# The Goodness of Flying-Foxes

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**Abstract** This essay takes up the challenge issued by philosopher Val Plumwood to subject our cultural narratives to a critical re-think. The focus is on the narrative that only humans live with and through cultural narratives. Opening the analysis to multi-species cultural narratives, the essay engages with the wider question of what is being lost in the world through the direct and indirect effects of human wreckage. The analysis focuses on philosophical/theological questions of the goodness of creation. Working with the case study of flying-foxes (Pteropus spp) in Australia, the essay proposes that a Levinasian ethics of intersubjective responsibility pervades the plenum of life on earth. Through the work of James Hatley, in particular, the essay offers an enlivened account of symbiotic mutualism as evidence of goodness, and explores the ripples of goodness that flow from mutualism. The cruel violence against flying-foxes is offered as just one example of the on-going disaster of human rejection of the goodness of creation.
**Key words** philosophy; biblical narrative; flying-foxes; multi-species analysis; cultural narratives

## Introduction

The on-going debate and critique concerning the appropriateness of the term "Anthropocene"(Crist 2013) goes hand in hand with the fact that the earth has entered an era of escalating ecological change. Most of the changes, while experienced differently in different parts of the world, will not favour the continuation of life in the networks of flourishing complexity that now prevail. The dire consequences of human actions over the past few hundred years are well expressed by Nick Mansfield (2008). He contends that "the material violence of the past emerges, reincarnate, re-fleshed, in our future, and in a politics for which our last centuries of politics cannot prepare or even forewarn us" (para 14). Furthermore, he concludes that while we are facing an event-to-come, that event is in fact already with us in the present:

The politics of climate change will be experienced differentially, as determined

> by race, religion, wealth, nationality and locality. It is being experienced now. The abandoned city. The drowned nation. The unwanted guest. The feared race. The oppressive democracy. The ruthless freedom. The vile law. The risks of justice. The unmanaged change. The unpredicted revolution. The unimaginable end. (para 29)

Of the many questions that arise for human beings at this time, the one that concerns me here is that of what, exactly, is being lost in the more-than-human world. We know a lot about numbers. They are very useful in assessing and comparing loss in this time of degradation and extinction. Beyond numbers, though, what is being lost? I turn to studies on the goodness of creation in order to engage with an ethics of responsibility in the face of loss. Working with a case study of Australian flying-foxes, I aim to enliven our ethical sensibility toward the goodness that is being evicted from the world through human impacts as they directly and indirectly break into and diminish the lives of others.

**Cultural Narratives**

Val Plumwood was one of the world's great contributors to the analysis of how Western rationality sustains the ecological crisis we are now entangled within (*Environmental Culture* 83-84). She held the view that what is required of us in this time of looming catastrophe is "the courage to question our most basic cultural narratives" ("Nature in the Active Voice" 113). These words ask us to trouble the status quo, to trouble our conventional wisdom, and to keep on troubling the dominance of all the ideologies that are ruining the earth's capacity to thrive as a home for life. The narratives Plumwood dedicated her life to questioning, or troubling, are the hyperseparated binaries that assert that humans are separate from the rest of the living world. Binaries include the idea that we (humans) are mindful, while they (nonhumans) are mere matter; that we make meaning, while they follow their individual species-specific instincts; that we are actively in control, while they are there to be manipulated (*Feminism and the Mastery of Nature* 49-59).

These words pose cross-cultural questions: who, for a start, is the "we" whose cultural narratives are in need of being challenged? On the one hand, western modernity has globalised itself to such an extent that the problems produced by the crisis of reason are global problems. In this sense, all humans on earth today have work to do in challenging western modernity's cultural narratives. On the other hand, not all people's cultural narratives are enmeshed in binaries; in this paper the "we" I focus on is primarily western.

Plumwood offered an alternative to what she termed hyperseparated, sado-

dispassionate, scientific modernity. She was proposing a philosophical animism (Rose 2013) which she offered as a way to "begin to negotiate life membership in an ecological community of kindred beings" (Plumwood, NAV 121). The idea of ecological communities that include but are not confined to humans requires the fundamental proposition that nonhumans live their own meaningful lives. I will not argue the case for this proposition, as it is already the subject of an enormous and rapidly growing literature (see for example Bekoff 2002; Bekoff and Pierce 2009; van Dooren and Rose 2012; de Waal 2008; also Plumwood 2002: 167-95).

