Justice for All: inconvenient truths and reconciliation in human-non-human relations

Veronica Strang
(Durham University)

Professor Veronica Strang
Executive Director
Institute of Advanced Study
Durham University
Cosin's Hall
Palace Green
Durham
DH1 3RL

Tel: +44 (0)191 334 4684
Fax: +44 (0)191 334 4699
Email: veronica.strang@durham.ac.uk
www.durham.ac.uk/ias

Justice for All: inconvenient truths and reconciliation in human-non-human relations

Veronica Strang
(Durham University)

Abstract

Anthropologists have long assisted disadvantaged human communities in their endeavours to achieve social justice, and they are now paying increasing attention to the need to extend notions of justice to non-human species. The emergence of more fluid and relational social theories, along with some useful experiments with interspecies ethnography, have served to promote bioethical approaches suggesting that justice for people should not – and indeed cannot – come before ecological justice. Animal rights debates have continued to raise moral questions about the provision of justice to those who cannot speak for themselves. Environmental concerns have foregrounded the interdependence of humans and other species and the potential for the disruption of these relationships to have major impacts on whole ecosystems. And, with extinction rates rocketing, it is clear that a dualistic vision of Culture and Nature that produces separate 'social' and 'environmental' categories is both theoretically and practically inadequate. This chapter therefore seeks to articulate a theoretical approach that reconciles the human and non-human, and underlines the reality that sustainable relationships between them can only be achieved by the provision of justice for all.

Justice and Equity

Why should anthropology, a discipline focused on understanding human beings, consider those that are non-human? Is that not the role of zoologists and biologists, or our closer cousins, the primatologists? And why should we extend notions of justice to non-human kinds when, in some instances, this may only be achieved by sacrificing the immediate

interests of the disadvantaged human groups for whom we have traditionally acted as advocates?

< FIG. 1. HERE>

Fig. 1. Orangutan, Singapore Zoo. Photo by author.

This chapter suggests that a concern for the non-human should be encompassed by anthropologists for reasons that are ethical, practical, and intellectual. First, the notion of justice is fundamentally concerned with equalising relations between those who have power and those who do not. This raises a moral question about the provision of justice to those who can speak for themselves, in preference to those who cannot. Second, humans, other species and the material world are bound together in communal processes of production and reproduction that are interdependent, such that disruption for any of the participants has potentially major impacts on the others. A short-term focus on immediate human interests has longer-term detrimental effects on humans and non-humans alike. Third, the dualistic vision of Culture and Nature, which underpins the putatively separate categories of 'social' and 'environmental', is theoretically inadequate, and theory is manifested in practice. A theoretical frame in which human needs and interests are separated and prioritised inevitably gives insufficient weight to the needs of the non-human.

A more theoretically robust approach would recognise the artificiality of such dualism, reintegrate the human and non-human, and thus enable reconciliation between the critical perspectives on these issues. In sum: giving humankind priority in the provision of justice leads down a path that is morally questionable, carries high risks, and is intellectually problematic. What is needed, instead, is the simultaneous provision of justice for all human and non-human beings. Thus, in defining a theory of ecological justice, Baxter argues that non-human species have a moral right to distributive justice, which entails 'recognizing their claim to a fair share of the environmental resources which all life-forms need to survive and to flourish' (2005: 4).

The concept of justice is fundamentally ideological. It was first used in English in the medieval period to express the idea that the 'right order' of things involved some degree of equity (Hunt 2009). It therefore implies collaborative rather than competitive relationships. A

later usage, from the 17th century, 'to do justice to' contained the slightly broader meaning: that justice means 'to render fully and fairly, showing due appreciation' (Harper 2014: 1). Justice is therefore underpinned by an idea that maintaining a proper order in the world involves 'appreciating': recognising and upholding the value of others. With the emphasis on 'others', it seems both categorically and ethically questionable to confine notions of justice, equity and value to relationships between humans.

< FIG. 2. HERE>

Fig. 2. Mustering cattle in Cape York. Photo by author.

Prioritising justice as a means of ensuring equity leads directly to issues of power and agency. In the last few centuries, large industrialised societies have embarked upon hegemonic colonial enterprises, creating wildly unequal power relations between and within human societies. In many cases relatively egalitarian indigenous forms of social organisation have been subsumed by hierarchical and patriarchal forms of governance in which indigenous communities, minorities, and women, have been relegated to second and sometimes third-class citizenship, assuming they even achieve the latter. For example: in European nations women generally only achieved full suffrage after 1900 and in some cases not until the second half of the century.[1] Aboriginal Australians were not given Australian citizenship until 1967 (Attwood and Marcus 1999, Howard 2003).

Anthropological interests in justice have therefore tended to focus on the social and economic rights of disadvantaged human groups. As well as articulating ideas about citizenship and enfranchisement, these interests are often entangled with promoting 'development' and more equitable access to resources. Much work has been done on the ownership of property and resources, highlighting the inequities generated by globalisation and the neo-colonial economic expansion of transnational corporations (Anderson and Berglund 2003, Paavola and Lowe 2005, Strang and Busse 2011, Strang 2009a).

