

An Indigenous Philosophical Ecology: Situating the Human

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Can Indigenous ecological knowledge contribute to major debates in Western science and philosophy? I argue that it offers a 'philosophical ecology' that works synergistically with Western eco-philosophy and some streams of ecological science. This paper takes up the challenge offered by Val Plumwood: that anthropology can contribute to the work of re-situating the human. It examines an ecological philosophy of mutual benefits, and shows patterns, and a broader meta-pattern, in which life is both for itself and for others, and in which connectivity and stability are achieved through densely recursive benefits. I identify these and other contexts as areas for further dialogue.

Introduction

Philosopher Erazim Kohak (1984: 209) uses the term 'philosophical ecology' to designate 'our conceptions of our place and task in this world'. This engaging term crosses the 'two cultures' of the humanities and science and asks deeply integrative question about humans and the living world. In this paper I develop an analysis of an Indigenous Australian philosophical ecology. My purpose is not only to present an analysis, but also to show how this Indigenous set of concepts can come into productive dialogue with Western philosophical ecologies.

Two focal points are subsumed within the domain of philosophical ecology—one directed toward science and one directed toward philosophy. Within the context of Indigenous knowledge, the first has been put very well by the Canadian anthropologist Julie Cruikshank. She studied Canadian Yukon people's knowledge of glaciers, attempting to link that knowledge of non-human sentience with current Western scientific research, particularly in relation to global climate change. She notes that much of the literature on traditional ecological knowledge (TEK) tends toward classifying knowledge as data, and towards incorporating data into existing Western paradigms. More attention should be given, she argues, to engaging with local knowledge as expertise that could contribute to theoretical perspectives (Cruikshank 2000: 5). Now that there is a large and growing literature dedicated to engaging with Indigenous peoples' ecological knowledge (e.g. Nazarea 1999; Grim 2001), and given the increasing recognition that Indigenous people have contributions to make to conservation programs (Nabhan, Pynes and Joe 2002), it is possible for dialogical engagements around philosophical ecology to become more of an established part of scholarship than has yet been the case.

The second challenge has been put to us by Val Plumwood (2002: 54). She proposes that anthropology has the potential to play a strong role in promoting new knowledge that works within the ecological humanities. She is exploring nature in terms of agency and communication, and she proposes two major tasks for Western science and philosophy. The first is to re-situate the human in ecological terms, and the second is to re-situate the non-human in ethical terms (2002: 8). My analysis responds primarily to the first challenge. I examine the positioning of the human within an Indigenous philosophical ecology. I will show that within this ecology, concepts of the place and task of humans undermine the singularities of mainstream Western paradigms.

Before launching into the analysis, I should note two limiting factors. The first is that whereas both philosophy and science are discussed herein, the emphasis is more on the philosophy of science than on its everyday practice. The second is that Western science is not a monolithic construct, and is challenging itself in many interesting ways. There is no settled dogma, and exactly for this reason the possibilities for dialogue may be enhanced. Nobel Laureate Ilya Prigogine (1997: 3), for example, has proclaimed the birth of a new science that depends on the physics of non-equilibrium processes and is leading to concepts such as self-organisation. Rather than the subject-object dualism that is one of the hallmarks of Western mainstream or 'normal' science (e.g. Keller 1985; Plumwood 1993), Prigogine writes: 'I have always considered science to be a dialogue with nature' (1997: 57). His view of dialogue seems to require an account of nature as an active subject. The subjectivity of 'nature' is a prime example of an area for constructive dialogue in which Indigenous people and Westerners could engage.¹

The analysis in this paper is drawn primarily from my research in Australia's Northern Territory: in the semi-arid savannah region of the Victoria River Valley (Rose 2000), and the floodplains of the Wagait region south-west of Darwin (Rose 2002). The ethnobotanical research I draw on was developed in consultation with Aboriginal people in the settlements of Timber Creek, Yarralin, Lingara, Pigeon Hole and Daguragu. I do not offer a detailed description of Indigenous concepts of country, as the literature is already replete. The analysis will proceed more clearly, however, if it is understood that within Indigenous concepts a country is small enough to accommodate face-to-face groups of people, and large enough to sustain their lives. It is politically autonomous in respect of other, structurally equivalent, countries and at the same time is interdependent with other countries. Each country is itself the focus and source of Indigenous law and life practice. Countries come into being through Dreaming creation. Dreamings demarcate a world of difference, and at the same time make the patterns and connections that cross-cut difference. Among these patterns are those that cross-cut human and other species, creating the consubstantial kindreds known as totemic groups. Other patterns include the 'culture' or way of life of different species including their habitats, foods, and patterns of behaviour.

