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Gallagher, Felicity Vanessa

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ELEPHANT OVER-POPULATION:
TOWARDS A THEORY OF A JUST CULL

Felicity Vanessa Gallagher
Student 514140

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University of the Witwatersrand, Johannesburg,
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Master of Arts, Applied Ethics for Professionals

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ABSTRACT

In this research report I address the question: Is it ever morally justified to cull elephants? And, if it is, what criteria need to be fulfilled for a cull to be morally justifiable?

In answering the first part of the question, 'Is it ever morally correct to cull elephants?' I defend the claim that the killing of elephants is a *pro tanto* wrong. The second part of the question, 'What criteria need to be fulfilled for a cull to be morally justifiable?', directs my attention to identifying conditions under which the *pro tanto* wrong of killing elephants could be outweighed by other moral considerations. I identify and critically discuss these criteria, developing what I call a 'Theory of a Just Cull'. Finally, I apply my Theory to the current situation in South Africa, and argue that it is not possible to ethically justify elephant culling in South Africa in the current circumstances.

DECLARATION

I declare that this research report is my own unaided work. It is submitted for the degree of Master of Arts, Applied Ethics for Professionals, in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any other degree or examination in any other university.

Felicity Vanessa Gallagher

_____ day of _____ , 20___

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DEDICATION

This research report is dedicated to my family – Ellie, Cassie, Gus and Kobus – who have supported me throughout this journey. Thank you for making this possible.

Our lives begin to end the day we become silent about things that matter.

Martin Luther King Jr.

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1. INTRODUCTION

In May 2008 the South African government caused widespread outrage by ending its 14 year moratorium on the culling of elephants. The international press declared that the South African government had 'misused science and turned elephants into commodities'.[1] Local environmentalists condemned the decision as 'undeniably cruel and morally reprehensible,'[2] and called for a tourist boycott of South Africa. Much of the hard work that had been put in to rehabilitating the country's reputation after the end of apartheid was threatened by that one action.

The decision to resume elephant culling in South Africa's national game parks followed the recommendation of the *Summary for Policymakers: Assessment of South African Elephant Management 2007* (hereafter referred to as the *Summary)*, and its source, the *Assessment of South African Elephant Management 2007* (hereafter referred to as the *Assessment*). The latter document, which runs into hundreds of pages, was written by 62 experts and was reviewed by another 57. Marthinus Van Schalkwyk, then Minister for Environmental Affairs and Tourism, used these documents to back the government's claim that, given the dramatic increase in elephant population in South African game parks over the past two decades, and the damage that these animals were inflicting on the habitat that they shared with many other species, the environmentally responsible action to take was to reduce their population, through culling, to a figure that could be sustained without negatively affecting their co-sharers of the habitat.[3]

[1] 'Culling of elephants in South Africa – reaction from elephant experts', 11 May, 2008, http://www.elephantvoices.org/news-media-a-reports/97-welfare/222-culling-of-elephants.html, accessed 22 January, 2012.
[2] 'South Africa to resume elephant culling', 26 February, 2008, www.washingtonpost.com/wp-dyn/content/article/2008/02/25 AR2008022500970.html, accessed 10 August, 2011.
[3] G. A. Bradshaw, *Elephants on the Edge* (New Haven and London: Yale University Press, 2009), 241.

The degree and longevity of the outcry – of a magnitude such that South Africa, in spite of the *Assessment*, has yet to carry out an elephant cull – demonstrates that this topic is both actual and highly controversial. It is also a vitally important question to address, since it explores the relationship between humans and non-humans, and how we treat and respect one of the most highly intelligent species with whom we share our planet.

The question this report addresses is the following: **Is it ever morally justified to cull elephants? And, if it is, what criteria need to be fulfilled for a cull to be morally justifiable?**

I do not entertain in any seriousness the argument that sentient animals are not worthy of any moral consideration whatsoever. I shall take as understood the consensus of the vast majority of environmental and other ethicists on the topic – as well as the intuition felt by most of us – that animals are entitled to some moral consideration at the very least, and that is it wrong to cause them unnecessary suffering. However, the claim that there is a real moral difference between the culling of excess elephants and, say, springbok or rabbits does need some justification. In the first part of the dissertation I draw on the standard individualist accounts of the moral value of nature (Peter Singer and Tom Regan, among others), as well as the writings of ethologists and environmentalists specialising in elephant management such as Michele Pickover and G A Bradshaw, to explore why an elephant is a being worthy of substantially *more* moral consideration than less 'intelligent' mammals such as springbok or rabbit. I argue that a plausible case can be made for the killing of an elephant to be considered a *pro tanto* wrong in much the same way as is the killing of a human. I address objections by philosophers who argue that elephants, though sentient beings, do not have any greater claim to moral consideration than animals raised for slaughter or for vivisection, and our duty of care to them does not extend beyond sparing them unnecessary pain.

Having established a philosophical justification for our instinct that the killing of elephants is a *pro tanto* wrong, I then direct my attention to the main part of my dissertation, which is to identify conditions under which the *pro tanto* wrong of killing elephants could be outweighed by other, more compelling moral claims. The most common justification given for elephant culling is destruction of habitat, but there are others, and I shall construct a framework of criteria within which to explore these competing claims, the fulfilment of which would make a responsible cull morally justifiable. I address the objections to this argument put forward by environmentalists and ethologists specialising in elephant behaviour, who would argue that the *pro tanto* wrong of killing elephants can *never* be overcome under any circumstances whatsoever.

In spite of the moral and actual differences between war and culling, and between humans and elephants, Just War Theory is a good starting place for the development of a theory that will morally justify a responsible cull. Using a framework similar to that of Just War Theory I develop a set of criteria, *Jus ad Caesum*,[4] which addresses those issues that need to be taken into consideration before entering into a cull, and *all of which* would have to be met before a cull can be considered morally justified.

The Jus ad Caesum criteria I identify are *Just Cause*, *Last Resort*, *Legitimate Authority*, and *Reasonable Chance of Success*. Under each of these criteria I suggest what might plausibly be identified as fitting that criterion, and then address objections to my argument.

In *Just Cause* I draw on holistic arguments, leaning on the work of J. Baird Callicott and Aldo Leopold, to argue that we may be committing a greater harm by failing to preserve the integrity of the habitat than we are by culling individual elephants. I explore the moral

[4] I shall explain the meaning of *Jus ad Caesum* in the body of my report.

claims of Future Generations – of other species, and of elephants themselves. I also address the issue of why we, as humans, are morally obliged to intervene in this issue, again by drawing on holist environmental beliefs to argue that, as custodians of the planet, we have a duty to ensure that the balance of nature is maintained.

In the criterion I entitle *Last Resort* I explore the many alternatives that have been put forward as possibly morally preferable to culling, and weigh each of their merits against that of culling. Due to the *pro tanto* wrong that is committed by culling elephants, I argue that, for culling to be viewed as the Best Alternative, it will be necessary to provide substantial normative evidence that no other method of controlling elephant over-population is adequate, at this stage.

A cull cannot be undertaken without *Legitimate Authority* being given to it. The awarding of *pro tanto* status to the deliberate killing of elephants changes this criterion dramatically, and demands that a far more wide-reaching authority be sought before a cull can be ethically authorised.

A cull can only be justified if it is done on a scale that will ensure that the problem is solved for the foreseeable future. In the criterion I call *Reasonable Chance of Success* I argue that a cull could only be considered to be morally justifiable if it could reasonably be thought to end the problem once and for all, and not simply provide a short-term solution.

My Research Report explores and lays out the conditions under which a hypothetical cull of excess elephants could be morally justified. I do not advocate culling as a solution to the problem of elephant over-population in South Africa today – if such a problem even exists – though I do apply the theory to the South African situation, as I understand it, in Section 5 of this report. Should the decision to cull pass the criteria set out in *Ad Caesum,*

then another set of criteria, which I name *In Caeso,* would govern how the cull is carried out in an ethical manner. I conclude my report by emphasizing that it is extremely unlikely that any cull of elephants in the near future could fill the criteria laid out in my Theory of a Just Cull. I end by placing myself firmly behind Bradshaw in her view that elephants are worthy of profound moral consideration, similar to the moral consideration we which owe to our fellow humans, and that a fundamental shift in our behaviour towards these animals is required if we are to retain any moral dignity ourselves.

2. SETTING THE SCENE: ELEPHANTS AND CULLING

I begin with a brief introductory discussion about the nature of elephants, our relationship with them, and a description of what a cull entails.

Elephants are the largest land mammals on earth. They can reach a height of almost 4m, and weigh up to 6 000kgs. Babies, on average, weigh 120kgs at birth. Elephants take 14 to 25 years to reach maturity, and their life span can be as long as 70 years. An adult elephant's brain weighs between four and six kgs. Its basic social unit is a family-like structure. Elephants are long-lived, and exhibit a high degree of social complexity. Their social bonds and networks are similar in size of those of humans, and can extend over hundreds of square kilometres. Their memories are extraordinary, and it is common for relationships formed decades before to be remembered and renewed when elephants meet again. Elephants' brains are the largest of any known terrestrial mammal, extinct or living. The neo-cortex, which is the seat of enhanced cognitive function such as working memory, planning, spatial orientation, speech and language, is large and highly convoluted. Elephants arouse empathy in many of us for a number of reasons. Their lifespans are similar in length to ours, and their family units and highly human-like patterns of behaviour are such that we find it easy to relate to them. We typically consider elephants to be peaceful, intelligent, contemplative creatures, and adjectives such as 'majestic', 'noble', 'intuitive', 'gentle' and 'awe-inspiring' invariably crop up in descriptions of these pachyderms.[5]

[5] Facts and figures sourced from the website 'Elephant Voices'. http://www.elephantvoices.org/elephant-basics/facts-a-figures.html, accessed 12 December, 2011.

And yet, historically, humankind's relationship with elephants has been a bloody and abusive one. At the start of the 20th century it is estimated that there were around 20 million elephants in Africa. At its close there were fewer than 700 000. Elephants' most vicious enemy has always been humans, and for the past hundred years it is human population explosion, and the resulting loss of elephant habitat, that has presented the greatest threat to the survival of elephants. One striking example of how cruelly people have treated elephants is the horrific slaughter of elephants that took place in the Knysna area of South Africa's Southern Cape in the first decades of the century, where hunters were paid by the townsfolk to systematically track down and kill every elephant in the area, in order to make way for logging. Of the thousand elephants living in the Kynsna forest at the time just *eleven* elephants survived the killing. For many years after this slaughter these remaining elephants were renowned for their violence against humans – and taking cognisance of what we know regarding the brain size, longevity of memory and the importance of relationships and family units, this first-documented incidence of post-traumatic stress among elephants should hardly surprise us.[6]

Asian elephants have not fared any better. The same struggle for land – mainly for palm oil, coffee and paper cultivation – has seen the elephant hunted to dangerous levels. Some environmental agencies predict that elephants in Asia could be all but extinct within a decade. In the state of Karnataka in India it is estimated that more than seven hundred elephants were killed between 2003 and 2008 – about one death every three days.[7] The Sumatran elephant has recently been 'upgraded' to critically endangered status, having lost half of its population and 69% of its natural habitat in the past 25 years.[8]

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[6] Bradshaw, *Elephants on the Edge,* 241.
http://www.elephantassessment.co.za, accessed 16 December, 2011.
[7] G. A. Bradshaw, *Elephants on the Edge,* 238.
[8] http://www.guardian.co.uk/environment/2012/jan/24/sumatran-elephant-upgraded,accessed 25 January, 2012.

Since the start of the last century, elephants have been systematically confined to areas reserved for indigenous animals – game parks, both private and government-owned, as well as sanctuaries, circuses and zoos. There are very few areas in the world today where elephants still live side-by-side with humans.