Sometimes obscured in these debates is the reality that both the early colonial and the recent hegemonies of the global 'market' have exported to all corners of the globe highly unsustainable economic practices (Franklin 2006, Griffiths and Robin 1997). Their defining characteristic is ever-greater instrumentalism in human engagements with the material world

and its non-human inhabitants. Though acknowledging its deep historical roots, Horkheimer and Adorno (2002) suggest that this became firmly established in the post-Enlightenment period, when through 'rational sovereignty', humankind achieved the 'mastery' of Nature, manifested in the all-consuming engine of an ever-expanding capitalist economy. Illich (1999) is similarly critical of obsessions with growth and the 'Promethean transgression' represented by the abandonment of sustainable 'balance and limits' in favour of development's constant expectation of 'more'(1999: 14). Moran (2006) notes that 'addictive' patterns of consumption became particularly aspirational in the post-war era. In this period technological advances enabled particularly rapid intensifications in the use of land and water resources, and commensurately detrimental impacts on non-human species and ecosystems. Thus economic growth has been achieved – and continues to be achieved – via the externalisation of multiple costs to less powerful human *and* non-human communities (Johnston *et al* 2012, Moran 2006, Plumwood 2002).

With the most powerful societies living in unsustainable affluence, it is difficult to suggest that other people should be prevented from enjoying the material benefits that industrialised economic practices allow. Discourses on justice often imply that the most disadvantaged human groups should have special rights to redress long-term imbalances, and clearly there is a case to be made. However, if the result is only a short-term gain at the long-term expense of the non-human (and thus humans too), this is not a sustainable way to achieve either social or ecological equity. Special rights to resources, like other forms of positive discrimination, tend to reify disparities in power as much as they address them. And there remains a thorny moral question as to whether anyone, advantaged or disadvantaged, has the right to prioritise their own interests to the extent that those of the non-human are deemed expendable.

< FIG. 3. HERE>

Fig. 3. Wallabies are an important traditional bush food for Aboriginal communities in Australia. Photo by author.

An ethnographic example from my own fieldwork illustrates this dilemma. Should Aboriginal communities in Australia have the 'right' to adapt their traditional practices to shoot rather than spear wallabies, to the point that the once plentiful population of wallabies in Cape York has dwindled to critical levels? The complexities of the issue surfaced at a

meeting between Aboriginal elders and representatives of the Queensland National Parks service, while legislation was being tabled to prevent hunting in Australia's national parks. One of the elders, Colin Lawrence, referred to the history of settlement in the area. In the early 1900s, a European grazier had shot a number of Aboriginal people until being speared by one of their leaders, now regarded as a local hero. The grazier had shot Aboriginal people 'like dogs', said Lawrence pointedly, 'and now you want to tell us we can't even shoot a wallaby!' (Strang, field notes 1991).

Yet the number of wallabies has fallen dramatically, not just because the possession of cars and rifles has enabled new forms of hunting, but also because of the competition for food within a fragile habitat created by intensifying cattle farming. At some point, the population may drop to unviable levels. Should this be an Aboriginal choice? Should it be anyone's choice? This opens up a question about justice and cultural relativity, and whether anthropologists should promote cultural relativity to the degree that no universal human – or other – rights carry any weight. In anthropological debates about ethics (Caplan 2003), some of us have argued that extreme cultural relativity, in which it is possible to ignore major abuses of human rights (such as domestic violence), is an abdication of moral responsibility. If we extend this to non-human rights, then one might say precisely the same thing.

<FIG. 4. HERE>

Fig. 4. Bull catching in Cape York. Photo by author.

This implies that we all share a moral responsibility to prevent abuse of the non-human as well as the human. Though there is wide cultural and sub-cultural diversity in what people consider to be abuse (for example the range between promoting the humane slaughter and eating of animals and extreme veganism), many indigenous communities would probably agree. Aboriginal Australian and Maori ideologies certainly valorise respect for and collaboration with the non-human, and I will come back to this point. Many anthropologists are – in my view quite rightly – concerned with disempowered human groups and advocates for their rights. But perhaps, in engaging in these issues, it is important not to separate people from the non-human and from the larger world that we all inhabit.

Casualties

Abstract concepts of environmental and ecological justice tend to subsume the reality that 'the environment' and its ecosystems are composed of thousands of individual species, ranging from the smallest microbial organisms (vital to healthy soil and to aquatic balance), to the largest creatures such as whales and elephants, which tend to get most of the public press about animal rights. But human destruction is undiscriminating: according to the International Union for the Conservation of Nature, and the UN Environmental Programme, the effects of the Anthropocene – that is the period of human history since the Holocene – have been increasingly disastrous for most of the non-human inhabitants of the planet.