Mutual benefits

Throughout my analysis I will be exploring a metaphysics of pattern, benefit, and connection. I can begin to engage with this metaphysics most efficiently through a consideration of Australian Aboriginal totemism. This system works with patterns that connect particular human groups with particular non-human species, generating interspecies consubstantial kindreds. Totemism has been the subject of intense debate over decades, and most recently has been addressed in its capacity to enhance human adaptivity (e.g. Peterson

1972; Morton 1997), the adaptivity of relationships between humans and their non-human kin (for example Strehlow 1970; Newsome 1980) and interspecies ethics (e.g. Bennett 1986; Rose 1999). Decades ago A. P. Elkin (1938: 133) wrote that totemism 'is a view of nature and life, of the universe and man, which ... unites them with nature's activities and species in a bond of mutual life-giving...'. I endorse this definition with two modifications. The first is to shift it from the singular bond to plural bonds of mutual life-giving. The second is more substantial: to replace the term 'view' with the term 'metaphysics', following the definition that Mathews (2003: 162) provides. In her analysis, metaphysical claims are those 'claims concerning the way the world is independently of our contingent experience of it'. Totemism is a manifestation of a broader metaphysics of ecological beneficial connectivity, and my contention is that this broader metaphysics is communicated and validated to a significant degree through what Western scholars identify as ecological knowledge.

I refer to bonds of mutual life-giving as benefits, and I direct my exposition toward the overlapping relationships of benefit that are sustained among species (rather than among and within totemic groups). The concept of benefit is encountered forcefully in ethno-classificatory research; I have documented large amounts of knowledge about the uses of plants—as foods and medicines, and in technology, for example. Looked at from a human perspective, the register of benefits confirms the analysis made by Hunn (1982) that classificatory complexity clusters around living things that are of particular interest to humans. However, I found that there are numerous taxonomically distinguished plants that have no particular or direct benefit to humans, but are useful to other living things. Some of the benefits are quite specific: little birds eat those seeds, or wallabies make their camp under that shrub.

A few examples will show some of the types of complexity involved. The first example speaks primarily to non-human benefits. The scrawny creek-side tree called *panganpangan* (*Terminalia erythrocarpa*) has a range of benefits that go directly only to animals: as food for birds, turtles, fish and flying foxes. A second example is a plant that offers benefits that are shared between humans and others, the 'black plum' (*pulkal*, *Vitex acuminata*). It is good firewood, and the fruits are edible for humans. In addition dingoes, emus, and turkeys all eat the plums. Furthermore, the pollen provides food for bees and thus contributes to native honey.

Benefits ramify. A good example is the river fig (*Ficus coronulata*); it has a technological use for humans, being good firewood (as riverside woods go), and the fruits are edible. In addition, the fruits are a major food for birds, ants, fish and turtles. One of my teachers, Riley Young Winpilin, pointed out that when you go fishing and the figs are ripe, you can eat some for yourself, and then throw some into the water to attract the attention of turtles. One reason you would want to attract the attention of turtles is that the time when the figs are fruiting is also the time when turtles are becoming fat, hence especially good to eat.