The great cultural narrative that is being unsettled in all these new understandings of nonhumans is the narrative that we are the only creatures with cultural narratives. It seems ever clearer that we inhabit a world of life in which human cultural narratives are but one type among many. We are thus drawn into numerous disturbing questions. Clearly, the mere fact of the existence of nonhuman cultural narratives troubles western modernity. In addition, the narratives themselves are troubling because they unfold outside dominant story-lines that rely on human-centrism and progress. They aren't all about us. There is a further challenge: that dialogue between humans and nonhumans can be something other than a process whereby humans gain instrumental knowledge in order better to manage and control nonhumans.

I am proposing that the most basic cultural narrative we need to disturb is the predominantly western idea that the nonhuman world is a place not only lacking mindfulness, but also lacking goodness. At its widest, therefore, the challenge of questioning cultural narratives starts up a vast domain of trouble. For if life on earth is created in the mode of "goodness," is there even a place, at this time, for humans? Our species is the great perpetrator of wreckage. Do we have the capacity to be part of goodness? Is this a matter of choice? Can we learn from nonhumans?

In addressing these questions, I want to bear in mind that even within modernity there is no single narrative. And of course within the category "human" there are so many narratives that it is only the hubris of western modernity that allows the idea of a universal narrative. Accordingly, let theology trouble philosophy, let philosophy trouble science, let science trouble theology, let east trouble west, let Indigenous trouble Settler. And in that mode of disturbance, let us have the courage to pay attention to more-than-human creatures.

## The Challenge of Goodness

In recent years I have been engaging with the works of a remarkable but little known philosopher named Lev Shestov. He was born in 1866 in Russia, and was educated there. From 1895, he lived sometimes in Russia and sometimes in Germany or Switzerland. After the revolution he emigrated to Paris where he wrote and taught.

As his work was translated into French he became a key figure in both religious philosophy and existential philosophy. He died in 1938. Bernard Martin, who has translated much of Shestov's work, writes that for Shestov "the gods of Nineteenth and Twentieth Century man — science, technology, the idea of inevitable historical progress, autonomous ethics, and most of all, rationalist systems of philosophy — were … idols, devoid of ultimate meaning but terrible in their potentiality for destruction" (*The Life and Thought of Lev Shestov* 12).

In place of rationalist-dominated modernity, Shestov offered a philosophical celebration of the joyous qualities of life on earth. His deep plea for the western world was for us to regain the capacity to acknowledge that the earth is good. In a particularly powerful passage he asked: "Why should creation not be perfect? … No one, neither of our time nor even of the Middle Ages, dared to admit that the biblical 'very good' corresponded to reality, that the world created by God … was truly good." Shestov's desire within the whole of the work was to restore to European humanity the capacity to see the world in its goodness — to find contemporary ways to recover the divine "very good" (LTLS 63, 70).

The refusal of goodness is one of the hallmarks of high modernity, not least because the core project of "progress" works implicitly and explicitly against the given by always seeking improvement. Whilst remaining mindful of the strands of modernity and counter-modernity that cherish and praise "nature," I want to remain with the fact that the banner of progress has been accompanied by massive violence in forms that include genocide, ecocide, ethnocide and speciocide. Further, every great act of violence has been framed within modernity as a way of improving life. In James Hatley's words, mass death "denotes a doubled action: one murders in the flesh what one has already rendered in one's thought as morally inconsiderable" (*Suffering Witness* 55). This is to say that the ideology of violence holds that the eradication of certain others will improve the world. As Zygmunt Bauman reminds us again and again, although we know a lot about prejudice in relation to violence, "we know little about how to stave off the threat of murder which masquerades as the routine and unemotional function of an orderly society" (*The Holocaust's Life as a Ghost* 10). Violence as a form of progress positions mass killings as "creative destruction, conceived as a *healing surgical operation*" (HLG 11), undertaken in the interest of better economies or environments. Bauman's work relates specifically to human violence against other humans, but it is equally pertinent to human violence against the whole of the nonhuman world. As Plumwood has shown, hyperseparated binaries have been deployed to develop the categories of those whose lives matter, and those whose lives do not. It is a short step from managing others to denigrating them, and then to deem their lives to be of no consequence.