The list of causal factors is long, but includes extensive deforestation; the burning of fossil fuels and the production of CO_2 (leading to the melting of glaciers and arctic ice, and thus the loss of freshwater resources and rising sea levels); the overuse of fertilisers, herbicides and pesticides; pollution from multiple forms of mining and manufacturing. Overall, there have been massive diversions of freshwater and other resources into human processes of production and consumption, and competition for these resources has produced millions of (human) refugees:

> The exponential increase in all of these measurable phenomena is tied most fundamentally to two factors: the increase in the human population and our consumption habits. Indeed one must think of these two factors in tandem. (Moran 2006: 2-3)

What I want to underline here, though, is that this competition is not just between humans: all of these activities have entailed the loss of habitats and resources for non-human beings and, with depressing frequency, their demise. Throughout the Anthropocene, and in particular over the last 500 years, there has been an exponential acceleration in the rate of species extinction, even taking into account previous peaks caused by major environmental events, such as volcanic eruptions. The IUCN calculates that humankind has now anthropogenically increased 'normal' rates of extinction by about 10,000 per cent. Within the next 40-50 years the coral reefs, on which about one quarter of the oceans' species depend, will have disappeared. About 25% of the mammals on this planet will be extinct, as will about 41% of its amphibians. Thousands of species, large and small, will have been sacrificed to human societies' endeavours to achieve the continual 'growth' and 'development' that requires

constant intensification in the use of 'our' resources. In all senses of the term, how can this be justified?

< FIG. 5. HERE>

Fig. 5. Seal pup, Kangeroo Island, South Australia. Photo by author.

Even if a justification could be made, this is a critically short-term mode of environmental engagement, echoing on a planetary scale the dynamics that have already caused more localised forms of societal collapse (Caldararo 2004, Diamond 2005). As Dobson points out (1998) the self-interested argument that the non-human should be protected because it is essential to human societies (as encapsulated in the Brundtland Report of 1987) is not sufficient in itself. But there is no doubt that it has become more pressing. The physical interdependences between humankind and other species are fundamental and complex. As much interdisciplinary work has shown, complex adaptive systems can be sensitive to relatively minor social and/or ecological events (Holland 2001, Lansing 2003). Ecosystemic integrity or resilience – what Moran calls 'the web of life' – relies on biodiversity and, it has been argued, cultural diversity too (Moran 2006, Posey and Plenderleith 2004, Orlove and Brush 1996).

Little ecological expertise is required to see that removing multiple participants in such a complex array of interdependent relationships is not a viable long-term option. Approximately 500 million people depend on the aquatic resources supported by the coral reefs currently being destroyed by the impacts of unsustainable energy use. About three-quarters of the crops planted by humans are pollinated by bees, and these crops comprise about a third of the world's food. In the UK, recent controversies have drawn attention to the use of neonicotinoids to control crop pests, and their potential to endanger bee populations, and yet their use continues. Prioritising the rights of manufacturers or farmers to make short-term profits at the expense of the non-human is likely to become very expensive for humans themselves. The growing number of environmental refugees around the world, and the human populations suffering in conflicts over resources, are only the first tranche of casualties in a combative engagement with 'the other' that, if it were aimed directly towards human groups, we would have no difficulty in recognising as a war.

Reconciling the Other

It is of course the non-humanity, the 'otherness' of non-human species that gives license to their destruction, just as it does when fellow humans are 'de-humanised'. Categorised firmly as 'other', non-human beings can be domesticated and enslaved; actively destroyed if troublesome; or merely extinguished by a disregard for their interests. They can be consumed as food, killed for sport, or used to provide resources such as leather, fertiliser and oil. Such usage only becomes problematic when they acquire anthropomorphic personhood as pets and companions: a categorical repositioning which may gain them much pampering and affection – at least until they become elderly and commit the capital crime of incontinence.

< FIG. 6. HERE>

Fig. 6. Horsebreaking in North Queensland. Photo by author.

There is, of course, a rich anthropological literature on the complex and diverse relations between humans and animals, addressing long-term issues of domestication (Clutton-Brock 1988, Crosby 1994, Ellen and Fukui 1996) and examining categorical distinctions (Atran 1990, Bulmer 1967, Douglas 1973, Durkheim and Mauss 1963, Willis 1989). There is also close interest in the various ways in which animals become persons, as totemic ancestors (Durkheim 1961); as the medieval perpetrators of crimes (Phillips 2013)[2]; as pets (Manning and Serpell 1994, Serpell 1996) and as what conservation organisations describe as 'iconic' species (Milton 1993, 2003). All depend on some acknowledgement of animals as persons (Carrithers *et al* 2011, Fuentes and Wolfe 2002, Knight 2005, Noske 1989, 1997, Ritvo 1987).

