment company New Forests) asked them to do a valuation of the 80,000 hectares of native forest that make up 45 per cent of their forest estate (the rest is plantation forest). The accounting value of native forest derives from the ecosystem services it provides such as habitat for wildlife, water filtration, flood mitigation, carbon sequestration and recreation for local residents and tourists – none of which is represented in traditional financial accounts. Or, as Forico says of itself: ‘It’s struggled to definitively measure or demonstrate the economic and environmental benefits that flow’ from managing the forests for these non-financial ends.

To address this, Obst and Eigenraam are developing accounts to record Forico’s stocks of ecosystem assets measured in biophysical terms (hectares of habitat, litres of water, tonnes of carbon) and flows of ecosystem services. These will be integrated with existing financial measures of timber harvest volumes and values. Because Forico’s motto is to ‘make every hectare count’, this extensive ecosystem accounting was ultimately expanded to include not only its native forests but also its plantation forests, which also provide carbon, water, habitat, cultural and recreation services.

This is a work in progress, slow and complex. It involves mapping the range of different ecosystems in the estate and assessing their condition; working out the ecosystem services they supply; identifying the beneficiaries of these services, including Forico itself, local communities and government; and developing balance sheets and operating statements to show data on ecosystem assets and flows of services against the standard financial reporting. One of the great challenges is generating the vast amount of detailed biophysical data that’s required in order to estimate critical components of the accounting such as ecosystem condition and physical flows of ecosystem services.

Another challenge lies in establishing their monetary value.

The point of this extensive mapping and valuation project is to allow Forico to present the value of its natural capital to its shareholders and stakeholders: employees, the local community, customers, the Forest Stewardship Council, Water Stewardship Australia, investors. Because the real goal of this work, which requires considerable financial investment, is financial return – and this hinges on the creation of markets for ecosystem services, such as carbon markets. In 2017, Forico’s parent company, New Forests, published a sustainability report that positions forestry as part of the growing ‘bioeconomy’, which replaces fossil-based fuel, materials and chemicals with bioenergy, biofuels, bioplastics, and biomaterials – fuelled by ‘green finance’.

In a culture where money is the rule, this seems like a logical way to represent the value of nature: conceive its many parts as entities analogous to corporations, and establish stewards to manage them and report annually on their condition with a view to attracting investment: financial capital. And this process requires the monetisation and financialisation of the natural world through the creation of markets where ecosystem services can be exchanged for money. It extends the rule of capital into the sphere of nature.

The process is already underway. In May 2015 at the New York Hedge Fund Roundtable, powerful asset managers rhapsodised about ‘blue gold’, the next great mine of value. It’s also known as water.

And so it goes.

BUT PERHAPS NOW is the time to overthrow our monetary measures. Economist John Maynard Keynes got up close and personal with money – and he saw into its deathly heart. As long ago as 1933 he said that ‘once we allow ourselves to be disobedient to the test of an accountant’s profit, we have begun to change our civilisation’. In ‘Economic Possibilities for our Grandchildren’, his famous 1930 essay, Keynes had looked forward to the time one hundred years hence when ‘the economic problem would be solved’: when technology would relieve us not only from our daily labour but also from our thrall to money. The accumulation of wealth would have no social status – and we’d be free to abandon the ‘distasteful and unjust’ economic practices we’d created simply to promote the accumulation of capital.

We shall be able to afford to dare to assess the money-motive at its true value. The love of money as a possession...will be recognised for what it is, a somewhat disgusting morbidity, one of those semi-criminal, semi-pathological propensities which one hands over with a shudder to the specialists in mental disease.

One decade away from the year of his future vision, we are far from realising it. But Keynes also foresaw with dread the turmoil and suffering such a rapid change of age-old habits and instincts technology would bring. ‘To use the language of to-day – must we not expect a general “nervous breakdown”?’ he asked.

If nothing else, it seems today that all of us – and the practices we’ve established purely to promote the accumulation of capital through the measure of money – are in the throes of a great and general nervous breakdown. Amid crises in food, water, energy, weather, employment, population, physical health, mental health, wealth distribution and finance, we all sense that life as we have known it is changing in profound and unpredictable ways.

During the Captiva Island lab in November 2017, native filmmaker and activist Heather Rae asked Bruce Pascoe if the Elders of his communities and nation had similar sentiments to those she hears from the Elders in the Native American communities she travels through.

'They say that it isn't as much about defeating this beast, it's really about outlasting it,' she said. 'It's about strengthening our cultures and nations so that we can outlast it.'

'Yes,' said Pascoe, 'we say it all the time. It's common for us to say in a semi-humorous fashion that our job is to outlast the bastards... Capitalism will collapse and that's why I've always taught my children how to grow vegetables, because those who can grow their own food may survive the cataclysm that will follow.'

Whatever the future of the money-measuring, capital-accumulating system we've created, I'm listening to Bruce Pascoe. The knowledge he brings – that we are second to Earth – is critical today. And granting rights to nature would begin to shift our minds towards this understanding, because as Christopher Stone intuited, it would help us to see that we are part of the natural world. If this introduces a new and measurable bottom line, as Oliver Houck realised, then my mind also remains open to Carl Obst's ecosystem accounting – as long as we resist the pull to turn its biophysical measures into monetary ones.

And my heart – my heart is always with the Earth. There is no other home for us, heavenly, Martian or otherwise. We may be made of stardust, but we are all indigenous to Earth, our only planetary country.

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