In almost all of the documented species, the actual benefits ramify beyond the immediate use. In the case of the multiple benefits of the black plum: dingoes are important Dreaming figures in the Victoria River Valley; emus are part of the matrilineal totemic system and so is honey. Similarly with *panganpangan*: turtles, fish and flying foxes are all food for people. Flying foxes are part of the matrilineal totemic system and are also linked quite directly with seasons (Rose 2005). Both of these plants benefit numerous living beings and are linked into other social and ecological systems.²

These brief examples of mutual benefit indicate that connectivities are recursive: this is an account of an ecosystem that flourishes through looped and tangled benefits. The underlying proposition is that the life of most living things is for others as well as for itself. One of the

many ways in which I encountered this proposition was in foraging. We moved along in the bush taking the best and easiest for ourselves, and when I asked if we were wasting things I was brought up sharply with statements to the effect that food we left behind would be there for others. 'It's not waste', I was told, 'this food is for everyone'.

The overall effect of mapping benefits is to shift the analytic focus away from the concepts of resources and hierarchical food chains and toward multiplicities of species and benefits interacting in entangled systems of relationships. The totemic metaphysics of mutual life-giving draws different species into overlapping and ramifying patterns of connection through benefit. Many of these benefits are not immediately reciprocated. Rather, they keep moving through other living things, sustaining life through the twin processes of life for itself and life for others.

Communicative benefits

Information is one of the key benefits that flows between individuals, groups, and species. A great deal of information is coded into ecological patterns, so a large part of Aboriginal people's knowledge is based on observations of ecological patterns. Patterns characteristically are highly local, although a few are widespread. Localised knowledge is part of the intellectual property of a given country.

From an ecological perspective, three pattern types stand out as particularly salient: concurrence in time, concurrence in both time and place, and sequential recurrence. Communicative patterns speak to a range of issues and are highly detailed in respect of foraging activities. For example, when the March flies bite, the crocodiles are laying their eggs, and when another type of fly arrives, the bush plums are ripe. Such information connects events that are spatially extended with other events that are relatively localised. It is not necessary to keep going to the billabong to check to see if the crocodiles have laid their eggs; it is simply enough to be bitten by a March fly. That can happen almost anywhere, but only at a given time. A similar pattern concerns the river fig mentioned earlier. The communicative event that announces both ripe figs and fat turtles is the cicada song. Cicadas sing turtle fat, people said. Another of my teachers, Allan Young, explained that when the cicadas (*nyirri*) sing, the turtles start moving around on land:

We hearem *nyirri*. *Nyirri*, when im sing out longa tree where im sit down. We know, must be turtle, might be come out now. Well that was long time, they go get the spear, them old people. Long as they hearem that *nyirri* talk, they findem walking around, that turtle, they killem gottem spear.

Patterns of sequence situate a given moment within broader recurrent patterns and thus give advance notice of events. An example is advance notice of the severity of the dry and cold season in the Victoria River Valley. Along the upper Victoria at Daguragu, ice sometimes forms on the water in the cold time. Crocodiles (*Crocodylus johnstoni*) prepare for the cold time by filling their gut with mud or stones. Old Jimmy Manngaiyarri of Daguragu explained:

You know what sort of cold, might be proper cold, might be little bit cold. That fellow, that you see the *warritja* [crocodile], *warritja*, he eatem stone. He eat the stone, got it in his stomach. Well, sort of sleep now, bit of ice now in the water.

One aspect of the many kinds of significance of this type of knowledge is that human beings extend their knowledge through access to the behaviour of animals. People are quite explicit in saying that other creatures know things that we don't know because they inhabit

regions that we do not inhabit. Billy Bunda, another senior man from the same area, explained in reference to a bird that is probably a swift (species unidentified):

And when the wet season begins he flies low, but when the wet season is over he flies really high now. That's the time for him feeling that air on top for that winter, you know. When that winter coming, go back low again and start to make that camp in the side [of the cliff] there.

Humans access information available in the upper layers of the sky by observing swifts and knowing what their actions portend.