This literature illustrates the myriad entanglements of human and non-human lives, and the often symbiotic interdependencies that these create. However, although it highlights the contingency of ideas about personhood, and its potential to be extended beyond human boundaries, it tends generally to retain a vision of personhood as human. Animals acquire personhood by becoming anthropomorphised, by being perceived as having human characteristics, emotions or behaviours, or by being encompassed by individual or collective constructions of human identity. In large-scale industrialised societies at least, this does not

imply an alternate, non-human form of personhood, or challenge more fundamental distinctions between human and other.

It is useful to relocate this categorical separation in its historical context. Moran suggests that:

> The nature-culture dichotomy has been central to Western thinking since time immemorial… Dichotomous thinking led us to think of people as apart from nature, and charged with controlling nature for human purposes – and crucially, as distinct from the inherent dynamics of the Earth system itself. (2006: 7-8)

One might question the 'since time immemorial', but Nature-Culture dualism has certainly been a dominant model for a long time. Following Durkheim (1961), it may be said to have followed a (putatively) progressive trajectory away from 'nature religions' valorising non-human deities; towards religions worshipping humanised gods; into increasingly patriarchal and hierarchical monotheisms and scientific deconstructions of the world (Harrison 1999, Hocart 1970, Strang 2014a). A dualistic vision of (supposedly rational, male) Culture and (primal, feminised) Nature introduced not only a critical separation between them, but also encouraged widening inequities in their perceived power and status – inequities that continue to be reflected in their differential access to justice (Adams 1993, Ortner 1976, Plumwood 1993, 2002).

Nature-Culture dualism has been so normalised over time that it has become seemingly fundamental in everyday discourses and in many areas of 'natural' science. However, theorists such as Strathern (1992), Verdery and Humphrey (2004), Escobar 1999, and Descola and Palsson (1996) have questioned its intellectual validity. In this area, as in others, anthropological theories have gained from engagement with diverse cultural ways of understanding the world.[3] A sharply dualistic vision of Nature and Culture, or for that matter human and non-human, does not pertain in all societies' worldviews, and is notably absent in many indigenous cosmologies (Greenough and Lowenhaupt-Tsing 2003). This has real implications for the environmental values that they promote, and for the relationships with the non-human that they compose, encouraging more egalitarian and reciprocal approaches that are – demonstrably – more sustainable in the longer term (Moran 2006, Strang 1997).

Such statements tend to attract the ire of conservative writers, anxious about the romanticisation of indigenous peoples' relationships with their environments. But it is necessary to put aside the historical imagery about Noble Savages, as well as the popular representations of indigenous 'harmony with nature' utilised by conservation organisations and sometimes (with astute political aims) by indigenous groups themselves (Ellen 1986, Hames 2007). There are real differences to consider in the ways that some indigenous groups conceptualise human and other beings. For example, Aboriginal Australian understandings about what it means to be human, and how human and other beings interconnect, are unencumbered by dualistic siloes. These differences are revealed in their ideas about the fluid movement of the human spirit over space and time, into and out of material being, via various human and non-human forms. The human spirit's generation from ancestral forces held in the land; its corporate manifestation as a human person; and its eventual reunification with, or dissolution into, an invisible totemic (non-human) ancestral being, highlight a cultural understanding in which human-ness is seen as 'contingent matter' (Strang 2002, 2009b, 2014b,).

On the Matter of Being

While issues of materiality may seem tangential to the attainment of ecological justice, the emergent literature in this area emphasises the fact that matter matters. Humans are bio-cultural beings, sharing huge amounts of genetic material with other organic species, and subject to the same evolutionary and biological processes (Ingold and Palsson 2013). We depend absolutely upon complex interrelationships not only between ourselves and non-human beings, but also with ecological processes and the range of organic and inorganic materials that constitute these. For instance, every cell in the human body is irrigated by water; the human body is about 67% water; even our thoughts depend upon the electric charges enabled by water molecules. We may sit at the top of the food chain (until arriving eventually at the bottom of it), but we are still dynamically composed – and decomposed – of the material of the world.

Foregrounding materiality enables us to reconsider ecological justice in several ways. First, it conceptually relocates humankind firmly within the material interdependencies that compose ecology. A useful impetus to these ideas has been provided by network theories and STS approaches, which question and perceptually dissolve the boundaries of relationality in

human and non-human interactions (Latour 2005, Mol and Law 1994, Mol 2002). Materialist thinking has been taken further by writers such as Bennett (2009), Tsing (2004) and Ingold (2012) who have elucidated the dynamism of the 'vibrant matter', 'friction' and 'flux' through which the 'matter of being' emerges in spatio-temporal processes of 'becoming' (Deleuze and Guattari 1993). Coole and Frost argue that these 'vitalist' approaches require a new materialist ontology which is post rather than anti-Cartesian, and which 'avoids dualism or dialectical reconciliation by espousing a monological account of emergent, generative material being' (2010: 8). Examining human-non-human relationships from this perspective therefore presents a direct challenge to a dualistic vision of Nature and Culture, and opens up new opportunities to rethink its positionalities.