The logic of progress plus the question of goodness equals the idea that life on earth as it exists is not good (enough). Perhaps the most powerful conjunction of these ideas has been brought into the scholarly world through the work of Lynn White Jr. In his study "The Historical Roots of Our Ecological Crisis," he demonstrates the Biblical origins of anthropocentrism — that creation was for, and solely for, humans (1205). He further demonstrates that "a marriage between science and technology" has been the key to implementing anthropocentric control over nature in the western world (1203). White's essay continues to be widely discussed, and has sparked a scholarly return to the Bible in order to find alternative meanings that might be recuperated. Numerous essays indicate that while a role for humans that involves care rather than domination can be recuperated, it is difficult to avoid the anthropocentrism of the stories (see, for example, Tirosh-Samuelson 2001).

One needs to connect the story of creation with the story of expulsion from the Garden of Eden, as Carolyn Merchant does, in order to get the full logic of a world deficient in goodness. This is the powerful cultural narrative of a fallen world which is intended to serve the interests of the human species. It is therefore a world in radical need of improvement (or redemption) (Merchant 2004). This is primarily an occidental view, as White says (1204), and it denies the goodness of the earth's own life. To repeat Shestov's point: no one in the West "dared to admit that the biblical 'very good' corresponded to reality, that the world created by God …" was truly good.

Recently, however, the America philosopher James Hatley, an expert on the work of Emmanuel Levinas, has initiated a major study on the goodness of creation (Hatley 2012). Levinas, as is well known, propounded a deeply challenging ethics of intersubjectivity and relationality, articulated through the trope of the face. In Levinas's analysis, the face is the other before whom I am always already responsible. A number of excellent recent studies are abolishing Levinas's apparent human-centric vision of the ethical subject (for example, Perpich 2012). Others are working to include joy (along with suffering) in the analysis of ethics, for example Mooney (2012).

Levinas wrote about creation in the context of Genesis, and he sought to trouble philosophy with a consideration of creation. He continued the project of bringing western humanity into ethical encounter with the goodness of creation, and thus of the goodness of life on earth. Hatley asks the tough theological and philosophical question: does creation require anthropocentrism? In a radical departure from Lynn White Jr, Hatley discerns in both Levinas and the Bible a way to allow the whole of creation to be engaged within the domain of ethics.

It will be recalled that the Book of Genesis starts with God's breath rippling across the water, and moves through six days of creation, on each of which God looks at what he has done and says that it is good. On the sixth day He creates humans, and

on the seventh day He gazes upon the totality. Levinas argues that the sixth day of creation, with its focus on humans, is the day on which humans are required to learn about being human in relation to other humans. This intra-human story is extremely important, and so it should be. However, the story does not stop on day six. Levinas's reading is that the story goes on to the Sabbath, or seventh day, and, in Hatley's words, to reach the Sabbath we must move "beyond our own particular interests to an ethical and so social, political, historical, and *ecological* involvement with our fellow creatures of flesh and blood or even tissue and sap" ("The Original Goodness of Creation" 268). The Sabbath brings all of creation together in its goodness. This reading allows us to think of creation as the on-going story of life as it comes forth into relationship. The goodness of creation is always emerging in the relational responsibilities through which life keeps on coming-forth. It arrives in its renewal (264).

**Flying-Fox Life**

It is now possible to turn to flying-foxes and to consider their participation on on-going creation, their offerings and blessings, their narratives of participatory life. Flying-foxes are megachiroptera: term chiroptera means "hand winged." There are two suborders: mega and micro. Worldwide, megachiroptera include 166 species of flying-foxes (Pteropids; many of them also known as fruit bats) and blossom bats. Microchiroptera include 759 species. The two suborders are quite different, size being only part of it. Microchiroptera navigate by echolocation (animal sonar); they are small and feed mainly on insects but there also are blood-eating vampire bats, fish-eating bats, and other carnivorous bats. In contrast, Megachiroptera all feed on plants. They navigate principally by sight, and many of them are large. Pteropids, or flying-foxes, are the largest "bats" in the world. Unlike microbats, they navigate by sight and other senses, and do not echolocate. Also unlike microbats, they live exclusively on plant foods, primarily nectar, pollen and fruit. They are arboreal and they forage by night.