An excellent example from another region entirely is the local coming into fruition of sequences of edible foods. Rhys Jones documented sequential patterning in his work with Anbarra people of the northern coast of Arnhem Land. Jones relates that his host Frank Gurmanamana:

... cleared off a layer of sand, [and] carefully marked out two parallel sets of small holes... One set, he said, were the vegetable foods which grew *gu-djel* (in the clay), namely roots and tubers. The other set were the vegetables *gu-man-nga* (in the jungle/vine thickets), namely fruits. These two sets were linked, a pair, one from each set, appearing together at the same time of year to be successively replaced by another pair, and so on.... They were likened according to Gurmanamana to plants walking side by side through the seasons. At the end, the same pair would re-appear as the ones we had started with, and the whole process would begin once more. (Jones 1985: 198-199)

Unlike some other parts of Australia where anthropologists have mapped seasons onto a circular calendar with named periods for when different events happen, this is not how Victoria River people organise their ecological knowledge. The only external frame is the over-arching scheme of wet, cold and build-up, often referred to as a dyad of hot and cold, wet and dry or rain and sun (see Hoogenraad and Robertson 1997 for a similar analysis from Central Australia, and Jones and Meehan 1997 for a similar analysis in relation to the winds of eastern Arnhem Land; discussed also in Rose 2005). These big events are best thought of as interactive rather than prescriptive. Within this scheme, events are ordered by connections: sequence and co-occurrence (simultaneity) are of the first importance:

- ◆ 'When the little finch sings out, the emu lifts its head': this references the coming of cold weather.
- ◆ 'When the brolga sings out, the catfish start to move': this references the time when the rivers start to flow again after the first rains.

Some of these communicative events are highly multifaceted: they refer to song, myth and ceremony; they shoot into taboos and restraints, they link up with marriage and sexuality. The matrilineal moieties bring the whole system into complementarity, and at the same time articulate the matrilineally transmitted 'flesh' which organises interspecies groups, joining up human and non-human bodies (Rose 2000: 81-8).³ These relationships are all about the regeneration of the world. Within this communication system, events tell what is going on, and call for action. One call leads to another, so that action is both a response and a message. Taken together these events are often glossed as 'country': country tells what is happening; it announces its own patterned eventfulness and invites engagement.

I investigated the extent to which this knowledge remains constant across countries, major ecological boundaries, languages, and language families. My questions concerned patterns in both their systemic and particular qualities: did the same system of ecological

communication extend across regions marked by different environments, languages, and ecosystems?

Within the area of my research many of the same signs exist but they index different events. So, for example, at Yarralin the March flies tell that the crocodiles are laying their eggs. Further upstream at Daguragu, when the *jangarla* tree (*Sesbania formosa*) flowers and drops its beautiful petals into the water, it tells that the crocodiles are laying their eggs. Back at Yarralin, this same tree, when it flowers, tells that the barramundi are biting. In Yarralin the *bauhinia* tree, *Lysiphyllum cunninghamii*, tells that the really hot weather is here, while to the east in Mudbura country the same tree tells about hot weather, but it tells in a different way. Back in Daguragu, and further south, *Grevillea pyramidalis* tells that the hot weather has arrived when its seeds are ripe.

Much further north in the Wagait swamps and floodplains, the dragonflies tell that the dry weather is coming, the fire flies tell that goose eggs and salt-water crocodile eggs are ready to harvest, and the march flies tell that the barramundi are biting.

In sum, the system holds across the extensive area of my research, and clearly extends beyond it (for example, see Hoogenraad and Robertson 1997). The rhythms of events that happen in pattern are crucial codes for knowing what is happening in the world. Some of this knowledge is dispersed widely, but most is highly localised. Much of the information about concurrence varies from place to place, so that one really only knows what is happening in the places where one has the knowledge of what concurrences exist and what they mean. The fact that this system is widespread ensures that people know that there is a system here. When they go beyond the bounds of their knowledge they know that they are in the presence of a system, and they know that they do not understand it. Respect for different knowledges thus becomes crucial both to epistemology and to identity. One of the floodplain people described the experience of coming home in this way: 'You see the birds [referring to a totemic species], you see the country, and your senses come back to you. You know what to do and where to go'. Practical aspects of this system include

- ◆ each specific concurrence is sufficiently widespread to be useful; you do not have to hang around crocodile nesting places waiting for the right moment to start collecting eggs; you can just wait till the march flies bite;
- ◆ the linkages between ecological information and songs, designs, categories of bodies, and so on, ensure that the information is stored and transmitted along numerous pathways; and
- ◆ the information is calibrated in fine-grained detail at localised levels; it is reliable and can be protected.