Such reconsideration has generated humbler, more bioethical – ie. biocentric – approaches in which humans no longer automatically hold the centre stage (Chen *et al* 2013, Haraway 2008, Tsing 2004).[4] Related forays into 'multispecies ethnography' (eg. Kirksey and Helmreich 2010, Tsing 2015) have provided insights into how human-non-human interactions affect a diverse range of 'others' including plants (Head and Atchison 2009), microbes (Helmreich 2009), viruses (Lowe 2010) and corals (Hayward 2010), as well as those, such as primates, that are more easily seen in – literal – relation to humankind (Fuentes 2010). The 'thought experiment' of considering their emic perspectives provides fresh ideas about personhood, and thus issues of ecological justice, establishing a vision of multiple forms of participants and persons in human-environmental relations.

< FIG. 7. HERE>

Fig. 7. Stockman with pet dingo pup. Photo by author.

A quite different approach is provided by specialists in material culture, and this too seems unrelated to issues of ecological justice until we consider its capacity to highlight the agency of things. There is no space here to engage with lengthy debates about material agency (e.g. Ingold 2007, Knappett and Malafouris 2008, Strang 2015), but I want to highlight the value of starting with a question about 'what things do'. Like studies of human-animal relations, those concerned with material things have benefited from exchanges of knowledge about indigenous lifeworlds containing sentient landscapes and objects, providing – again – highly

fluid ideas about personhood, agency and identity. While it is obviously critical to separate contemporary theories of materiality from traditional beliefs in animism, the capacity of the latter to imagine an active material world has proved fruitful. Research on how things and persons act upon each other (Gell 1998, Tilley *et al* 2006) is now extending usefully into a consideration of how, via their particular properties and behaviours, aspects of the material environment – including its 'resources' – play an agentive, recursive role in human-non-human engagements (Bakker and Bridge 2006, Boivin 2008, Strang 2014b).

Rather than being constituted anthropocentrically, as merely the passive subject of human action, this provides a more dynamically reciprocal view of the non-human material environment. As with non-human species, this repositioning reframes it as an active participant in a mutually constitutive relational process, thus enabling an 'appreciation of the other' and highlighting the need to consider its interests. In this sense, it adds to the case for the extension of justice to encompass the non-human.

<FIG. 8. HERE>

Fig. 8. Author with favourite work horse. Photo by Clare Blackman.

Justice for All

The issue of value or 'appreciation' underpins each part of a rationale for the extension of notions of justice beyond humankind. Destructive modes of human-non-human engagement are enabled by a dualistic understanding of Culture and Nature which permits the devaluation of non-human beings, casting them as exploitable and expendable economic subjects. The alienation of 'the other' at a fundamental level also encourages human societies to make dangerously short-term choices while determinedly refusing to consider the 'inconvenient truths' of their likely consequences (Guggenheim 2006).

As noted previously, there is a rational case to be made, on self-interest alone, for humankind to deal more reciprocally with other species and the material environment. The World Commission on Environment and Development, the IUCN, Greenpeace and other environmental organisations have made just such a case, as have the alarming scenarios presented by climate change scientists. Another approach purportedly aimed at conservation,

and self-defined as 'rational', is an all-pervasive push to commoditize 'ecosystem services' or 'environmental services' by attached monetary value to all of the elements and processes of ecosystems according to the extent that they serve humankind.

Jonathan Porritt argues that such marketization has been genuinely effective in persuading governments and industry to adjust their activities to conserve non-human species and the material environment. He suggests that framing human-environmental relationships in this way is the only realistic way to achieve these changes (pers. comm). He may well be right – his extraordinary track record means that he is better qualified to say this than just about anyone. But, as he also acknowledges, there remains a major question as to whether an approach that evaluates the non-human in reductive monetary terms (which inevitably excludes many unmeasurable factors), and which positions the environment and its non-human inhabitants as a 'service' to humankind, can ever deliver the level of reciprocity required to ensure that non-human interests are protected in the longer term.[5] My own view – because theoretical models inevitably manifest themselves in practice – is that an approach that places humankind in such a position of primacy, and which further entrenches the conceptual alienation between human and non-human, contains an inherent contradiction in terms of reciprocal relations, and will inevitably give priority to human interests 'when push comes to shove'.

And the problem is that push comes to shove all the time. Protecting 'ecosystem services', may work when there is the luxury of flexibility, but it is readily subsumed by more immediate pressures. It is plain that rationality rarely outweighs people's capacities for denial. This is amply illustrated by most societies' unaltered commitment to growth-based economic modes and their collective ineptness is reducing CO_2 emissions. And there is an additional ethical question, which returns us to the issue of justice, as to whether, in any case, humankind has the right to impose on non-human species its own evaluation of their fiscal worth in terms of 'service'.