In Australia, the largest male flying-foxes weigh about one kilogram and have wingspans of up to 1.5 metres (Hall and Richards, *Flying Foxes* 1-3). There is no way of knowing the flying-fox population figures prior to British settlement, but certainly the numbers would have been in the thousands of millions. Four main species of flying-foxes make up the Australian contingent: Black Flying-fox (*Pteropus Alecto*), Grey-headed Flying-fox (*P. poliocephalus*), Little Red Flying-fox (*P. scapulatus*), and Spectacled Flying-fox (*P. conspicillatus*). By preference they travel widely in search of pollen, seeds and fruits, covering vast areas during an annual round as they follow flowering and fruiting trees and shrubs. At this time, both grey-headed and spectacled

flying-foxes are listed as threatened under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (summarised from Booth et al. 2008).

Although the evidence is clear that flying-foxes prefer the Myrtaceae flowers and forest fruits with which they are co-evolved, the clearing of native vegetation and its replacement with commercial fruit crops has left them little choice. Biologist Francis Ratcliffe came out to Australia in 1929 sponsored by the state governments of New South Wales and Queensland to investigate the orchardists' problem. He was asked to provide information on flying-foxes; the desire amongst many orchardists was less for information than for quick measures for eradicating flying-foxes. Orchardists, along with many other people, held what we might call a zero-tolerance vision. Basically, they wanted flying-foxes gone forever. Their "us" and "them" boundary offered no place for co-existence or mutuality. Ratcliffe's research led him to the conclusion that total eradication of flying-foxes was impossible. He concluded as well that their populations seemed to be in fairly rapid decline owing primarily to human-generated factors; it thus seemed possible that the problem would not last too much longer (*Flying Fox and Drifting Sand* 10).

His findings were as prophetic as they were alarming. Like much of earth life today, flying-foxes inhabit zones of increasing conflict and terror. Ratcliffe reported, for example, that in the 1920s the "Brisbane and East Moreton Pests Destruction board" counted 300,000 flying-fox deaths achieved under a bounty system (discussed in Martin and McIlwee, "The Reproductive Biology…" 104). With government approval, people for decades shot, poisoned, gassed, burnt, and electrocuted flying foxes. In the 1990s there were estimates of 100,000 or more grey-headed flying foxes being shot annually (Tidemann et al, "Grey-headed Flying Fox"). Continuing today, humans are attacking flying-foxes in maternity camps, using water cannons, smoke, helicopters, firecrackers and paintball guns, to note a recent, unusually horrific case.[1] As the horror of wholesale slaughter continues, we are in the situation of trying to save two endangered species. One of the numerous social contradictions impacting on the lives of flying-foxes is that a species like the grey-headed flying-fox is both protected as an endangered species and is legally shot in fruit orchards.

## The Joys of Mutualism

In contrast to the violence that exists between some humans and flying-foxes, there is a fantastic love story of the co-evolution of flying-foxes and their preferred trees and shrubs. Flying-foxes live by preference on pollen and nectar, and so they live by chasing blossoms. Eucalypts and Melaleucas are their favourites. Many of these trees and shrubs produce huge clusters of light coloured showy flowers that are perfectly adapted to be visible at night. Furthermore, many of them actually produce their

nectar and pollen at night so that their peak of desirability coincides with the night-time flyout of their main pollinators (Eby, "The Biology and Management…" 36). Many tree species flourish best across generations when pollen is carried from tree to tree (outcrossed pollination), and flying-foxes perform this service beautifully (Hall and Richards, *Flying Foxes* 83-84). Flying-foxes, for their part, are highly attuned to smell, have excellent night vision that is especially attentive to light colours, and have foraging patterns that get them moving from tree to tree across wide areas (Hall and Richards, *Flying Foxes* 82-83). They often travel fifty kilometres per night getting food, and many of them travel over a thousand kilometres per year. They are the primary pollinators for numerous species, including rainforest species for whom they are also seed dispersers.

The scientific term for this relationship is symbiotic mutualism. A growing body of research is showing that mutualism complements competition and is utterly fundamental to life on earth (Margulis, *Symbiotic Planet*). Mutualism requires sufficient levels of continuity for the relationships to be sustainable, of course. In Australia, blossoming takes place sequentially, and flying-foxes are readily able to know when trees start to bloom hundreds of kilometres away from where they are camping, and to fly off to find the nectar; humans do not know how they do this (Eby, "The Biology and Management…" 24). Because of their capacity to travel widely and opportunistically, they are superbly adapted to the patchy distribution of Australian flora, and to the boom and bust pulses of El Niño influenced abundance.