'Country tells you'

The mutual entanglement of benefits is well exemplified in the context of Aboriginal burning. My main example here comes from my research in the northern floodplains; I should note that the burning regime is quite different to a savannah burning regime, and different again from desert regimes (Latz 1995; Bird *et al.* in press). On a humanly pragmatic level, 'firestick farming' involves getting rid of long grass and grass seeds which impede travel. It means being able to see the animal tracks, and thus to hunt better. It means being able to see snakes and snake tracks so as to avoid them. In the savannas it means creating localised mosaics of tall grass behind which the hunter can hide while stalking feeding herbivores.

At the same time, burning benefits other animals: new growth is up to five times richer in

nutrients than old growth (Braithwaite 1995: 96), and many creatures thrive in the aftermath of fire. The benefit to others is also good for hunters. To quote April Bright, whose home country is in the floodplains not far from Darwin:

'Burn grass time' gives us good hunting. It brings animals such as wallabies, kangaroos and turkeys on the new fresh feed of green grasses and plants. But it does not only provide for us but also for animals, birds, reptiles and insects. After the 'burn' you will see hundreds of white cockatoos digging for grass roots. It's quite funny because they are no longer snow white but have blackened heads, and undercarriages black from the soot. The birds fly to the smoke to snatch up insects. Wallabies, kangaroos, bandicoots, birds, rats, mice, reptiles and insects all access these areas for food. If it wasn't burnt they would not be able to penetrate the dense and long spear grass and other grasses for these sources of food. (Rose 2002: 50)

Burning the country helps animals and people thrive; the benefit is mutual. The evidence is widespread that Indigenous people's burning was carried out in the patchy patterns that sustain biodiversity (Gammage 2002). The evidence is also widespread that people burned to protect areas like remnant rainforests or fire-sensitive acacias. Some landscape ecologists claim that the biodiversity of the Australian continent was the outcome of Indigenous people's fire regimes (Bowman 1998; see also Langton 1998).⁴

The further point is that fire, too, is set within the communicative matrix. April Bright stated:

The country tells you when and where to burn. To carry out this task you must know your country. You wouldn't, you just would not attempt to burn someone else's country. One of the reasons for burning is saving country. If we don't burn our country every year, we are not looking after our country. (Rose 2002: 78-82)

Country tells you: the proposition prioritises country's communication, and positions human responsibility as knowledgeable action in response to country. Human action is thus both directive and responsive. It is directive in almost every foraging context: how and where to pick conkerberries, how and where to dig for crocodile eggs, and hundreds of other actions that depend on human knowledge, tradition, skill and ingenuity. It is also responsive. One of the ways that country tells April Bright that it is time to start burning, for example, is with the flowering of the 'silky oak' (*Grevillea pteridifolia*). Living things communicate by their sounds, their smells, their annoying actions, as with March flies, or their brightness and beauty, as with the bright orange silky oak flowers shimmering in fresh sunshine. Within the communicative matrix of country, people respond to the patterns of connection and benefit, nurturing their own lives and the lives of others.

Ecologies of mutual benefit promote synergistic entanglements across species and country such that life is enhanced through beneficial connectivities. These connectivities fix people firmly into patterns that connect, such that:

- ◆ The interests of self and other are enmeshed by being situated within connectivities.
- ◆ Care of country means caring for others as well as self.
- ◆ Human care responds to country's communication.
- ◆ Commensalism co-exists with predation, and there is no singular mode that defines interspecies relationships.

Meta-patterns: dialogue with science

Following Gregory Bateson's (1980: 128) use of the term meta-communication to refer to communication about communication, and his corresponding idea of meta-patterns as patterns of patterns (Harries-Jones 1995: 210), I suggest that in an Indigenous context meta-patterns convey information about this whole system. In doing so they articulate principles for how life really works. This is to say that the metaphysics of beneficial connectivity that concerns me here is communicated by and through the living world itself, within the matrices of interconnected countries.⁵

Both pattern and mutuality are understood as meta-patterns, by which I mean that they are understood as part of the flow of life in the world. They are not the product of human organisation, but rather invite humans, like all other living things, into participation. This deeper set of meta-patterns informs human knowledge, and includes the following:

- ◆ A sense that the world is made up of patterns that connect.
- ◆ An emphasis on close observation, memory, pattern recognition, and pattern testing.
- ◆ A respect for other living things as participants in recursive and entangled bonds of mutual benefit.
- ◆ An awareness of life being both for self and for other.
- ◆ An expanded sense of self brought about by various interactive consubstantialities (totemism, in particular).
- ◆ An awareness of and desire for participation in life's patterns and processes.