Deep ecologists have argued that real changes in practice are more likely to come, not from purportedly rational arguments about cause and effect, but from fundamental changes in values. For some writers this is a spiritual matter: Sponsel suggests that 'spiritual ecology' is needed to 'tear many of our societies away from the forces of materialism which distort our values' (2000: 95). Atran and Norenzayan (2004) argue that religion needs to challenge

science and secularism if humankind is to break away from self-interest and re-establish 'organic solidarity'.

Given the Durkheimian contradictions to this vision of equality contained in most major religions, and their historic contribution to dualistic and unequal relationships with the non-human, I am dubious about the utility of looking to religion in this endeavour. But, whether religious or secular, a shift in values is key: any sustainable way forward requires a 'rendering of justice to' and 'due appreciation' of the non-human. Clearly a large-scale return to the kinds of pre-Christian 'nature religions' that valorised and appreciated the non-human is unlikely, but there is some potential to learn from those that pertain in indigenous communities. As noted above, indigenous worldviews in Australia and elsewhere generally construct relationships with other species and things that are more egalitarian and reciprocal, and more based on notions of partnership, thus ensuring 'due appreciation' for the non-human.

However, appreciation, co-identification and affective ties are not enough; deep ecology, or as Milton puts it 'loving nature' (2002) are not enough. What is most important about alternate worldviews is that they offer a genuinely different constellation of relations: a closely integrated model of human and non-human beings interacting within a single conceptual community. My concluding point, then, is that this provides exemplars about what is needed *theoretically* for long-term sustainability: a radical reconceptualisation of human-non-human relationships and the notion of 'community' itself.

This suggests that there is a need to incorporate into social anthropology the theorizations of writers interested in the bioethics of non-human and material worlds. These enable the repositioning of humankind and the inclusion of all species and materials as collaborative partners within a shared 'monological' process of becoming (Coole and Frost 2010). In these more inclusive visions, the idea of community can be 're-imagined' to encompass the non-human (Strang in press). In these terms, 'justice for all' is neither 'social' nor 'ecological', but is both conceptually and practically reconciled into a single vision of equity and order.

REFERENCES

Adams C 1993 *Ecofeminism and the sacred* The Continuum Publishing Company, New York

Anderson D and Berglund E eds 2003 *Ethnographies of conservation: environmentalism and the distribution of privilege* Berghahn Books,New York, Oxford

Atran S 1990 *Cognitive foundations of natural history* Cambridge University Press, Cambridge, New York

Atran S and Norenzayan A 2004 Religion's evolutionary landscape: counterintuition, commitment, compassion, communion *Behavioral and Brain Sciences 27 713-770*

Attwood B and Markus A 1999 *The struggle for Aboriginal rights: a documentary history* Allen and Unwin, Cambridge, New York

Bakker K and Bridge G 2006 Material worlds? Resource geographies and the "matter of nature" *Progress in Human Geography 30 5-27*

Baxter B 2005 *A theory of ecological justice* Routledge, Cambridge, New York

Bennett J 2009 *Vibrant matter: a political ecology of things*. Duke University Press, Durham NC

Boivin N 2008 *Material cultures, material minds: the impact of things on human thought, society, and evolution* Cambridge University Press, Cambridge, New York

Bulmer R 1967 Why is a cassowary not a bird? A problem of zoological taxonomy among the Karam of the New Guinea Highlands *Man (NS) 2 5-25*

Caldararo N 2004 *Sustainability, human ecology, and the collapse of complex societies: economic anthropology and a 21st century adaptation* Edwin Mellen Press, New York, London

Caplan P ed 2003 *The ethics of Anthropology: debates and dilemmas* Routledge, New York

Carrithers M, Bracken L and Emery S 2011 Can a species be a person? A trope and its entanglements in the Anthropocene era *Current Anthropology 52(5) 661-685*

Chen C, Macleod J and Neimanis A eds 2013 *Thinking with water* McGill-Queens University Press, Montreal

Clutton-Brock J ed 1988 *The walking larder: patterns of domestication, pastoralism, and predation* Unwin Hyman, London; Boston

Coole D and Frost S 2010 *New materialisms: ontology, agency and politics* Duke University Press Durham NC, London

Crosby A 1994 *Germs, seeds and animals: studies in ecological history* M.E. Sharpe, Armonk, N.Y

Deleuze G and Guattari F 1993 [1980] *A thousand plateaus: capitalism and schizophrenia* transl B Massumi University of Minnesota Press, Minneapolis

Descola P and Palsson G eds 1996 *Nature and society: anthropological perspectives,* Routledge, London, New York

Diamond J 2005 *Collapse: how societies choose to fail or succeed* Penguin, New York

Dobson A 1998. *Justice and the environment: conceptions of environmental sustainability and theories of distributive justice* Oxford University Press, Oxford

Douglas M ed 1973 *Rules and meanings: the anthropology of everyday knowledge.* Penguin Education, Harmondsworth

Durkheim E 1961 *The elementary forms of the religious life* Collier Books, New York