WHAT IS CULLING, AND WHAT DOES IT ENTAIL?

In order to fully grasp some of the ethical implications of culling it is essential to comprehend exactly what a cull entails. A clear understanding of some of the harms typically caused to elephants during and after a cull is a necessary pre-requisite to an ethical evaluation of the practice. Just as speaking of war in terms of national honour – the soldiers marching off to defend their country's glory, resplendent in their pressed and shiny uniforms – so is it possible to think of culling as a mere exercise in wildlife management, and lose focus on the suffering of the animals that are culled, and the lasting damage inflicted on the elephants left behind. For this reason, I now provide an account of how an elephant cull normally proceeds.

Hennie Lötter describes culling as 'the deliberate killing of animals for the purpose of reducing the size of an animal population.'[9] In other words, in culling we are intentionally killing elephants in order to control numbers, elephants that we can reasonably assume would, under normal circumstances, have led long and fulfilled lives.

Culling typically takes place in the following way. Small planes are used to confuse and corral a herd of elephant towards a road or other area that is easily accessible to humans

[9] H. Lötter, et al., "Ethical Considerations in Elephant Management", in *Elephant Management: A Scientific Assessment for South Africa,* ed. *R.* Scholes & K. Mennel (Johannesburg: Wits University Press, 2001), 427.

in motor vehicles. The elephants, disorientated and afraid, run into the ambush of men on the ground armed with semi-automatic weapons. The shooters are usually accompanied by a large number of ‘labourers’, who will skin and butcher the elephants that have been shot in order to obtain the meat, ivory and other marketable products of the cull. Efforts are made to cull an entire herd, for a number of reasons, including attempting to minimise the trauma to those left behind – though often juveniles are spared if they are considered to have some commercial value.

Shooters look for the matriarch of the herd, and shoot her first. The reasoning behind this is that the other elephants look to her for guidance and leadership, and her death will prevent them from racing off, which would make them harder to kill. The reality of this is that the elephants witness the deliberate killing of their leader, and experience huge distress in the minutes that elapse between her death and their own. This distress is communicated through sound waves to other herds many hundreds of kilometres away, causing trauma to elephants far from the culling fields. It is an incontrovertible fact that such a killing causes great trauma, trauma that extends far beyond the herd that is culled.

Shooters attempt to kill the elephants with one shot to the head. Adrian Read, a former Zimbabwe National Parks game ranger and an ‘experienced elephant terminator’ (a term coined by Douglas Chadwick), reports: ‘You shoot only in the head. The animal is dead before it hits the ground. If it is running away, you have to hit the spine, then run around and shoot it in the head.’ This same ‘experienced elephant terminator’ observed:

> Now the strange part: If we went culling one day, we would go out the day after and shoot in the same area, because nearby elephants would come over to investigate. No doubt about it, the message gets to other herds, even if you’ve killed every one in the first group. It’s

> that infrasound. It has to be . . . You go after a wounded calf, and even though the pilot hasn't seen another group anywhere close, the calf will run to the nearest herd [up to 10 kilometres distant].[10]

Once the elephants have been brought to the ground the shooters will walk among them, and finish off any still alive with a shot to the head. Juveniles that are considered commercially valuable are often spared, and chained to their dead mother's bodies while the shooters chase down and kill any elephants that may have run away. These same juveniles remain chained while the bodies of the adult elephants are dismembered and removed. There are numerous examples of both African and Indian elephants reacting violently and out of character towards humans when adult, and it is ethologists' considered opinion that the root cause of this behaviour can be traced back to the experience of many decades ago, when they watched their herd members being systematically killed by humans.[11]

Meat, hide and ivory are separated out and disposed of in accordance with instructions given to the team. The remains of the cull are then taken to a specially fitted-out abattoir, where the process of harvesting the elephants' bodies is completed and any waste material burned. Attempts are made to remove all traces of the cull, but that is not possible, and large amounts of blood and traces of flesh, bone, ivory and skin remain on the soil of the savannah. This last point is relevant in assessing the trauma experienced by elephants in a cull due to their elevated sense of smell, their fascination with death and their close family ties. It is common fact that a herd of elephants will visit, and re-visit, the scene of a cull over many years, even when the visiting herd was many hundreds of kilometres away at the time of the cull. How elephants communicate this sort of

[10] Bradshaw, *Elephants on the Edge,* 76.
[11] Bradshaw, *Elephants on the Edge,* 70-114.

information is not completely known to humans, nor does that matter for the purpose of this discussion. What does matter is the fact that it constitutes irrefutable proof that elephants are creatures to which the deliberate killing of their kind induces considerable mental distress.[12]

[12] Bradshaw, *Elephants on the Edge,* 80, 82, 217, 234.

3. **THE DELIBERATE KILLING OF ELEPHANTS: A *PRO TANTO* WRONG**

Having now established the nature of elephant culling, I shall move on to justifying why such deliberate killing can be considered a *pro tanto* wrong.

I am unable to engage in a full-scale discussion of the matter of sentient animals being due some sort of moral consideration. However, regardless of which side they take in the animal liberation debate, it is unlikely that any professional philosopher today would argue seriously that animals are not owed *some* sort of moral consideration. On the side in favour of animal liberation, Peter Singer claims that, by virtue of their ability to experience pleasure and suffer pain, animals are due significant moral consideration,[13] while Tom Regan argues that animals, being experiencing subjects of a life, have rights that humans are morally required to take into account, including a right to life.[14] Animals, on Regan's view, are not resources to be used by humans at whim. Lötter asserts that, 'All human beings have a moral responsibility to treat all animals humanely.'[15] Even some of the principal theorists who oppose granting animals rights argue for a minimum level of respect in the treatment of animals: Michael Fox agrees that animals are sentient beings and should not be made to suffer needlessly.[16] RG Frey concedes only the most basic of considerations to animals, based on their ability to suffer, but these he does concede.[17] Even Michael Leahy, who identifies himself as being an opponent of the animal liberation movement, acknowledges that animals should be treated with respect.[18] For the purposes

[13] Peter Singer, "Animal Liberation", in *The Environmental Ethics & Policy Book*: *Philosophy, Ecology, Economics*, eds. D. VanDeVeer & C. Pierce (Belmont: Wadsworth, 2003), 135-142.
[14] Tom Regan, "The Case for Animal Rights", in *The Environmental Ethics & Policy Book*: *Philosophy, Ecology, Economics*, eds. D. VanDeVeer & C. Pierce (Belmont: Wadsworth, 2003), 143-149.
[15] Hennie Lötter, "The Ethics of Managing Elephants", *Acta Academica* 38 (2006): 55-90.
[16] Michael Fox, "Animal Liberation: A Critique", *Ethics* 88 (1978): 106-118.
[17] R.G. Frey, *Interests and Rights* (Oxford: Clarendon Press, 1980).
[18] Michael Leahy, *Against Liberation. Putting Animals into Perspective* (New York: Routledge, 1994).

of this report I shall take it as understood that, as humans, we are required to refrain from causing animals unnecessary harm and suffering.

That position, however, it is a long way from one that concedes that the killing of an elephant is a *pro tanto* wrong, which is what I shall now proceed to argue. I shall start by briefly explaining what I mean by a *pro tanto* wrong, before arguing for a sliding scale of moral considerability among sentient animals. I shall then set out some of the relevant differences between elephants and other species with 'lesser capabilities', and explain why this has relevance in the debate over the morality of killing elephants, building a convincing case for the deliberate killing of elephants to be considered a *pro tanto* wrong, in much the same way as the deliberate killing of human beings is.

WHAT IS A *PRO TANTO* WRONG?

In this report I shall use the term 'pro tanto' as defined by Shelly Kagan: 'A pro tanto reason has genuine weight, but nonetheless may be outweighed by other considerations […] A prima facie reason *appears* to be a reason, but may not actually be a reason at all, or may not have weight in all cases it appears to. In contrast a pro tanto reason is a genuine reason – with actual weight – but it may not be a *decisive* one in various cases'[19]. The most obvious example of a *pro tanto* wrong is the killing of a human being. No reasonable person would deny that to deliberately end the life of another human being is a most serious harm. However, we can also concede that there may be circumstances that attenuate the wrongness of that harm: if, say, the person in question is suffering from a terminal illness, and for whom there is nothing but a future of pain and suffering, or if the transgressor is acting in self-defence and can take no other action in order to save her own life. The most classic example of the overcoming of this *pro tanto* wrong, however,

[19] Shelly Kagan,*The Limits of Morality*, (Oxford: Clarendon Press, 1989),17.

comes in the case of war. While many of us may – and do – object to war *per se*, few of us would argue that there are never times when war is necessary, as the lesser of several evils. The deliberate killing of one person by another that occurs in war is excused on the grounds that – at least for the morally justified side – the *pro tanto* wrong of killing is over-ridden by the more significant moral imperative of defending one's nation against aggression.

THE SLIDING SCALE OF MORAL CONSIDERABILITY

I shall return to defending my claim that killing elephants is a *pro tanto* wrong, but before doing so it is necessary for me to introduce the notion of a sliding scale of moral considerability among animals. Intuition tells us that it is less wrong to deliberately kill a rat than it is to kill a dog without good reasons (though both can and should be considered wrongs). But intuition and gut feeling, though useful guides, are not sufficient reasons for defending the idea of a sliding scale of moral considerability to animals. I turn now to other philosophers for support. While the main thrust of Singer's argument in favour of according animals moral consideration lies in their ability to experience pleasure and pain, he does concede that the *amount* and *quality* of the pleasure and pain experienced must count for something – and even more so when the pain to which we refer is psychological and not physical. The suffering of a rabbit, which will not feel the loss of her babies for more than a few hours, due to her less developed brain functions, must surely count less than that of the ape who would mourn her loss for many months.[20] Regan, who bases his claim for animal rights on the 'experiencing subjects of a life' argument, argues in favour of a scale of value. A certain level of consciousness is required for a being to be accorded the status of 'experiencing subject of a life' – which is why non-mammals are largely excluded from his argument – and it largely follows that the more sentient the animal, the more it

[20] Singer, "Animal Liberation".

experiences its life, and therefore the more valuable is its life when compared with that of a less intelligent animal. In his lifeboat example, Regan argues that, exceptions excluded, a dog rather than a fully functional human would be thrown off a lifeboat in a hypothetical situation where only one of the two could be saved, as it is reasonable to assume that 'death for some nonhuman animals represents less of a loss than it represents for some humans'. Regan does, therefore, concede that some lives, human and animal, are more valuable than others. [21] Lötter agrees that animals' intelligence, social structures and emotional quotient affect the way in which we, as humans, are morally obliged to treat them: '[t]he relative moral standing of animals is determined *inter alia* by the complexity of the behaviour, consciousness, and characteristics of the species.'[22]

It is therefore reasonable to adopt a sliding scale in evaluating the moral considerability of other living creatures. I end this discussion with the words of Mary Ann Warren, which sum up our intuition:

> [S]entience and other mental abilities come in degrees. It is appropriate to accord an especially strong moral status to [. . .] elephants, because it is reasonable to believe that their intelligence and mental sophistication make their lives more valuable to them than those of mentally simpler animals, such as mice or rabbits.[23]

Having established that it is reasonable to conceive of the moral status of animals as existing on a scale, I now turn to considering the relative status of elephants on this scale.

[21]Tom Regan, *The Case for Animal Rights* (Berkeley: University of California Press, 2004), 364- .
[22] Lötter, "The Ethics of Managing Elephants", 57.
[23] Mary Anne Warren, "Moral Status", in *A Companion to Applied Ethics*, ed. R. Frey, and C. Wellman (Malden: Blackwell, 2003), 447.