One of the impediments to thinking about goodness in nonhuman contexts is the tenacity with which scientists sustain their commitment to the separation of self and other, and their commitment to what they define as selfish. Within scientific theory, mutualisms "are inherently selfish interspecific interactions that increase the fitness of both species" (Thompson, *The Geographic Mosaic of Coevolution* 246). Mutualism is deemed to be selfish because it is not altruistic. Clearly, there is a huge problem in the terminology — it hinges on an either-or discrimination: either an action is wholly for one's self (selfish), or it is wholly for another and at a cost to one's self (altruistic). This is a terrible, hyperseparated contrast. It is terrible for understanding mutualism, terrible for understanding relationality, and irremediably terrible for understanding the goodness of life on Earth.

And yet, this terrible contrast finds an eerie echo in a great deal of thought about ethics, including in some of Levinas's work. As is well known, Levinas finds an ethical call in the face of suffering. Even in the moment in which he seems to confirm the beauty of embodied existence, and its susceptibility to the experience of goodness, he also affirms that embodied life entails that one is "to be exposed to sickness, suffering and death" and thus "is to be exposed to compassion, and, as a self, to the

gift that costs" (Levinas, quoted in Hatley, "The Original Goodness of Creation" 265). I am not dismissing suffering, and nor am I dismissing costs to self — we all understand suffering and cost and know that they matter. As I contemplate flying-foxes, though, questions are inescapable: What about joy? What about ecstasy? What about Eros? What is the nature of these calls, and do they bring us into ethics?

Levinas's profoundly simple and at the same time complex vision of responsibility in the face of others is given eloquent expression in the Hebrew term *hineini*. Hatley translates the term as "here, I" (Hatley, OGC 264). He and I are provisionally glossing the term as "*Yes!*" That is, we gloss it as the unconditional assent to life. *Yes!* takes us beyond the dualism of selfishness vs altruism, and beyond the self-other dyad. Hatley always emphasises the other others who are part of the story. Creation, he is saying, is all about entanglement: the participation of all living entities in relationships that "make responsibility the very articulation of the real" (Hatley, "OGC" 275-76). Blossoms and flying-foxes help us to think that our open entanglement in the context of creation radically exposes us and others to the fullness of life. It is neither selfish nor altruistic: it is life for life, life for self and other, life between and amongst a multiplicity of creaturely beings. Within the entanglements of creation, we all call and respond; we are all saying *Yes!*

We do this knowingly, but we also engage in the great *Yes!* without even thinking about it. Levinas uses the term "elemental" to denote those givens of earth that make life possible, such as gravity, light, and air. In the lyrical prose of Alphonso Lingis, "We live in light, in warmth, in liquidity, in radiance … the elemental makes one's eyes luminous, one's hands warm, one's voice voluble and spiritual and one's face ardent" (*The Community of Those Who Have Nothing in Common* 126). The elemental surrounds, pervades, animates and holds living beings. It would make no sense to try to choose to live outside the elemental, but of course we can choose to disregard, denigrate and disparage it, or even try to imagine that somehow we deserve all these blessings (Hatley, "OGC" 265).

Communication amongst earth creatures takes many forms, as is well known (for example, see Curry 2008). Again in Lingis's great words, language begins with insects' "repetitive vibratory chant." They are "reiterating and reaffirming the forces of beauty, health, and superabundant vitality" (51). Much of the communication on earth has nothing to do with us humans; one would only need briefly to reflect upon insects to realise that they are not at all chanting to or for us. But, my story is about flying-foxes.

Let us consider the lush, extravagant beauty, flamboyance, and dazzling seductiveness with which Eucalypts say *Yes!*. They burst open sequentially, even patchily. And when they burst, every twig says "*Yes!*, More!" — more buds, more

flowers, more colour, more scent, more pollen, more nectar — more, and more, and all that can conjured from within the tree to reach out into the world with this great, vivid, multisensorial call: *Yes!*

A human is likely to be struck by the seeming extravagance of it all, and to reach for her camera. For their part, flying-foxes respond to the call of Eucalypts and Melaleucas with their own *Yes!* They sense this great blossoming invitation, and they leave their home camps and come racing to the trees. Their responses include their long tongues that are perfectly adapted to sucking up nectar, and their furry faces that pick up pollen and distribute over 70% of it intact (Hall and Richards 82). They carry Eucalyptus futures on their furry little faces, and across the patchy and increasingly fragmented landscapes of contemporary Australia, the renewal of woodland and forest life hinges on this specific *Yes!* Forest futures are borne on the fur and the tongue, and on the wings that beat through the night carrying the animal to the tree, and carrying the tree's gifts to the future along to other trees.