The idea that mutual benefits integrate an ecosystem through dense and recursive connectivities and communications offers several important areas for dialogue with science. The first concerns connectivity, biodiversity and stability. My argument has run parallel to a more science-oriented set of propositions. Ward, Tockner and Schiemer (1999: 129) define connectivity as 'the ease with which organisms, matter or energy traverse the ecotones between adjacent ecological units'. From a mutual benefit perspective, we would paraphrase the proposition to define connectivity as the density of benefits that mutually transverse organisms, species, and country. E.O. Wilson (2002: 108) notes that 'the more species that inhabit an ecosystem ... the more productive and stable is the ecosystem'. In parallel, Indigenous knowledge prompts me to propose that the more that species inhabit an ecosystem, the more densely entwined and stable are the benefits.

Mutual benefits are often shared benefits and many of the benefits return. Turkeys grow fat on berries, and fat turkeys are greatly desired by human hunters. The practice of leaving some there for others is neither completely self-interested nor completely altruistic. It is a recognition of interconnections within the world of living things, and it suggests a deeper pattern. If the kind of action that works well for humans also works well for other creatures, there is an implication of deep mutuality. Further, if the benefit gained by others (green pick for wallabies) enhances a future benefit for humans (fat wallabies) then there is a mutually life-enhancing dynamic. By the same token, one could say that Aboriginal people have an interest in ensuring the well-being of swifts and crocodiles, for example; if they were lost, the information they convey would also be lost. Self-interest and the interests of others are fully entangled in networks of direct and indirect sustenance, communication, sharing, and care. Everything benefits from others, and almost everything benefits others. This dynamic is neither static nor atemporal; it is sustained by synergistic flows of benefits through time, living things and place.

This foundational pattern of twinned benefits—life for itself and for others—finds

expression in biology and other sciences and constitutes another area for dialogue. Philosopher of science Freya Mathews (2003: 73) asserts that two main characteristics of life are its desire for its own becoming (*conatus*), and its desire for connectivity (*orexis*). Each desire is implicated in the other: life wants to and must live for itself, and life wants to and must live for others. The concepts surrounding and supporting mutual benefits are superbly consistent with the biological view that 'life on Earth is not a ... hierarchy but an emergent holarchy arisen from the self-induced synergy of combination, interaction, and recombination' (Margulis and Sagan 2000: 9).

What, then, of the place of human beings in the metaphysics of connection and benefit that I have been analysing? It is clear that humans are necessary, but are they in control? And is country oriented first and foremost toward humans? My research indicates that complex, recursive relationships are organised primarily within country, at least from a human perspective. A country is not a completely closed system, but it bears many of the qualities of closure. Closure indicates a condition of autonomy, and is achieved by 'pervasive circularities, which are almost entirely absent from the systems described by physics, but are rampant in biology and in all natural systems' (Harries-Jones 1995: 183). The great ecologists Humberto Maturana and Francisco Varela write that self-organisation within a closed system is the basis of autopoiesis (Maturana and Varela 1998: 43). They state that an important and distinctive quality of autopoietic systems 'is that their organization is such that their product is themselves' (1998: 49).

A third area fully straddles the two cultures and looks to life's desire. The proposition has been that humans are part and product of country's self-organisation. Neither the teleological end-point nor a random outcome, human beings are brought forth as essential and enmeshed parts of country's life. Along with life's other manifestations, humans are deeply implicated in the coming into being of life in country. Mathews (2003: 58) contends that because living beings' desire for self-realisation is both for self and for other, this desire can be understood as a desire 'to participate in the realness of the world'. I think the desire to care for country, amply documented in the literature on Aboriginal land relations and expressed beautifully by April Bright, is just such a desire to be participating in the realness and eventfulness of living country.