THE DELIBERATE KILLING OF ELEPHANTS: A *PRO TANTO* WRONG?

What is it that elevates elephants above the status of being merely worthy of *more* moral consideration than, say, rabbits and rats, and grants them a degree of moral considerability similar to that of humans? It is not necessary to show that elephants are of equal status to humans to defend the claim that the killing of elephants is a *pro tanto* wrong. In her work 'Elephants on the Edge: What Animals Teach Us about Humanity', G A Bradshaw, an internationally renowned scientist, gives us a quite unique glimpse into the minds of elephants, and makes an appeal, as rational as it is sensitive, for new conceptions regarding human uniqueness and – following on from that – of the treatment of elephants by humans. Bradshaw refers to two specific tests in her argument for elephants' moral considerability: Gordon Gallup's Mirror Test, and the psychologist William James' test that defines a sense of self. Bradshaw, who holds doctorates in ecology and psychology, describes the components of Gallup's Mirror Test.

> 'The Mirror Self-Recognition (MSR) test identifies critical levels of cognitive development, the ability to engage in abstract psychological knowing that relate to the theory of mind (TOM), indicating that one is not only conscious but self-conscious. The assumption behind the test is that only a subject who has a sense of self, an awareness of her existence as a unique being and who acts as an instrument of her own fate, is able to recognize her form in a mirror's reflection: to know what she looks like on the "outside". Though philosophers and scientists have had a difficult time agreeing on what lies behind a sense of self, and even its definition, the MSR test purports to objectively measure something as subjective as the interior felt sense of self-awareness.

> Self-recognition typically develops in humans between the ages of eighteen and twenty-four months; until recently, it was believed to be absent in animals and assumed to distinguish humans from all other species. But in recent years this exclusive club has been joined by chimpanzees, orangutans, dolphins, […], and it was Happy, the middle-aged Asian elephant living in the Bronx Zoo, who carried home the intellectual gold medal to qualify the pachyderm for membership.[24]

In addition to the MSR test, Bradshaw explains the four core criteria chosen by psychologist William James to describe the core self. Briefly, they are: 'first, a sense of self involves agency, the knowledge of one's own behaviour and movements that acts upon the world. Second, this sense of agency feels coherent and embodied'[25]: in other words, the being is aware that she is a being separate from other beings. We would all agree that very few mammals fail to meet those two first criteria; indeed, without meeting them it would be hard for any creature to survive. The third 'feature James associated with a sense of self was the capacity to feel and show emotions [. . .] Studies on elephants in the African and Asian wilds and those in captivity indicate that in addition to complex cognitive skills, elephants feel and express a range of emotions.'[26] Bradshaw goes on to give persuasive and detailed examples of elephants' well-documented reactions to death and mourning, their sense of community and of a family unit, their playfulness and sense of humour, as convincing proof that they fulfil this third criterion. James' fourth and final criterion defining a sense of self, 'possession of one's own sequence of experiences, a

[24] Bradshaw, *Elephants on the Edge,* 3.
[25] Bradshaw, *Elephants on the Edge,* 8.
[26] Bradshaw, *Elephants on the Edge,* 10.

history and sense of continuity',[27] is convincingly fulfilled by referring to examples of elephants' highly developed memory, going back decades in some instances, and transgressing geographical and other situational barriers. Elephants, it would seem, do indeed display all four features required for possession of a subjective sense of self.

What does this mean? Suddenly, the uniqueness of one of the main characteristics that has classically been used to make a distinction between humans and other animals – the sense of self – has been called into question by modern science.[28] As Michele Pickover states, 'mounting evidence from ethological research [shows] that humans are less distinctive than was commonly supposed. We are beginning to understand that other animals share our complex pattern of social organisation and have sophisticated emotional lives, including feelings of altruism and friendship.'[29]

In what way are all these observations relevant? Why does it matter that, or if, elephants do have a far better-developed sense of self than was previously thought to be the case? It matters because it is precisely the *lack of these faculties* that has been used as the mainstay of their argument by those philosophers who argue against awarding substantial moral standing to animals. Having demonstrated that elephants, *in contrast to most other animal species*, do indeed have those very characteristics that philosophers have used for many decades to differentiate humans from other animals – then these experts' claim that humans are the only beings entitled to substantial moral consideration seems fatally flawed.

[27] Bradshaw, *Elephants on the Edge,* 14.
[28] This delineation between humans and animals is more a function of Western thinking than that of other societies. It is thought to have first evolved in ancient Greek times. It should be noted that some civilisations, such as Native American tribes, have never had such a strict line drawn between humans and other animals
[29] Michelle Pickover, *Animal Rights in South Africa,* (Cape Town: Double Storey Books, 2006), 10.

To return to the philosophers cited earlier, I now re-evaluate their arguments for giving moral standing to animals. Peter Singer came to the debate on animal liberation through the door of animal suffering. To him, what was horrendous about current animal farming practices was the suffering imposed upon animals by harmful practices such as factory farming, vivisection and the like. One of the most serious criticisms that has been levelled against Singer has been of his supposed misanthropy – the way in which he seems prepared, if a good enough case can be made, to put the interests of animals before those of humans.[30] Thus Singer, it seems, would concede that, because of their proven sense of self, the wrong of deliberately killing elephants is close to the wrong of killing humans.

Tom Regan bases his argument for according rights to animals on their being experiencing subjects of a life. As stated above using the lifeboat case as an example, Regan argues that the quality of life, and what can be experienced by the animal, human or non-human, must be taken into account in evaluating the worth of that life compared to that of others. It seems obvious to me that, in view of the facts detailed in Bradshaw's book, a short summary of which are recorded above, Regan would accord substantial value to the life of an elephant – possibly even in preference to that of a mentally impaired human.

I now move on to the more sticky arguments – those of philosophers who do not accord animals moral consideration above the most basic level. Michael Fox's argument against according rights to animals rests mainly on his claim that they cannot be said to be autonomous, since they do not possess the required cognitive capabilities (to be critically aware, manipulate concepts, use a sophisticated language, reflect, plan, deliberate, choose, and accept responsibility for their choices).[31] He mentions aspects such as mutual recognition and belonging to a moral community, where concepts such as rights and

[30] Singer, 'Animal Liberation".
[31] Fox, "Animal Liberation: A Critique".

duties have meaning. Going back to the descriptions of elephant society, it would be impossible to state categorically that elephants do *not* possess most of the above characteristics. Those they cannot yet be said to possess – or, perhaps more accurately, those we cannot yet *prove* that they possess – could plausibly be put down to the circularity of Fox's argument: the conditions he puts forward as necessary for moral considerability on a par with humans are precisely the characteristics which define the species *homo sapiens*. What is fascinating is that it is now becoming increasingly obvious that a number of highly developed species actually DO meet the vast majority of Fox's criteria, anthropocentric as they are.

Michael Leahy bases his argument for denying animals rights on the claim that they are not capable of speech or language – a view which is flawed for the same reasons as is that of Fox. Leahy states, 'Animals […] are conscious, […] but self-consciousness […] comes only with the capability of speech.'[32] The facts revealed above from Bradshaw's book would seem to demonstrate that elephants do have a highly developed sense of self-consciousness. But, for the sake of argument I shall concede Leahy's point regarding self-consciousness being present only when it accompanies speech. Bradshaw's work, as well as that of many other environmentalists and ethologists, reveals numerous examples of elephants communicating in a highly sophisticated manner, and across great distances. It has been discovered that elephants produce a wide range of vocalizations, many of which contain frequencies below the level of human hearing. Elephants use some of these powerful low-frequency calls to communicate with other elephants over long distances. They can also detect the vocalisations of their companions seismically. When an elephant vocalises, an exact replica of this signal propagates separately in the ground. Elephants are able to discriminate between these vocalisations through their sensitive feet. They can

[32] Leahy, "Against Liberation", 255.

detect earth tremors, thunderstorms and the hoof beats of distant animals in the same manner.[33]

Again, elephants seem able to fulfill Leahy's criteria, and a good argument can be put forward, even on his terms, for them being deserving of moral consideration comparable with that of humans.

Frey bases his argument for not according substantial moral standing to animals on his belief that they are not moral agents. 'Frey recognizes that animals and "marginal" humans deserve certain moral considerations and includes them within the moral community because they are beings who can suffer. However, he believes their lives are not of comparable value to those of normal adult human beings, beings who are autonomous persons. He bases his argument on quality of life and assumes that the quality of life of a normal adult human being is always greater than that of an animal or a deficient human.'[34] I would suggest that, based on humans' previous serious under-estimations of elephants' intelligence, family connections and understanding of temporal lines, it would be not inconceivable to suggest that the differences between elephants and humans are not significant enough, or of a significant enough nature, to convincingly defend the idea that elephants should be awarded a much lower moral status than humans. Indeed, Bradshaw's book consists of a long explanation of the psychological harm that has been wrought on elephants by humans, and goes a long way towards demonstrating that elephants have a profound understanding of what is 'right' and 'wrong' behaviour. This casts considerable doubt on Frey's argument against according them moral considerability.

[33]http://www.elephantvoices.org, accessed 22 January, 2012.
[34] Lori Gruen, "Animals", in *A Companion to Ethics*, ed. Peter Singer (Malden: Blackwell, 1991), 384–395.

I return to Lötter. Despite according substantial moral standing to elephants in his several papers on the matter, Lötter stands firm in his view that 'the interests of elephants cannot have the same weight as those of humans, as our complexities in terms of features we define as relevant to moral standing far outstrip theirs'.[35] He concedes, however, two points. Firstly, as we have noted above, those very 'features we define as relevant to moral standing'[36] are based on anthropocentric definitions. As Lötter puts it, '[o]bviously this is spoken as a human being with a biased perspective!'[37] Secondly, from a moral perspective, humans have negative qualities as well as positive ones. '[O]ur repeatedly demonstrated capacity for maiming and killing of living beings of all species, our own included, far exceeds [elephants']. In an important sense they are by far a more peaceful species than we are.'[38]

While I shall not engage in an argument that elephants are entitled to *equal* moral consideration to humans, I would suggest that, on a sliding scale of 1 to 10, with earthworms at 1 and humans at 10, elephants are a hair's breadth away from a 10. The hegemony that humans have enjoyed for so long has fallen away.

To end this discussion I shall quote Bradshaw again.

> [L]ike habits, culture can be slow to change: witness how long animal emotions were denied despite Darwin's theories. Consequently, it is not surprising that the vast amount of knowledge about elephants has not benefitted its subjects. Elephants are not treated much differently than they were in the mid-eighteenth century: they are the

[35] Lötter, "The Ethics of Managing Elephants", 413.
[36] Lötter, "The Ethics of Managing Elephants", 413.
[37] Lötter, "The Ethics of Managing Elephants", 413.
[38] Lötter, "The Ethics of Managing Elephants", 413.

> objects of awe and conservation, yet legally hunted, made captive, abused, and forced to labor for human gain. What then has all this research and learning gained?[39]

My answer to Bradshaw's question is this: it has gained elephants, at least in *this* report, sufficient moral status for their unnecessary killing to be considered a *pro tanto* wrong.

I have now established that much of the argument put forward by philosophers who refuse to accord substantial moral standing to animals falls away in the face of new ethological evidence on elephants, and that there is considerable cause for considering the deliberate killing of elephants to be a *pro tanto* wrong. In the next section I shall outline the conditions under which it may be possible to overcome this wrong, in the face of another, greater wrong. This is what I call the Theory of a Just Cull.

[39] Bradshaw, *Elephants on the Edge,* 223.

4. **THEORY OF A JUST CULL**

Having argued in the preceding section that elephants are worthy of substantial moral consideration, and that the deliberate killing of them by humans can be regarded as a *pro tanto* wrong, I now need to show the circumstances under which it could be considered morally justifiable to engage in elephant culling. This theory, which makes up the main body of my report, I call the Theory of a Just Cull.