Symbiotic mutualism situates mutualist creatures in relations of interdependence with others, and so the needs of each constitute calls to others. In these joyful relationships creation is visible; philosophically, creation is evidenced in how creatures bear the traces of response (the trace of the infinite, to use Levinas's term). The point is that traces of creation are all around us, and within us, and approach us, and we are already responsible (Hatley, OGC 263). Analytically one states this ethics of trace in the singular. In life, however, traces dazzle across "the rich textures of a created world"(268). In sum, the goodness of creation is visible in its traces; the traces are spangled across the plenum of life, and in manifestations of the elemental as well.

We have opened the concept of face to include communicative events that announce *Yes!*, and so we can say that each face is multi-sided — it is its own announcement, and at the same time it offers an edge for engagement. These "edges" are, in a Levinasian sense, sites of emergence of creation. They are sites of gifts, sites of benefit, sites of response and responsibility. When two creatures meet, through for example their whiskers and pollen, there is a site and moment of mutual gift and mutual benefit. In this mutuality is renewal (Hatley's term). Every creature has a multispecies history — it came into being through other others. Each individual *Yes!* is both itself and the reflexive history of its mutualists and multiple others. In the presence of Myrtaceous trees one sees flying-fox face traces; in the presence of flying-foxes we can see the traces of dry sclerophyll woodlands and rainforests. We see histories and futures — creation in this widest sense — revealing itself. This is an awakening to goodness because this is the real: the entanglement in the past, present and future of mutual gift. The profoundly simple expression *Yes!* sets up proximity, and chains of connectivity; it is a call to others, who themselves call to other others.

The goodness of flying-foxes is found in the trees; the goodness of eucalypts is found in soil and rain; the goodness of the rainforest is found as well in the lives of cassowaries, and in the air we all breathe, and so it goes on, and on. There is no way to determine where goodness, connectivity and responsibility stop. In flourishing life systems they do not stop.

**Learning to Say Yes!**

This enlivened awareness of mutualism challenges many narratives. At the same time, it also invites and entices. In the faces of others we see that we too are traces of others' lives and gifts, and thus of creation. We experience mutualisms, proximity, and reflexive calls that continue to entangle and renew. Goodness surrounds us in its apparent extravagance because the goodness of creation is not measured drop by drop, but rather flows in a fabulous dance of desire.

We breathe in, we breathe out, we live to celebrate another day, and as we do, we may also think about what is refused when we turn away from all this abundance. Instead of nurturing mutualisms, we frequently offer a resounding "no." Every "no" also has its ripples and reverberations: it carries across animals and trees, photosynthesis and oxygen, even into the breath and the soul, and into the heartbeat and rhythms of life itself.

I began this essay with the question of what is lost in all the wreckage of the Anthropocene. My answer is not exhaustive by any means, but it is wrenching. Creation is being lost. Its goodness is under attack. Life's capacity for life is being lost. In this time of anthropogenic wreckage, the goodness of life calls us to become much better at saying *Yes!* We are going to be asked, again and again, to take a stand for life, and this means taking a stand against some kinds of death — against the violence that pushes a threatened species ever closer to the point of no return, for example.

A stand in favour of life requires a certain faith: faith that there are patterns beyond our known patterns; that in the midst of all that we do not know, we also gain knowledge; and that in the midst of all that we do not, indeed cannot, choose, we also make choices. That in the midst of terrible destruction, life finds ways to flourish. And that the goodness of creation does, indeed, include us.

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work on questions of goodness and multiple stories / voices. Further information on current violence against flying-foxes (including links to yet more information) can be found in blog posts at www.deborahbirdrose.com. Some of the descriptive material in this paper has been published in previous work on flying-foxes (see, for example, Rose 2012).

## Note

1. I am referring in particular to the recent attack on flying-foxes in the Queensland city of Charters Towers; the attack was justified by the need to improve the quality of life for humans. See for example: "Man is the Only Animal That ..." (http://deborahbirdrose.com/2013/12/10/man-is-the-only-animal-that/).

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