Durkheim E and Mauss M. 1963 *Primitive classification* transl ed R Needham Cohen & West, London

Ellen R 1986 What Black Elk left unsaid: on the illusory images of Green primitivism *Anthropology Today 2(6) 8-13*

Ellen R and Fukui K eds 1996 *Redefining nature: ecology, culture and domestication* Berg, Oxford, Washington

Escobar A 1999 After nature: steps to an anti-essentialist political ecology *Current Anthropology 40(1) 1-16*
— 2015 Sustaining the pluriverse: the political ontology of territorial struggles Conference paper, Centre for the Anthropology of Sustainability Inaugural Conference, *Anthropological visions of sustainable futures,* University College London, 12-14 February 2015

Franklin A 2006 *Animal nation: the true story of animals and Australia* UNSW Press, Sydney

Fuentes A and Wolfe L eds 2002 *Primates face to face: conservation implications of human and nonhuman primate interconnections* Cambridge University Press, Cambridge, New York

Fuentes A 2010 Naturalcultural encounters in Bali: monkeys, temples, tourists and ethnoprimatology *Cultural Anthropology 25(4) 600-624*

Gell A 1998 *Art and agency: an anthropological theory* Berg, Oxford, New York

Greenough P and Lowenhaupt Tsing A eds 2003 *Nature in the global south: environmental projects in south and southeast Asia* Duke University Press, Durham USA, London

Griffiths T and Robin L eds 1997 *Ecology and empire: environmental history of settler societies* Keele University Press, Edinburgh

Guggenheim D dir. 2006 *An inconvenient truth* Film Paramount Classics, Los Angeles

Hames R 2007 The ecologically Noble Savage debate *Annual Review of Anthropology 36 177-190*

Haraway D 2008 *When species meet* University of Minnesota Press, Minneapolis

Harper D 2014 *Online etymology dictionary,* multiple sources http://www.etymonline.com/index.php?term=justice Accessed 26 April 2014

Harrison P 1999 Subduing the Earth: Genesis 1, early modern science, and the exploitation of nature *The Journal of Religion, 79(1) 86-109.*

Hayward E 2010 Fingereyes: impressions of cup corals *Cultural Anthropology 25(4) 577-599*

Head L and Atchison J 2009 Cultural ecology: emerging human-plant geographies' *Progress in Human Geography 33 236-245*

Helmreich S 2009 *Alien ocean: anthropological voyages in microbial Seas* University of California Press, Berkeley, CA

Hocart A 1970 [1952] *The life-giving myth and other essays* Methuen, London

Holland J 2001 Understanding the complexity of economic, ecological and social systems in Stein E ed *Lectures in the sciences of complexity*Addison-Wesley, Reading MA 619-712

Horkheimer M and Adorno T 2002 [1944] *Dialectic of enlightenment* transl. Cumming Continuum, New York

Howard B 2003 *Indigenous peoples and the state: the struggle for native rights* Northern Illinois University Press, DeKalb, Ill

Illich I 1999 The shadow our future throws *New Perspectives Quarterly* 16(2) 14-18 http://www.digitalnpq.org/archive/2009_fall_2010_winter/12_illich.html Accessed 25 April 2014

Ingold T 2007 Materials against materiality *Archaeological Dialogues 14(1) 1-16*
— 2012 Towards an ecology of materials *Annual Review of Anthropology 41 427-442*

Ingold T and Palsson G eds 2013 *Biosocial becomings: integrating social and biological anthropology* Cambridge University Press, Cambridge, New York

International Union for Conservation of Nature 2014 *Red list of threatened species,* http://www.iucnredlist.org/ Accessed 23 April 2014.

Hunt J 2009 *Medieval justice: cases and laws in France, England and Germany, 500-1500,* McFarland and Company, Jefferson, NC

Johnston B, Hiwasaki L, Klaver I, Ramos-Castillo A, Strang V eds 2012 *Water, cultural diversity and global environmental change: emerging trends, sustainable futures?* Paris, UNESCO

Kirksey S and Helmreich S 2010 The emergence of multispecies ethnography *Cultural Anthropology 25(4) 545-576*

Knappett C and Malafouris L eds 2008 *Material agency: towards a non-anthropocentric approach* Springer, New York

Knight J ed 2005 *Animals in person: cultural perspectives on human-animal interaction* Berg, Oxford, New York

Lansing S 2003 Complex adaptive systems *Annual Review of Anthropology 32 183-204*

Latour B 2005 *Reassembling the social: an introduction to Actor-Network-Theory* Oxford University Press, Oxford

Lowe C 2010 Viral clouds: becoming H5N1 in Indonesia *Cultural Anthropology* 25(4) 625-649

Manning A and Serpell J eds 1994 *Animals and human society: changing perspectives* Routledge, London, New York

Milton K ed 1993 *Environmentalism: the view from anthropology* Routledge, London, New York
— 2002 *Loving Nature: towards an ecology of emotion* Routledge, London, New York
— 2003 Human animal relations *Anthropology Today 19(1) 19-20*