Before I can engage in this discussion, however, I first need to counter the argument of those animal rights activists who believe that a cull can never be justified, under any circumstances whatsoever. To quote Michele Pickover, 'the premeditated and systematic killing of thousands of elephants is abhorrent, should never be considered and can never be ethically justified. As would the extermination of certain human beings who were posing an environmental threat or were perceived to be simply "too many".'[40] Here Pickover points out the similarity between culling elephants and culling humans in terms of the serious harm committed – a point with which I concur. But to deny that there are any circumstances whatsoever under which culling is acceptable is tantamount to extreme pacifism in the case of war. Most people would concede that, at some point, there must be a moral justification for going to war (taking up arms against the fascist regime of Adolf Hitler is the simplest example that comes to mind), and the point of this report is to explore what justification could be made for an ethical cull.

[40] Michele Pickover, "Killing Elephants: Brief Comments on Professor Hennie Lotter's paper 'Should Elephants be Culled'", (Paper presented at the Tpari Seminar, 18 March, 2004). http://hdgc.epp.cmu.edu/misc/Pickovers.pdf,accessed 14 July, 2011.

In this section I shall provide a brief overview of Just War Theory, and use that as a starting point from which to develop the Theory of a Just Cull. I shall set out the elements of this theory, separated into *Jus ad Caesum* and *Jus in Caeso* criteria. Due to the limited length of this report I am only able to expand on the *Jus ad Caesum* criteria, which I do in the following section of this report.

JUST WAR THEORY

Despite the moral and actual differences between war and culling, and between humans and elephants, Just War Theory is a good starting place for the development of a theory that is able to provide grounds that could morally justify culling. This is so for two main reasons: firstly, the similarity (though not necessarily equivalence) between elephants and humans in terms of moral standing, and, secondly, the similarity between the acts of war and culling in terms of the devastation both commonly cause. The first of these two I have discussed in the previous section, while the first section of this report, which provided some knowledge of what a cull entails, will have gone some way to demonstrating the second.

I am not the first to seek to clarify the ethics of elephant culling in this way. Lötter made the link between Just War Theory and the issue of elephant culling, though he has not fully developed a Theory of a Just Cull. In his 2001 paper "Ethical Considerations in Elephant Management" he states, 'In terms of a strongly perceived moral obligation not to harm or destroy animals of exceptional psychological, social, behavioural, and physical complexity, other people argue that culling elephants can only be justified in situations as extreme as those used to justify killing humans in a just war.'[41] I gratefully acknowledge the contribution of his work to the development of my own ideas on the topic. The fact that I

[41]Lötter, *et al*. "Ethical Considerations", 428.

view the deliberate killing of elephants to be a *pro tanto* wrong, rather than simply a serious harm, affects the conclusions that I draw from the development of such a theory. This will be seen in the final section of this report, where I apply the theory in the context of the South African situation as I understand it.

In the same way that the justification of a war requires clear parameters, so does the justification of a cull. By authorising a cull to take place we are not giving *carte blanche* to the indiscriminate slaughter of elephants, just as in authorising a country to go to war we are not giving a nation – or the UN – *carte blanche* to dominate and abuse another sovereign power. We give permission for a clearly defined activity to take place, and once the clearly defined goals of the activity have been achieved the aggression must cease.

I now look at Just War Theory, and consider how it could be applicable to the issue of elephant culling. The idea that the act of war requires some sort of moral 'rules' has existed since antiquity, and in modern times Just War Theory has evolved as a way of morally justifying, under strict conditions, the invasion of a country's sovereign territory – and all that such an invasion implies. The modern-day legal basis for Just War Theory is the Charter of the United Nations, which emphasises the sovereignty of each individual country: 'All Members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state.'[42] Most importantly, of course, is its attempt to morally justify what is at the heart of war: the killing of other persons.

[42] United Nations Charter, Article 2, http://www.un.org/en/documents/charter/index.shtml, accessed 4 November, 2010.

Just War theory is most commonly based on two sets of criteria: *Jus ad Bellum* criteria, which set out the conditions that need to be satisfied in order for war to be declared; and further criteria, called *Jus in Bello*, which determine the conduct of a nation and its army while war is under way. It is vital to understand that, in order for a war to be considered morally justifiable, each and every one of both sets of criteria needs to be fulfilled, rather than just a certain percentage of them. If just one of the many criteria remains unfulfilled, then the war cannot be considered just. I carry this vital point over into my development of a Theory of a Just Cull, and it is crucial to our evaluation of culling in the context of the South African situation.

In his paper entitled 'War and Terrorism,'[43] C A J Coady sets out the five commonly accepted *Jus ad Bellum* criteria for Just War:

1. **Legitimate Authority**. A country cannot take up arms against another without obtaining permission from an over-arching authority, thereby lending legitimacy to the exercise. In the case of war today it is usually the UN, as well as international organizations (such as SADC or the European Union) located in the area in question, whose authority is sought before going to war.

2. **Just Cause**. In order for a war to be just, the reason for going to war must be just. The most defensible reason for going to war remains that of self-defence. The United Nations Charter states that 'Nothing in the present Charter shall impair the inherent right of individual or collective self-defence if an armed attack occurs against a Member of the United Nations.'[44] Though there are legitimate reasons for

[43]C.A.J. Coady, "War and Terrorism", in *A Companion to Applied Ethics*, ed. R. Frey, and C. Wellman (Malden: Blackwell, 2003), 254–266.
[44] United Nations Charter, Article 51, http://www.un.org/en/documents/charter/index.shtml, accessed 4 November, 2010.

going to war other than self-defence, economic and tactical reasons are not considered morally correct (though they may, in some circumstances, give weight to other, more humanitarian reasons).

3. **Last Resort**. Only once all other means of solving the dispute in question have been exhausted may one country resort to war with another.

4. **Reasonable Prospect of Success**. In ancient times there were reasons – such as the defence of the nation's honour – that were considered legitimate reasons for going to war, even when loss was an absolute certainty. Today – at least in most Western cultures – it would be considered morally wrong for a country to go to war when it stood little chance of winning, as it would be tantamount to murdering its own soldiers.

5. **Proportionality.** The violence used must be in proportion to the wrong being resisted. It is wrong to use force that is disproportionate to the aggression faced. To take an example, it would be wrong to declare war on another country in response to a small infringement of international law. The proportionality principle applies even more strongly in the conduct of war (*Jus in Bello* criteria), as will be seen below.

Jus in Bello criteria govern the conduct a nation should follow once the decision has been made to go to war. Some may express incredulity at the concept that the conduct of war can be guided by moral principles at all. The idea that any action is legitimate if its goal is to end the war as quickly as possible is one initially held by many, until further reflection

reveals an intuition that the slaughtering of women and children would be wrong, no matter how quickly it led to the enemy's surrender. The over-riding goal of *Jus in Bello* criteria is to distinguish between combatants and non-combatants, so that the 'innocent' are not unnecessarily harmed.

The most commonly accepted *Jus in Bello* criteria for Just War are the following:

1. **Discrimination.** The idea here is to express strongly that only certain groups of people are legitimate targets in the conduct of war, and civilians must not be deliberately targeted (though obviously a certain amount of so-called collateral damage is inevitable). Coady makes a useful distinction between agents (soldiers and those actually engaging in the act of war) and non-agents (civilians, even though they may support the war).[45]

2. **Proportionality.** The violence used must be proportionate to its projected effect. It is wrong to use force that is disproportionate to the aggression faced. In other words, it would be morally reprehensible to drop a nuclear bomb on a small group of soldiers armed only with hand guns, wiping out thousands of innocent civilians and making huge tracts of land uninhabitable for generations.

3. **Just Peace**. The end result of a Just War must be to establish a permanent, or at least long-term, peace where all parties feel at the very least able to survive with the situation as it has ended. If that is not the case, a future war seems inevitable.[46]

[45] Coady, "War and Terrorism", 261.
[46] Coady, "War and Terrorism", 254-266; Jeff McMahan, "Just Cause for War", *Ethics & International Affairs* 19.3 (2005), 1–21.

THEORY OF A JUST CULL

Using a framework similar to that of Just War Theory I now set out to develop a set of criteria that will make up the Theory of a Just Cull. *Jus ad Caesum* criteria would address those issues that need to be taken into consideration before entering into a cull, in order to establish Just Cause, and *all of which* would have to be met before a cull can be considered morally justified, while *Jus in Caeso* criteria would govern how a cull is carried out in an ethical manner. *Jus ad Caesum* and *Jus in Caeso* are derived from the Latin verb *caedere*, meaning *to kill* – and which was also sometimes used to describe the slaughter of animals for religious sacrifice. Clearly, since my project is primarily that of identifying compelling grounds upon the basis of which the *pro tanto* wrong of killing elephants might be morally outweighed, the *Jus ad Caesum* criteria are of crucial importance. Fundamentally, unless the grounds for embarking upon a cull in the first place can be shown to be just, the cull would be morally wrong and ought not be to undertaken. In this section of my report I shall briefly propose criteria of both types to provide some account of what a complete Theory of a Just Cull might look like. In the following section I shall go on to develop the *Jus ad Caesum* criteria in greater detail, giving priority to these because of their fundamental importance. However, the length of this report does not allow me to develop the *Jus in Caeso* criteria in any detail, and it will need to suffice that I simply identify them here.

In his 2006 paper Lötter lists a number of criteria that would need to be fulfilled in order for a cull to take place – and his final conclusion is that, in the case of South African elephants, these conditions have been fulfilled, thereby morally justifying a responsible cull. I shall take a rather different approach to the issue, albeit with criteria similar to those of Lötter. The adoption of the concept of *pro tanto* wrong changes these criteria dramatically, both in their interpretation and in their application.

Jus ad Caesum Criteria

Jus ad Caesum Criteria I identify are:

1. **Just Cause**: The crux of any theory that seeks to justify violating a *pro tanto* wrong must be Just Cause: exactly what is it that enables us to overcome the wrong of killing elephants? What other harm are we avoiding by killing elephants – and is this harm really great enough to justify their deaths?

2. **Last Resort**: The merits of each of the alternatives that have been put forward as possibly morally preferable to culling – contraception / sterilisation, translocation, self-regulation and habitat expansion – need to be weighed against that of culling. Due to the serious harm caused to elephants by culling, an argument for Last Resort will have to provide substantial evidence that no other method of controlling elephant over-population is adequately developed, at this stage, to offer an alternative to culling.

3. **Legitimate Authority**: This is possibly the criterion most affected by the concept of elephant culling being a *pro tanto* wrong. If no compelling grounds exist to distinguish elephants from any other animals, their deaths, while regrettable, might not be construed as a serious wrong: no more wrong that the culling of deer, or rabbit, and a responsible cull would need no more than the authority of the environmental agency involved in order for it to be declared ethical. But as soon as we concede that elephants do have a far greater claim to not be harmed than other animals, then surely the approval of authorities other than, say, the Ministry for Environmental Affairs and Tourism, must be sought before such a harm is committed.

4. **Reasonable Chance of Success**: A cull can only be justified if it is done on a scale that will ensure that the problem is solved for the foreseeable future.

Each of the above *Ad caesum* criteria will be dealt with in detail in the following section.

Jus in Caeso Criteria

Jus in Caeso criteria I identify are:

1. **Minimisation of Pain and Trauma.** It would be irresponsible in the extreme to under-estimate the trauma involved in culling elephants. This particular criterion would seem obvious when applied to the elephants who are the subject of the cull, but it is equally important to protect remaining elephants from long-term emotional trauma caused by the culling of their compatriots, particularly in view of elephants' long memories, highly developed family units and fascination with death – not to mention the acuteness of their hearing. The moral consideration of those humans tasked with carrying out the cull (the 'soldiers' in effect) must be taken into account, as well as other humans involved in any way (such as environmentalists involved with the elephants, local populations and those who are responsible for authorising the cull itself).