Re-situating: dialogue with philosophy

What would it mean for Western philosophy to re-situate the human? Plumwood (2002: 194) contends that re-situating is a process of overcoming the West's long-term hegemonic anthropocentrism, a philosophical ecology that separates humans from the natural world in the most extreme ways. She has developed the term hyperseparation to describe the West's effort to make extreme differentiation between human beings and other living things. Within a philosophical ecology of hyperseparated dualisms, humans and 'nature' are separated by a radical discontinuity.

In contrast, the Indigenous philosophical ecology discussed here works with multiple, recursive connections. I see four major areas for dialogue concerning the human situation in relation to the living world. The first is that in this Indigenous system, subjectivity in the form of sentience and agency is not solely a human prerogative but is located throughout other species and perhaps throughout country itself. Subject-subject encounter is an ecological process that undermines the whole basis of hegemonic anthropocentrism, defined as the centring of the human within a dualistic system that hyperseparates humans from nature (see Plumwood 2002: 123-142).

A second area for dialogue is that life processes, although they rely on humans, do not prioritise human needs and desires. The instrumentalism that pervades much of traditional Western concepts of resources is defined provocatively by Plumwood (2002: 113) as the viewpoint 'that all other species are available for unrestricted human use'. Such a view is clearly connected with hegemonic anthropocentrism, and denies reciprocal responsibilities among species. In contrast, within the entanglements of benefit I have analysed, humans are one species among many others, both giving and receiving benefit.

A third area, touched on only briefly in this paper (but see Rose 1999; Magowan 2001), is kinship with nature. The consubstantial kindreds known as totemic groups include both human and non-human kin. These groups ensure that non-humans and humans are part of the same moral domain.

A fourth area is that the ecological system is not activated solely by human agency, but rather calls humans into relationship and into activity. A great deal of the literature on human ecological activities in contemporary Western practice—primarily resource use and resource management—assumes the priority of human knowledge and human intentional action. My work with Aboriginal people indicates an alternative. Rather than humans deciding autonomously to act in the world, humans are called into action by the world. The result is that country, or nature, far from being an object to be acted upon, is a self-organising system that brings people and other living things into being, into action, into sentience itself. The connections between and among living things are the basis for how ecosystems are understood to work, and thus constitute Law in the metaphysical sense of the given conditions of the created world.

I should like to give the last words here to my teacher Daly Pulkara: 'We been listen to [your] story. You, you whitefella, [you] can listen to story too'. The story he wanted us to listen to is clear but not simple: 'I tell you, nothing can forget about that Law'.

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Notes

1. Zones of contact between Western and Indigenous knowledges constitute sometimes rough edges of encounter. For example, many Indigenous people engage with the world in the presumption of widespread sentience: the idea that other living things, as well as some landforms such as stones, hills, or glaciers, are sentient poses provocative challenges to Western thought. Povinelli (1995) offers an excellent analysis of the confrontation between a system of sentience and the modern decolonising nation. She examines processes by which the challenge of Aboriginal metaphysics is held distant from any possibility of deep effect on Western epistemology and economy. I take it as given that some of the issues raised here will be provocative to some readers.

2. I have not done an equivalently detailed survey of animals, and my knowledge of insects is rather sketchy, but on the basis of information to date it seems clear that there are very few observable living things that are not enmeshed in relationships of benefit.
3. I am confining my analysis to ecological patterns, but I should note that Magowan (2001) has produced a superb analysis of patterns that integrate humans, ancestors, land and seascapes through patterns in which subject and object mutually subsume each other.
4. The fine-grained study of Aboriginal burning in the desert by Bird *et al.* (in press) brings a welcome gender perspective to the analysis, showing that mosaic burning is part of women's hunting strategies and is critical for sustaining habitat mosaics and thus biodiversity.
5. It is also communicated through ceremony, social categories, and other cultural forms, all of which are grounded in the living world, speaking from, to and for life in country.

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