Mol A and Law J 1994 Regions, networks and fluids: anaemia and social topology *Social Studies of Science 24(4) 641−671*

Mol A 2002 *The body multiple: ontology in medical practice* Duke University Press, Durham USA, London

Moran E 2006 *People and nature: an introduction to Human Ecological Relations* Blackwell Publishers, Malden MA, Oxford

Noske B 1989 *Humans and other animals* Pluto Press, London
— 1997 *Beyond boundaries: humans and animals* Black Rose, Montreal, London

Orlove B and Brush S 1996 Anthropology and the conservation of biodiversity *Annual Review of Anthropology 25 329-352*

Ortner S 1976 Is female to nature as male is to culture? Rosaldo M and Lamphere L eds *Women, culture and society* Stanford University Press, Stanford, Calif 67-87

Paavola J and Lowe I eds 2005 *Environmental values in a globalising world: Nature, justice, and governance* Routledge, London, New York

Phillips P 2013 *Medieval animal trials: justice for all* Edwin Mellen Press, Lewiston NY

Plumwood V 1993 *Feminism and the mastery of nature* Routledge, London, New York
— 2002 *Environmental culture: the ecological crisis of reason* Routledge, London, New York

Posey D and Plenderleith K 2004 *Indigenous knowledge and ethics: a Darrell Posey reader* Routledge, London, New York

Ritvo H 1987 *The animal estate: the English and other creatures in the Victorian age* Harvard University Press, Cambridge Mass

Serpell J 1996 *In the company of animals: a study of human-animal relationships* Cambridge University Press, Cambridge, New York

Sponsel L ed 2000 *Endangered peoples of Southeast and East Asia: struggles to survive and thrive* Greenwood Press, Westport, Conn

Strang V 1997 *Uncommon ground: cultural landscapes and environmental values* Berg, Oxford, New York
— 2002 Life down under: water and identity in an Aboriginal cultural landscape *Goldsmiths College Anthropology Research Papers* 7 Goldsmiths College, London
— 2006 A happy coincidence? Symbiosis and synthesis in anthropological and indigenous knowledges *Current Anthropology 47(6) 981-1008*
— 2009a *Gardening the world: agency, identity, and the ownership of water* Berghahn, Oxford, New York
—2009b Water and indigenous religion: Aboriginal Australia Tvedt T and Oestigaard T eds *The idea of water* I.B Tauris, London 343-377.
— 2011 *Ownership and appropriation,* ASA Monographs Berg, Oxford, New York
— 2014a Lording it over the goddess: water, gender and human-environmental relations *Journal of Feminist Studies in Religion 30(1) 83-107*
— 2014b Fluid consistencies: meaning and materiality in human engagements with water *Archaeological Dialogues 21(2) 133–150*
— 2015 On the matter of time *Interdisciplinary Science Review* pp??
— (in press.) Re-Imagined communities: a bioethical approach to water policy Conca K and Weinthal E eds *The Oxford handbook on water politics and policy* Oxford University Press, Oxford, New York

Strang V and Busse M 2011 *Ownership and appropriation*, Berg, Oxford, New York

Strathern M 1992 *After nature: English kinship in the late twentieth century* Cambridge University Press, Cambridge, New York

Tsing A 2004 *Friction: an ethnography of global connections* Princeton University Press, Princeton

— 2015 Life in past and coming ruins Conference paper Centre for the Anthropology of Sustainability Inaugural Conference *Anthropological Visions of Sustainable Futures*, University College London. 12-14 February 2015

Verdery K and Humphrey C eds 2004 *Property in question: value transformation in the global economy* Berg, Oxford, New York

Willis R ed 1989 *Signifying animals: human meaning in the natural world* Unwin Hyman, London, Boston

[1] Greece 1952, Switzerland 1971, Liechtenstein 1984.

[2] It is clear that animals were regarded as having sufficient 'personhood' in medieval Europe to be subjected to human forms of justice and punishment in the famous animal trials of that period (Phillips 2013).

[3] As I have noted elsewhere, anthropologicial theories have been co-constituted by ethnographic involvement and knowledge exchanges with multiple cultural perspectives (Strang 2006).

[4] These resonate with longer-running debates about biocentric versus anthropocentric human-environmental relationships, or 'deep' and 'shallow' ecology (Moran 2006).

[5] Porritt notes the example provided by the Yasuni National Park in Ecuador, where efforts have been made to persuade the international community to pay to prevent the exploitation of rich oil reserves in a region critical for biodiversity. A tentative agreement has been reached, but the story is far from over. The list of less positive examples where conservation has been overridden by short-term efforts to extract resources or generate energe, is vastly longer, including for example, the tar sand oil extractions in Canada; the Three Gorges dams in China and myriad other instances where pressing economic needs or desires have subsumed all non-human interests.