2. **Choice of Subjects:** A cull cannot be morally justified if every effort has not been made to choose appropriate elephants, and minimise the impact of the cull on those left behind (both elephants and other species). A Just Cull would have to take into account the most recent data on elephant family structures, relationships between herds and the impact of the loss of gene pool if an entire herd were eradicated.

3. **Ecosystemic Balance.** The goal of a cull, as with Just Peace in Just War Theory, must be the long-term revival and re-balancing of the elephants' habitat – if that is the Just Cause identified. Here, it will be essential to view once again the alternatives to culling – and specifically the idea of contraception – as a means of ensuring that, subsequent to the cull, the elephant population only grows at a rate that can be sustained on the land available to it.

4. **Use of Spoils of a Cull.** There has been much discussion surrounding the ethical implications of using the proceeds from an elephant cull – tusks, meat and skin. Applying the concept of elephants' having considerable moral standing to this criterion may change our view somewhat: how would we feel about using the bodies of humans for economic benefit, as the Nazis did in World War II when they pulled out the gold teeth of Jews for melting down? Suddenly this seemingly straight-forward criterion seems a lot less so.

5. JUS AD CAESUM CRITERIA

I have defined a *pro tanto* wrong, and argued that, due to their superior intelligence, their social structure and their capacity for joy and grief, pleasure and pain, the deliberate killing of elephants can be considered such a wrong. We have shown how a *pro tanto* wrong can be morally justified only if it prevents the committing of an even greater wrong – and that is what a Theory of a Just Cull sets out to do. I now examine in detail the *Jus ad Caesum* criteria that make up such a theory – those criteria that need to be fulfilled before a cull can be ethically sanctioned.

1. JUST CAUSE

Just Cause is probably the most contentious of the criteria for *Jus ad Caesum*. Establishing a valid reason for over-riding a *pro tanto* wrong is extremely difficult, and rightly so – otherwise the wrong would not be *pro tanto*.

In this sub-section I explore a number of reasons that have been given in justification for culling elephants – and establish whether or not they can, in all reality, be considered Just Cause. Is the harm that killing elephants claims to prevent really greater than the harm of the killing? Some of these reasons relate to animal interests, and some to human interests. I shall argue that the only reason that could morally qualify as Just Cause is that of destruction of habitat, where current and future generations of plants, animals – and elephants themselves – are threatened by elephant over-population within a certain area of land.

Destruction of Human Livelihood

In Africa as in Asia there is no doubt that the humans who bear the brunt of elephant over-population are those living close to the areas in which elephants live. It is also sadly true that most of the crops that humans grow are tastier to elephants than the bushes, plants and trees that are make up their normal diet. Many of the humans who live in close proximity to elephants are on or below the poverty line, and an elephant can destroy a year's crops in less than an hour, leaving a family destitute. It has even been argued that the invasion of elephants into farming areas, with the resultant break-down of fences and movement of other animals, can be blamed for the spread of diseases that affect commercial crops and livestock.[47]

All of this may be true – but does it warrant the killing of elephants? Alternatives such as improved fencing, or other creative methods of discouraging elephants from rampaging through villages, or even government compensation for economic loss suffered by elephant damage, should surely be explored in preference to killing. Only in situations where the lives of humans are threatened – through starvation or attacks by elephants – would such an argument be morally defensible, and only once all other methods of ending the problem have been shown to have failed. A *pro tanto* wrong can only be over-ridden in the most severe of circumstances, to prevent the occurrence of a worse wrong, and economic disadvantage is not a morally justifiable reason to kill elephants.

[47] Kai Horsthemke, *The Moral Status and Rights of Animals* (Johannesburg: Porcupine Press, 2010), 64-67.

Economic Benefit

In a similar way, authorising an elephant cull in order to provide much-needed resources to the government or parks board is an ethically flawed reason for killing elephants. Pickover accuses the South African government of carrying out culling for precisely that reason: according to her, Lindsey Gillson and Keith Lindsay argue that

> holding elephant densities at constant levels through "culling" is not only detrimental to the ecosystem diversity but would maximize the rate of increase of an elephant population – this means that the practice of "culling" is essentially an ivory harvesting programme operating at maximum sustainable yield.[48]

This is a harsh indictment of modern game-management practices, but it does bring up the thorny and intractable issue of how we view the ecosystem and the animals and plants that inhabit it – as entities worthy of moral consideration in their own right, or as resources to be disposed of at humans' leisure.

There are several schools of thought around this issue. Briefly, there is the anthropocentric view, which holds that the planet exists in order to be of service to humankind, and nature's value is precisely in that: as a resource for humans to enjoy, exploit or change at their pleasure. A second school of thought holds that nature is an end in itself and not a means to an end. It is deserving of respect whether or not it is of use to humankind, and its value does not reside in the economic or other benefit it can offer to humans. Aldo Leopold viewed wildlife management as a technique for restoring and maintaining diversity in the

[48] Pickover, "Killing Elephants", 3.

environment,[49] rather than primarily as a means of producing a shoot-able surplus, and current thinking among ecologists, philosophers and ethologists if not in the corridors of power tends strongly towards this second view.

On the view held above, no amount of economic profit to be gained from the deliberate killing of elephants could outweigh the *pro tanto* wrong of killing them – in the same way that no amount of profit would morally justify the killing of humans. As stated by Horsthemke, 'the economic argument is hardly *morally* compelling. After all, everything from colonialism and slavery to child labour has customarily been vindicated on economic grounds'.[50]

There is, however, one aspect of the Economic Benefit argument that needs addressing in a little more detail, and that is the accusation that environmentalists and ethologists put the interests of animals and plants well above those of human beings – and in many cases impoverished, vulnerable human beings. As pointed out by Horsthemke, many countries, including South Africa, have a history of putting the survival of endangered animals and plants far ahead of the well-being – or even survival – of their own impoverished human citizens. The sad reality is that this is less indicative of a respect for nature than it is of a deep *disrespect* for people. Against this historical context, some communities now make claims that within their cultures elephants and other animals are entitled to little if any moral consideration and may be used in any way that is to the benefit of human communities in financial need. I am aware that by stating that 'economic benefit' and 'destruction of human livelihood' do not qualify as Just Causes, I am opening myself up to accusations of Western Imperialistic attitudes, i.e. of failing to take into account the views of subsistence farmers and other people living near the poverty line. I feel great sympathy

[49] Aldo Leopold, *A Sand County Almanac (*Oxford: Oxford University Press, 1949).
[50] Horsthemke, *The Moral Status*, 72.

for those whose livelihoods are affected by elephant action, but I stand firm in my position that this does not justify the killing of elephants, in the same way that the destruction of livelihood by human vandals does not justify the killing of those humans.

Horsthemke addresses this issue succinctly, arguing that, rather than being opposing concepts, the rights of humans and animals are two sides of the same coin.

> Consistency in one's concern for animals' rights requires commitment to the rights of humans. They are not morally exclusive but, on the contrary, part of the same moral fabric. […] Are objections to polygamy, to unrelenting human procreation (especially among the poor) and environmental degradation, virginity testing and female genital excision also examples of mental colonialism and hegemonism? I want to suggest here that one can be a consistent opponent of *both* social injustice *and* questionable cultural beliefs and practices. What is encouraged here is an arrangement that accommodates the intrinsic value of *both* rural community members *and* elephants.[51]

Destruction of the Environment

To re-cap briefly on the scene-setting established in Section 1, the principal reason for so-called elephant over-population is the tremendous reduction in the amount of land available to elephants as a result of human encroachment over the past two centuries. Elephants are a keystone species. This means that they play a pivotal role in structuring both plant and animal communities, contributing to biodiversity through seed dispersal and

[51] Horsthemke, *The Moral Status*, 67.

the creation of habitat mosaics. However, in the land left available to them, they may be too numerous to survive without severely – and possibly irreparably – damaging the other species of animals and plants that share their environment.[52]

Lötter believes this to be the only valid reason for culling elephants. 'Culling can only be employed to deal with a serious and imminent threat to the continued existence of the rich diversities of the natural world. The intention must be to protect other living beings and their habitats from destruction. Elephants are too exceptional to be killed for anything other than the most serious and weighty reasons.'[53]

I shall briefly address the issue of *why* humans have a moral responsibility to address this issue at all, rather than leave nature to take its course. One way of justifying this is to adopt an attitude similar to that of a humanitarian war in Just War. The invasion of a country in order to protect its people from their own government is one that is much disputed – do we have a right to interfere in another country's management (and the UN codes mentioned above)? Or is it morally preferable to allow people to suffer rather than thus violating this sovereignty? My feeling here is that the wrong of violating a nation's sovereignty is far less than the wrong of standing by while people die, and I would argue that a humanitarian war, in some circumstances, can be morally justified. Applying this theory to the situation of habitat destruction, a fair argument could be built that to protect the habitat from the destruction caused by elephant over-population is justified, as it is morally defensible to take action to defend the innocent (which, in this case, are the co-habitants of the elephants' environment).

[52] Whether or not this is actually the case – especially in the context of the South African elephant situation – is a matter which will be dealt with in Section 6 of this report. For the purposes of establishing a possible valid Just Cause we shall assume that elephants *are* too numerous for the land they inhabit, and that their numbers are endangering the survival of cohabiting species.
[53] Lötter, "The Ethics of Managing Elephants", 71.

Another way of approaching this issue is to borrow the argument which Hugh LaFollette uses to justify why the problem of world hunger is one that we, in the developed world, have a duty to rectify. He defines three claims, and argues that '. . . if *any* of these claims are true, then we not only have the "ordinary" positive obligation to assist the vulnerable, but also a negative obligation, arising from the harm that we caused and / or sustain. If all are true, then the negative obligation would be very strong.'[54] His three claims are as follows, and I have adapted them to relate to the issue of damage to the ecosystem caused by elephant over-population:

1. *We caused its plight*. It is irrefutable that the problem of elephant over-population damaging the ecosystem was caused by humans. Left to roam free throughout their natural habitat, none of this damage would have been caused.
2. *We actively sustain its continuing damage*. By continuing to restrict elephants to the small areas humans have designated for them, we enable the damage to continue.
3. *We benefit from its suffering*. Both financially and in terms of general well-being humans benefit tremendously from the maintenance of elephants in these small pockets of land.

It is plain that all three of these claims are valid, and therefore, on LaFollette's view, we have a strong negative obligation, as well as a clear positive obligation to assist an ecosystem which is now relying on us for its survival. Humans' responsibility stems partly from their having caused the problems in the first place – elephant over-population exists as a consequence of human intervention in the habitat over many hundreds of years. But our responsibility to find a solution also finds its justification in a Leopoldian view of

[54]Hugh LaFollette, "World Hunger" in *A Companion to Applied Ethics*, ed. R. Frey, and C. Wellman (Malden: Blackwell, 2003),238-253.

humans' role as 'caretakers' of the planet, and goes beyond our simple duty to rectify an imbalance caused by our own actions.

Fortunately, the killing of elephants is only one way in which this situation can be remedied, which I shall discuss in the criterion I call *Last Resort*.

Having explored the issue of why humans have a moral obligation to address the issue of systemic imbalance caused by elephant over-population, I shall now explore the two schools of thought regarding whether or not culling is an ethical means by which to address this issue. Here the line in the sand is drawn between holists, who argue that the integrity of the habitat outweighs the right to life of individual elephants, and individualists, who claim that the life of any one animal can never be taken in order to assist the welfare of the whole.

Aldo Leopold spent most of his life living in nature, and his philosophy emanates as much from a sense of awe at nature's beauty as from the findings of evolutionary and ecological science. The Land Ethic enlarges what is morally considerable to include soils, waters, plants, and animals, or collectively: the Land, and transforms the role of humans from 'owners' or 'conquerors' of the land to 'citizens' of it. It implies respect for his fellow-members, and also respect for the community as such. Leopold's most famous quotation, which sums up his beliefs beautifully, is 'A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise.'[55] Leopold's ideas were further developed by Baird Callicott, who extended and refined them into an environmental ethic, bringing into the fold of what is morally worthy of consideration soils, waters, plants and animals. The Land Ethic not only entails moral considerability for the biotic community *per se*, but ethical consideration of its individual

[55] Leopold, *A Sand County Almanac*, 224.

members is pre-empted by concern for the preservation of the integrity, stability and beauty of the biotic community. On the Land Ethic, elephants may be culled if it is the only way to preserve 'the integrity, stability and beauty of the biotic community'. For holists, the integrity of the biotic community itself is more important than the moral standing or right of any one individual.

Lötter's view on this concurs with that of the holists:

> As in a just war where the interests of the state, the larger community of citizens, are seen as overriding the well-being and safety of the individual, so the interests and well-being of a diverse network of ecosystems and the life forms they sustain can be seen as trumping the interests of groups of individuals, if those individuals threaten the continued well-being of the greater whole. Seen in this context, culling can only be ethically justified provided that a clear and convincing case can be made that it is the last resort for dealing with an urgent problem after all other options have been convincingly demonstrated to have failed.[56]

This view, however, is refuted by individualists, made up of animal rights activists (I mentioned Pickover's view earlier), and by philosophers such as Paul Taylor and Tom Regan. Taylor's 'Ethics of Respect for Nature' is based on the conception of all individual organisms as creatures having a good of their own. All living individuals have inherent worth, which is deserving of respect, and the life of one cannot be taken in order to promote the good of many. Regan, whose seminal work 'The Case for Animal Rights' changed the way many of us view non-human animals, makes the case that under no

[56] Lötter, "The Ethics of Managing Elephants", 71.

circumstances whatsoever can the life of an individual animal be sacrificed for the good of the whole: 'The rights view restricts inherent value and rights to individuals.'[57]

Lötter attempts to circumvent Regan's argument by claiming that, as in the case of Regan's concession that a human being is permitted to harm a dog that is attacking her, in the same way humans could be justified in harming elephants that are harming the environment. I find this argument unconvincing in the face of Regan's repeated insistence that killing is unacceptable, regardless of the consequence for others. However, Regan does state that 'we have an obligation to "halt the destruction of natural habitat" when that destruction makes life for these animals unsustainable.'[58] How do we reconcile this obligation with the need to address over-population? Whatever actions we take to achieve this protection of the ecosystem, it ought to be clear that the culling of elephants is a very drastic option that should not be entertained unless there are no less harmful alternative means to achieve the same objective. While Regan would agree that the ecosystem needs to be protected from the effect of elephant over-population, he would almost certainly oppose a cull, especially when other options such as translocation and contraception are possible alternatives. We shall discuss this further under the criterion entitled *Last Resort*.

A third way of justifying ecosystemic damage as Just Cause could be to explore the moral claims of Future Generations – both of other species, and of elephants themselves. The concept of owing some sort of moral consideration to beings that are not yet alive is a strange one, and which has only gained ground recently, mainly in response to the damage humans are doing to future generations' chances of survival on this planet. In his paper on Future Generations, Partridge argues that a Rawlsian approach gives us some clear guidance on the issue of owing moral consideration to future persons, and goes

[57] Regan, *The Case for Animal Rights*, 2004, xxxix.
[58] Regan, *The Case for Animal Rights*, 2004, xxxi.

some way to establishing parameters to the nature of the moral consideration we owe.[59] Partridge offers the reader an array of perspectives in the argument for and against moral obligations towards future persons, the most hopeful of which seems to be that of John Rawls. To briefly re-cap Rawls' theory, his Original Position refers back to a hypothetical social contract as suggested by Locke or Rousseau, whereby 'the principles of justice for the basic structure of society are the object of the original agreement. They are the principles that free and rational persons would accept in an initial position of equality as defining the fundamental terms of their association.' [60] In a hypothetical situation, where a group of people with no social, political or other affiliations, and who do not know most of the socially significant facts about themselves, sit down together to decide the theory of justice of their society, they will choose what is fair for the population as a whole, and for individuals in general, rather for their own situation, as they are not aware of what their own personal situation is. Thus, 'The original position is, one might say, the appropriate initial status quo, and thus the fundamental agreements reached in it are fair.'[61] Rawls' theory stands up rather well when we add future persons – rather than just those alive today – to the group of people around the table, for Rawls states that, in order to achieve 'just savings' for the future, 'the parties to his original position must understand themselves to be "heads of families", with parental ties and concerns for the immediately succeeding generation or two.'[62] It is feasible to extrapolate that to the tenth, or twentieth, succeeding generation, thus giving future persons a valid seat around Rawls' table. As Partridge notes, however, 'conspicuously absent from [the list of items to which the rules of fairness would apply] is any direct reference to the conservation of natural resources or the

[59] Ernest Partridge "Future Generations", in *The Environmental Ethics & Policy Book*: *Philosophy, Ecology, Economics*, ed. D. VanDeVeer &C. Pierce, (Belmont: Wadsworth, 2003), 428-436.
[60] John Rawls, "A Theory of Justic"', in *Ethical Theory and Business,* ed*.* T. Beauchamp, N. Bowie, and D. Arnold (Pearson Publishing, 2009)
[61] Rawls, "A Theory of Justice".
[62] Partridge, "Future Generations", 433.

preservation of the natural environment'.[63] Edith Brown Weiss makes that step in her work and stipulates that 'each generation leave to its successor a planet in at least as good a condition as that generation received it'. [64] While still vague, this does give us some indication that Rawlsian principles do, indeed, hint to a profound moral debt owed to future generations.

Having established it is reasonable to argue that future generations do have a valid claim on humans alive today, how do we now apply that to the dilemma of elephant over-population? In a number of ways, I think. Firstly, future generations of *humans* have a claim on us to preserve the environment in at least as good a condition as when we inherited it. Moving away from human-based arguments, we have a moral obligation toward future generations of *all the living creatures that make up the ecosystem*, to ensure their survival into the future. We also have a moral obligation towards future generations of *elephants* themselves, to ensure that they do not multiply themselves to such an extent that starvation and the extinction of their species become a real threat.

This claim, that of future generations of all beings affected by elephant over-population, seems to me to be the most valid justification we have identified so far for the *pro tanto* wrong of elephant culling to be outweighed by the more serious harm of ecosystemic destruction. Again, whether or not this provides sufficient motivation for a cull will depend on the other criteria for *Jus ad Caesum,* which we shall now examine in more detail.

To end this section on Just Cause I would like to quote Mary Ann Warren, who sums up the argument in the following way:

[63] Partridge, "Future Generations", 432.
[64] As quoted in Partridge, "Future Generations", 432.

> We cannot provide the same protection to all sentient animals, while also protecting the ecosystems in which they exist. There is still debate about whether the biosphere is itself a living organism. However, it resembles an organism in the complex interdependence of its parts. The loss of a species is analogous to the loss of a bodily organ; each such loss is likely to damage the system. We are experiencing an epidemic of extinctions more severe than any that has occurred in the past sixty-three million years; and this disaster is human-caused. To save what we can of the earth's biodiversity, we will need to favour some plants and animals over others, especially in ecosystems that have already been seriously disrupted.[65]

Consistency is an essential part of a good argument, and the consequence of this argument is quite clear to me. If the culling of elephants is a *pro tanto* wrong, and this wrong can be overcome by what we consider to be a greater wrong, ie the destruction of the habitat by elephant over-population, then what does this say about the destruction of our planet brought about by human over-population? If one accepts that habitat destruction is indeed a Just Cause, then one must accept that it could also be considered Just Cause for a cull of human beings. If we find it morally abhorrent to accept global warming, or the greenhouse effect, or the destruction of the rainforest, or the disappearing of the glaciers, as Just Cause for a cull of humans, then how can we accept habitat destruction as a Just Cause for the culling of elephants?

[65] Warren,"Moral Status", 448.

2. LAST RESORT

In addressing this criterion in the context of Just War Theory C A Coady states: 'the idea of "last resort" registers the desirability of a cautious approach to warfare. Nonetheless, the condition cannot require that a nation must resort to war only after it has tried *every* other option. Some of these will be too absurd or counter-productive; others may delay the inevitable to the grave disadvantage of a just cause.' [66] Lötter is rightly more cautious in his approach to this criterion, stating that 'culling elephants is only acceptable when all other less drastic options have been proven to be fruitless for solving the problem of over-population'.[67]

Due to the *pro tanto* wrong that is the deliberate killing of elephants, an argument that claims culling as the last resort and only solution to the crisis posed as Just Cause will have to provide substantial evidence that no other method of controlling elephant over-population is adequately developed, at this stage, to prevent the serious harm that over-rides this *pro tanto* wrong. In view of the seriousness of killing elephants, I would argue that *any* solution that can be shown to have a reasonable chance of success in addressing elephant over-population, over a reasonable timeframe, *must* be morally preferable to culling. Only if the Just Cause demands an instant solution (for example, proving that the destruction to the environment is so imminent, and so severe, that waiting 20 years is not an option) would culling, the most instant solution, *possibly* be morally preferable to the other options.

In this sub-section I explore the alternatives that have been put forward as being possibly morally preferable to culling, depending on the reason given for the cull. The options most

[66] Coady, "War and Terrorism",256.
[67] Lötter, et al., "Ethical Considerations", 429.

people flight are the following: further constriction of habitat, and repulsion with pepper spray, when the justification for the cull is property damage or economic disadvantage; and contraception or translocation, when the justification for the cull is destruction of habitat. In the previous sub-section I argued that economic disadvantage does not constitute Just Cause for elephant culling, and so I shall disregard the first two solutions as they do not provide a solution if the problem identified is habitat damage. The remaining two suggestions, contraception and translocation, I shall examine in more detail below, and weigh the merits of each against the merits of culling. I shall then go on to suggest two other much neglected possible solutions, which are the expansion of elephant habitat within a conserved area, and self-regulation of population, and examine their merits as compared with culling. It must be borne in mind that non-permanent ways of managing elephant populations – such as translocation, contraception and habitat expansion - have got to be morally preferable to permanent ones such as culling and sterilisation.

Contraception and Sterilisation

A reasonable amount of research has gone into the physical aspect of elephant contraception, from the side of both the male and the female. Research regarding the psychological effects of this is a lot less conclusive, for the understandable reason that, as with humans, the long life-cycle of the elephants prevents us from making decisions based on just a few years' – or even a few decades' – observations. Trials have established that injecting female elephants with porcine zona pellucida (pZP) does indeed stop conception without noticeable side-effects (though other trials, such as oestrogen implants, caused behavioural side-effects both during and after use). Contraception is still at an experimental stage, and environmentalists and ethicists alike acknowledge that much

more research and trials need to be carried out before it can be said to be a fail-safe way of controlling over-population in elephants.[68]

Those who oppose contraception on a large scale state that 'this level of interference in a large national park also poses many unanswered moral questions – the longer-term side effects on structure and behaviour in a contraceived population are also poorly understood'.[69] Indeed, there are many issues surrounding contraception that need proper exploration – such as the effect on female elephants in a contraceived herd, where they may not have had the benefit of allomothering[70] before becoming mothers themselves. All this is true – but surely it is still morally preferable to continue searching for a solution along those lines that to resort to culling? Philosophers and wildlife managers alike seem to take a strange line in this regard, rejecting it 'on the basis that this interferes with the course of nature and could harm the species,'[71] or by stating, rather categorically, that: 'there is no ethical justification to use methods in an experimental stage and not yet adequately tested on large elephant populations'.[72] These are fascinating objections. As Horsthemke says in response to the first objection, put forward by Masuluke, 'Following the logic of this argument, culling presumably does not interfere with the course of nature and is unlikely to harm the species.'[73] It is not ideal to use contraceptive methods that have not been tried and tested (in a similar way to drugs used on humans are tried and tested). But given the alternative, which is to *kill* the surplus elephants, surely contraception is the

[68] Lötter, "The Ethics of Managing Elephants", 66-70; Rudi J. Van Aarde and Tim P. Jackson "Megaparks for Metapopulations: Addressing the Causes of Locally High Elephant Numbers in Southern Africa*", Biological Conservation* 134 (2007) 289-297.
[69] Horthemke, *The Moral Status*,72.
[70]'Allomothering' refers to the elephant practice whereby young female elephants learn what motherhood entails by watching other females in their herd become mothers, so that by the time they themselves bear a calf they have seen the process several times and know how to rear a calf. Ethologists are concerned that, due to contraception, females will not have enough experience of what motherhood entails before becoming mothers themselves
[71] Horsthemke, *The Moral Status*, 72.
[72] Lötter, et al., 426.
[73] Horsthemke, *The Moral Status*, 72.

lesser of the two evils? My feeling here is that we are using the lack of research behind contraceptive methods as an excuse to justify culling, which cannot be morally correct. Once again, my disagreement is based on the concept of the *pro tanto* wrong of killing elephants.

There have also been pilot studies in sterilisation, of both male and female elephants, which have been proven effective. Contraception must, however, be considered a morally superior solution to sterilisation, as sterilisation is permanent and irreversible. A sudden dip in elephant population in the foreseeable future, be it caused by man (poaching) or by nature (drought), might put elephants at risk of extinction due to their inability to reproduce.

There are two obvious drawbacks to contraception and sterilisation as a form of elephant population control: the time it will take to reduce the size of a herd, and the emotional effects of sterilisation on both individual elephants affected and the herd as a whole.[74] Only if the lapse of this time could be proven conclusively to affect the resolving of the Just Cause by any means other than culling would I acknowledge that these methods do not present a far more ethically correct way of addressing elephant over-population.

Translocation

Another alternative solution to elephant over-population, is that of translocation, which involves moving elephants from one area of land to another, where there is more space for them and a habitat that can accommodate them without compromising any of the other inhabitants. It is a difficult and expensive exercise, and is hard to carry out for the simple

[74] Van Aarde suggests there are several possible emotional long-term side-effects to contraception that still need to be examined over a longer period of time, especially in hormone treated cows, who may be harassed by bulls, or expect to become pregnant and react unexpectedly when not. Van Aarde, "Megaparks for Metapopulations", 291.

reason that there remain very few wildlife areas that do not have sufficient elephants for their needs. Translocation is often dismissed as an alternative to culling, for both practical and ethical reasons. While I agree that the practical reasons may be valid, I disagree with the ethical reasons, as I shall explain below.

Practically, translocation is an extremely difficult exercise to carry out. As pointed out by Rudi van Aarde, Chair of the Conservation Ecology Research Unit at the Department of Zoology and Entomology, University of Pretoria, and one of the world's experts on the issues of elephant management in South Africa, 'transporting elephant herds is both costly and cumbersome. More importantly, few existing conservation areas in southern African can accommodate extra elephants, while small-scale translocations to other continents are fraught with ethical issues [such as behavioural problems among the translocated elephants as well as the elephants whose territory has thus been invaded]'. He concludes that 'while ethically appealing, translocation is not a practical solution to reduce numbers in large populations'.[75]

Ethically, Lötter dismisses this alternative to culling, stating 'Translocation is at best an experience that traumatises elephants in several ways.' He goes on to describe the disturbance and upset of a helicopter overhead, which darts the elephant, followed by its incarceration in a box while it is transported to its new home, and the trials it must go through once it is released into its new habitat in order to orientate itself and come to terms with its new home. Agreed, all these are traumatising, and unpleasant in the extreme, and it is possible (though unlikely) that some elephants never recover from the experience. But, even though translocation may be morally compromised, it is certainly still a superior alternative to being killed. It is also an option that has been successful in the past, and very few elephants or herds fail to recover and thrive in their new homes. Translocation,

[75] Van Aarde, "Megaparks for Metapopulations", 291-292.

though deeply upsetting to the elephants involved, cannot cause them a worse harm than the *pro tanto* harm of deliberately ending their lives.

Translocation, therefore, is most definitely morally preferable to culling. However, the practical aspects of it mean that it may not offer a viable long-term solution to the problem of elephant over-population.

Self-regulation

One solution that is often overlooked is that of elephants' managing to regulate their own population themselves. In our haste to find a solution to the problem we may have disregarded the possibility that, given time, elephant herds might manage to slow their own birth rates and thus solve the problem without human intervention. The *Summary of the Assessment* states categorically that 'there is no observational data to answer this question definitively, nor is there likely to be within the next decade'.[76] But who is to say that within two, or three decades there might not be a solution? Again, returning to the *pro tanto* argument, who would be foolish enough to claim that we can solve human over-population within a decade? Over-population, whatever the species, is a problem that was a long time coming, and will take a long time to solve.

Van Aarde opposes this possible solution, stating that '"doing nothing" does not advance our understanding of management. While many elephant-related studies have been conducted, comprehensive studies using replicated, controlled designs are few. We need such information in order to make informed management decisions'.[77] I am in total agreement with van Aarde that, if at all possible, we should not make irreversible decisions

[76] As quoted in Bradshaw, *Elephants on the Edge, 233.*
[77] Van Aarde, "Megaparks for Metapopulations", 292.

based on incomplete or inconclusive data, but his reasons for so categorically denying the option of self-regulation seem to revolve more around a desire for new information on management techniques than for a genuine search for a solution to the problem. Also, I would suggest that culling is *also* based on incomplete and inconclusive data, as we shall see in the criterion entitled Reasonable Chance of Success, and culling is a far more irreversible method of population control than is self-regulation.

A more convincing solution to the problem is the following:

Habitat Expansion

One of Bradshaw's biggest complaints about the *Assessment* was that 'scant attention has been devoted to more ecologically sound and scientifically consistent approaches [to the issue of elephant over-population], such as the expansion of elephant habitat within a conserved landscape that includes both elephant hotspots and compatible human land use, as suggested by Rudi van Aarde, a South African scientist who participated in the round table and *Assessment*'.[78]

Van Aarde makes a valid point with regard to habitat expansion. All other methods of elephant population management, he claims, address the *symptoms* of the problem, rather than the *cause*. Localised elephant over-population is caused by two things only: the restriction of movement across what was once a far larger territory colonised by elephants; and the introduction of artificial aids such as water holes. According to van Aarde, in Africa 'currently elephants occupy some 5 million km² and well beyond the boundaries of protected areas, which account for only 16% of their range'.[79] The reason we view some

[78] Bradshaw, *Elephants on the Edge*, 227
[79] Van Aarde, "Megaparks for Metapopulations", 293.

areas as overpopulated, and some as under-populated, is because we are looking at localised populations, rather than at what van Aarde calls the ‘metapopulation’: i.e the holding capacity of the region as a whole, rather than just one pocket of it. Habitat damage, if it exists, could be addressed by linking up regional parks, enabling elephants to resume the migratory patterns that existed before their areas were so badly restricted.

Only where this option is totally unviable (such as perhaps on small islands like Indonesia) could culling possibly be viewed as a better option to this one.

In concluding the discussion on Last Resort, I do acknowledge that there is not a ‘quick fix’ to this problem, and the need to find a solution should not force us to be bulldozed down the path of culling when the need for it is less urgent than we believe it to be. Whatever the morally correct solution to elephant over-population turns out to be, in any specific context, the principle that has been established is that alternatives to culling such as contraception, translocation, self-regulation and expansion of habitat ought to be given time to show whether or not they can work.

3. LEGITIMATE AUTHORITY

In Just War theory, Legitimate Authority is interpreted as the need for proper authority to be obtained before a war can be declared. A country is not morally justified in taking up arms against another without obtaining permission from an over-arching authority, thereby lending legitimacy to the exercise. In the case of war today it is usually the UN, as well as international organizations (such as the Southern African Development Community, or SADC) located in the area in question, whose authority is sought before going to war.

How we apply this criterion to the concept of elephant culling, and whose authority would need to be obtained before carrying out a cull, is dramatically affected by granting that it is a *pro tanto* wrong to deliberately kill elephants.

Lötter suggests that it is vital for as many stakeholders as possible to be consulted before this step is taken. At the very least ecologists, environmentalists, farm managers and local indigenous peoples must be consulted before any cull takes place.[80] In the case of South Africa it is the South African government, and specifically the Department of Environment and Tourism (DEAT), whose permission would be sought before a cull could take place – and who, probably, would be the correct authority to carry out the cull as well.

Or would it? The fact that the killing of elephants has been raised to the status of *pro tanto* wrong removes much of the legitimacy of any one department or entity. While we may concede that a national environmental department might be the correct authority on other affairs in the area of conservation and environmental management, and that the planning and carrying out of the cull might fall under their ambit, the seriousness of the harm inflicted on elephants in a cull must surely demand far higher authority than theirs. Just as the decision to go to war would not rest with the Department of Defence, a decision to cull elephants cannot ethically rest with the DEAT.

Who *should* be consulted on the issue of culling as a means of addressing the issue of elephant over-population? Lötter makes an interesting suggestion of a set of rights for elephants, that can be enforced by law, starting with 'No human may kill an elephant unless in self-defence, or when an independent panel of appropriate experts find

[80] Lötter, et al., Ethical Considerations", 408.

compelling reasons to do so.'[81] While we may agree with that, we are still left wondering who this 'independent panel of appropriate experts' should be. The quality of our communication with elephants makes it impossible for them to represent themselves on this panel, and so somebody must do that for them. My suggestion is that, at the very least, the panel be made up of the following, all of whom should be equipped with a profound understanding of the issue of elephant over-population.

- International organisations such as the World Wildlife Fund
- Animal rights activists and lawyers with an awareness of animal rights
- Environmentalists
- Elephant ethologists
- DEAT representatives (or similar if this takes place in other countries)
- Representatives from villages and settlements affected by elephant over-population
- Other interested parties – including possibly the whole nation via a referendum

Before the reader thinks I am getting carried away with this point, wanting to consult, educate and involve so many parties, it would be wise to pause and consider what consultation would be required for approval to be obtained to overcome other *pro tanto* wrongs – such as going to war, perhaps, or amending abortion laws, or bringing into law forced sterilisation of humans as in the case of China's over-population dilemma. Taken in this context, it becomes clear that consultation of the widest possible nature is absolutely essential if one is to morally justify overcoming such a serious harm to elephants. Over-riding such a wrong is far too serious an action to rest in the hands of just one set of decision-makers.

[81] Lötter, H. "Ethics for a New Human Interaction with Elephants", *http://www.tuskertrails.co.za/Human_Interaction_with_Elephants.pdf* 13

4. REASONABLE CHANCE OF SUCCESS

The goal of war must be to establish a Just Peace – where the aggression will not take place again, and where the *status quo* can reasonably be expected to endure. In a similar way, an elephant cull can only be justified if it is done on a scale that will ensure that the problem is solved for the foreseeable future. If the justification for a cull is over-population, but culling as a solution to over-population is only effective if it is carried out time and time again, rather than just the once, then, due to its being a *pro tanto wrong* it is doubtful that culling can be ethically justified as a solution to over-population.

Due to the *pro tanto* wrong that must be over-ridden in allowing a cull to take place, culling can only be justified when it has been proven that it really does, without a shadow of a doubt, work at reducing elephant over-population in the medium to long term.

I have reached the end of the elaboration of the *Jus ad Caesum* criteria that make up the Theory of a Just Cull. To recap briefly, I discussed *Just Cause*, *Last Resort*, *Legitimate Authority*, and *Reasonable Chance of Success*. Each and every one of these four criteria will have to be convincingly fulfilled in order for a cull of excess elephants to be morally justifiable. Should that be the case, then a cull could be authorised, and the criteria that make up *Jus in Caeso* would come into play, in order to ensure that the cull was carried out in as sensitive and ethically correct manner as possible. Space refrains me from going into detail on the criteria that make up *Jus in Caeso* (Minimisation of Pain and Trauma, Choice of Subjects, Ecosystemic Balance and Use of Spoils of a Cull), and I hope to develop them further in later work.

I have now set out the conditions under which a cull of elephants could be justified. All that remains to be done is to apply it to the South African situation and evaluate whether or not a cull of excess elephants can be justified in this country, in the prevailing circumstances.

6. THEORY OF A JUST CULL: APPLICATION TO THE CURRENT SOUTH AFRICAN SITUATION

I have now established that the culling of elephants can be considered a *pro tanto* wrong. I have set out conditions under which this *pro tanto* wrong may be overcome if it is in order to prevent the committing of a greater harm. I have shown that the only harm that seems greater than that of killing elephants is systemic damage to the environment of such magnitude that it endangers current and future co-habitants of the ecosystem.

As the final part of this report I want to briefly apply the Theory of a Just Cull to the current issue of elephant over-population in South Africa. I shall take each of the four criteria that make up *Jus ad Caesum* and apply them to the current South African situation as I understand it.

1. <u>JUST CAUSE</u>

There is considerable controversy in the South African context surrounding habitat destruction, the one cause that I established as being sufficient to over-ride the *pro tanto* wrong of deliberately killing elephants. The *Assessment* claimed that there was substantial proof that elephants were damaging their habitat to the extent that the extinction of several species was threatened, and yet research has cast considerable doubt on this claim. While it is undisputed that, in southern Africa, elephants can, and do, change a landscape from woodlands to grasslands in a matter of years, van Aarde suggests that this landscape probably was grasslands before the intervention of man, and only became woodlands once elephants ceased to be allowed to roam freely across vast tracts of land. In fact,

elephant browsing may be returning land to its original state rather than irreparably damaging it.[82]

Many scientists now dispute that there is even a problem of elephant over-population at all. Van Aarde, as we have mentioned before, suggests that, rather than looking at the population inside one small area (such as Kruger National Park) we should be looking at the metapopulation throughout the whole region. The bringing-down of fences between existing parks as part of the Peace Parks initiative (which began as far back as 2002 in certain areas between South Africa and Mozambique) will enable elephants to move freely, and would take the pressure off any single area or habitat. As van Aarde states, 'The management of Africa's elephants is complex – they are vulnerable to extinction in some regions but appear over-abundant in others.'[83] In another paper van Aarde suggests that 'elephants, irrespective of densities, do not significantly reduce species diversity . . . Based on studies from across Africa we conclude that science does not provide satisfactory evidence that elephants had a lasting negative effect on either animals or plants.'[84] Similarly, studies on elephant impact on plant diversity in Chobe and Hwange reserves in Zimbabwe found 'no broad threat to diversity, despite even higher local densities'.[85] Van Aarde goes on to conclude that 'The perceived consequences of elephants for biological diversity in the Kruger have little scientific support. […] Elephants are one of many agents that influence biological diversity. Managing only elephants does not address the issues surrounding the maintenance of biological diversity as a primary conservation objective.'[86]

[82] Van Aarde, "Megaparks for Metapopulations", 290-291.
[83] Van Aarde, "Megaparks for Metapopulations", 289.
[84] Horsthemke, *The Moral Status*, 69.
[85] Horsthemke, *The Moral Status*, 69-70.
[86] Horsthemke, *The Moral Status*, 69.

Van Aarde and his team are not alone in holding this belief. Both the World Wildlife Fund and the International Fund for Animal Welfare challenge the notion that elephant over-population exists in southern Africa, and classify the African elephant as an endangered species[87].

In the light of that evidence, it is not possible to claim with any certainty that Habitat Destruction constitutes Just Cause for culling in the case of the South African situation.

According to my Theory of a Just Cull, if just one of the four criteria is unfulfilled, then the cull cannot be morally justified. I have demonstrated that Habitat Destruction, the only Just Cause I had identified as being able to overcome the *pro tanto* wrong of deliberately killing elephants, is not valid in the current South African situation. Therefore, a cull in South Africa today, under the conditions as I see them, cannot be morally supported.

For the sake of completeness I shall briefly examine the three remaining criteria. For the sake of argument we shall assume that the first criterion, Just Cause, has been justified, and Habitat Destruction has been shown to be a harm great enough to overcome the *pro tanto* wrong of killing elephants.

2. LAST RESORT

Van Aarde writes:[88]

> Plans are in place for the establishment of several TFCAs [Transfrontier Conservation Areas] throughout southern Africa. For

[87] http://www.worldwildlife.org/species/finder/africanelephants/africanelephant.html; http://www.ifaw.org/us
[88] Van Aarde, “Megaparks for Metapopulations”,294.

> example, in 2002 an agreement was signed by member countries to create the Greater Limpopo Transfrontier Park. This will eventually unite major conservation areas and adjoining landscape matrices in Mozambique, South Africa and Zimbabwe. The proposed Kavango-Zambezi Transfrontier Conservation Area involves five countries and incorporates 36 national parks, games reserves and wildlife management areas. It extends over an area of more than 300,000km² that supports about 200,000 elephants. To put this into perspective, this is an area some 20 times larger than the Serengeti National Park, while the KAZA TFCA contains about one third of all Africa's elephants.

From this it looks as though habitat expansion could indeed provide a long-term solution to localised elephant over-population, especially in the context of the southern African situation, that is unquestionably morally superior to culling and the other solutions offered above, for a variety of reasons, including:

- It minimises human involvement in the solution
- There is no invasion of elephants' bodies (as is the case in contraception)
- Most importantly, it does not require the deliberate killing of elephants, and so the *pro tanto* wrong is avoided

Due to the fact, as stated above, that the damage caused by elephants to their immediate habitat could be mitigated by expanding the area in which elephants are free to roam, I suggest that habitat expansion is a far better alternative to the problem caused by elephant over-population. It has an immediacy that contraception does not have, it is far more practicable than translocation, and it will enable environmentalists and ethologists to

examine in further detail the fifth means of population control, which is self-regulation. Culling is not the Last Resort in the case of elephant over-population in South Africa today.

3. LEGITIMATE AUTHORITY

As stated above, in South Africa the ultimate authority for authorising a cull of elephants currently lies with the Department of Environment and Tourism (DEAT).

Bradshaw raises some interesting points with regard to the DEAT's interpretation of the *Assessment*, which brings into question the legitimacy of the department – and indeed that of any single government department being able to make the decision to cull. In the introduction to this report I explained that Marthinus Van Schalkwyk, then Minister for Environmental Affairs and Tourism, used the *Assessment* as the basis for his decision to resume culling in the Kruger National Park. Many of the experts whose opinions were sought in the Assessment formed part of the Amboseli Elephant Research Project (AERP), who among them possess over two centuries of detailed study of African elephants. These experts, the same ones on whose opinion Minister Van Schalkwyk claims to have relied in this decision to repeal the ban on elephant culling, declare that:

> it is our considered opinion that killing elephants to reduce local population density ('culling') is unnecessary, unimaginative and inhumane . . . ineffective or retrogressive . . .outdated, and that "culling is, from an ecological point of view, unnecessarily destructive and invariably unjustified and from a social, behavioural and cognitive point of view, unethical."[89]

[89] Bradshaw, *Elephants on the Edge*, 228.

Bradshaw goes on to point to more flaws in the report. In spite of its claim that extensive consultation was made, the *Assessment* truly only sought the opinion of a small section of interested parties – and then seems to have disregarded the opinions that did not suit its final goal, which was to repeal the ban on elephant culling.[90]

What went wrong? Why, in the face of such vehement opposition, from people who can claim to know better than any of us the issues involving elephant management, did the DEAT still decide to repeal its ban? The answer seems likely to be that the DEAT was determined to lift its ban for its own reasons, and chose to overlook evidence that did not support this.

While much work still needs to be done on establishing a panel of experts whose authority *could* be considered to have the legitimate authority to decide on the issue of elephant culling, and the composition of which I suggested in Section 4, the recent actions of the Department of Environment and Tourism raise serious questions about whether it alone should be mandated to authorise such a cull in South Africa today.

4. REASONABLE CHANCE OF SUCCESS

At first glance this seems an easy criterion to fulfil. Culling, by its very nature, reduces the population in an instant to the number chosen by the Legitimate Authority that has sanctioned the cull. One would presume it very foolish to not reduce it to a level that would be sustainable on the land left available to it.

[90] A few years later the same department was severely criticised for similarly failing to include a broader section of society in its report entitled *Norms and Standards for Damage-Causing Animals*, and after repeated criticism from Animal Rights groups eventually issued an apology for 'its political and cultural bias'. From Bradshaw, *Elephants on the Edge,* 230.

However, this is not so. At this stage I would like to put forward an argument raised by Horsthemke, and echoed by animal rights activists such as Michele Pickover, that, as a long-term solution to over-population, at least in the South African situation, culling *simply does not work*. In a study of the culling that took place in Kruger National Park in the 1990s, van Aarde voices serious doubts about the long-term effects of culling:

> The purpose of culling elephants was to reduce numbers. A reduction in numbers may conceivably have reduced the effect of elephants on vegetation. For practical purposes yearly culls took place within one of four management regions for the final ten years of culling […] In the year immediately following culls, elephant numbers declined due to the cull. […] The following year, however, trends were reversed with more elephants within the previously culled management zones than expected from population growth alone . . . This suggests that region-specific culling induces inter-regional movement.[91]

In a further study van Aarde gives some figures that show that, not only does culling encourage movement within areas, back to the habitat whose endangered status was Just Cause for the cull to happen, but it may actually cause elephant numbers to rise. 'Selective culling targeting bulls or animals of certain age classes may distort age structures and enhance, rather than supress growth rates […] and so negate the intention of culling. In addition, at lower densities population growth may increase, […] so culling could effectively increase growth rate.'[92] Given these serious doubts that culling is in fact able to achieve

[91] Horsthemke, *The Moral Status*, 70.
[92] Van Aarde, "Megaparks for Metapopulations" , 291.

the objective of a reduced population, it is reasonable to seriously question whether the condition of a Reasonable Chance of Success can be fulfilled.

I have now set out the four *Jus ad Caesum* criteria for the Theory of a Just Cull, and applied each one to the South African situation as I see it. Not one of these criteria is satisfactorily fulfilled. This leads me to suggest that the culling of elephants in the current circumstances in South Africa is scientifically, culturally and ethically unjustifiable.

7. CONCLUSION

The aim of this report was to justify why the deliberate killing of elephants is a *pro tanto* wrong, and develop a theory that would set out the conditions under which such a wrong could possibly be overcome in the face of a second, more serious wrong. I have developed a Theory of a Just Cull, and I have briefly demonstrated how such a theory could be applied to the current elephant situation in South Africa. This report has shown that, while it is possible to morally justify a theoretical cull, in the South African situation at least culling is ethically unjustifiable at this time.

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