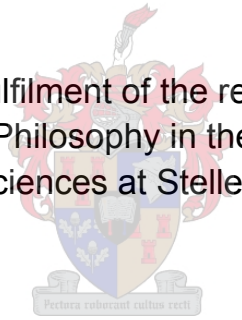
Better Never to Have Been in the Wild: A Case for Weak Wildlife Antinatalism

by
Ludwig Raal



Thesis presented in partial fulfilment of the requirements for the degree of
Master of Philosophy in the Faculty of
Arts and Social Sciences at Stellenbosch University

Supervisor: Dr Susan Hall

April 2022

Declaration

By submitting this thesis electronically, I declare that the entirety of the work contained therein is my own, original work, that I am the sole author thereof (save to the extent explicitly otherwise stated), that reproduction and publication thereof by Stellenbosch University will not infringe any third party rights and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

April 2022

Abstract

Most people have an idyllic view of nature and believe that wild animals have good lives. But nature is a hostile place. In addition to the suffering inflicted upon prey by their predators, many wild animals are victims of infectious disease, extreme weather, starvation, and parasitism. Yet it is often claimed that an abundance of wildlife is desirable. The aim of this thesis is to challenge this premise. My argument will proceed in four parts. Firstly, I will show that the lives of most wild animals are characterised by a surplus of negative experiences, and that there are a myriad of ways in which wild animals suffer. Secondly, I will challenge the notion that wildlife has intrinsic value by considering, and arguing against, two related claims: that the lives of *individual* wild animals have intrinsic value, and that wild species as *wholes* are of intrinsic value. Thirdly, I will consider whether wildlife has instrumental value, and if so, whether it is sufficient to justify traditional conservation methods. I conclude that this is not the case. Finally, I will argue that it may be best for most wild animals not to be born at all, a view I refer to as weak wildlife antinatalism. While such a conjecture may strike many as deeply counterintuitive, I will make the case that it is both technically feasible and morally desirable.

Opsomming

Meeste mense beskou die natuur as idillies en glo dat wilde diere goeie lewens lei. Maar die natuur kan wreed wees. Roofdiere veroorsaak dat hulle prooi lei en baie wilde diere is slagoffers van aansteeklike siektes, uiterste weersomstandighede, hongersnood, en parasitisme. Tog heers daar die algemene siening dat ’n oorvloed aan wilde diere wenslik is. Die doel van hierdie tesis is om hierdie standpunt uit te daag. Ek lê my argument in vier dele uit. Eerstens wys ek dat die lewens van die meeste wilde diere deur ’n oormatige aantal negatiewe ervarings gekenmerk word en dat daar ’n magdom wyses is waarop wilde diere kan lei. Tweedens daag ek die idee dat die dierewêreld intrinsieke waarde het uit, deur twee verwante bewerings te oorweeg en dan van die hand te wys: Eerstens, dat die lewens van *individuele* wilde diere intrinsieke waarde het, en, tweedens, dat wilde spesies as *gehele* intrinsieke waarde het. Derdens oorweeg ek die vraag of wilde diere instrumentele waarde het en, indien wel, of hierdie waarde dan voldoende is om tradisionele bewaringsmetodes te regverdig. Ek kom tot die gevolgtrekking dat dit nie die geval is nie. Laastens maak ek die punt dat die meeste wilde diere beter daaraantoe sou wees indien hulle nooit gebore sou word nie, en ek noem hierdie siening “sagte dierewêreld-antinatalisme”. Alhoewel baie mense waarskynlik hierdie siening hoogs bedenklik sal vind, argumenteer ekt dat dit beide tegnies moontlik sowel as moreel wenslik sou wees om so ’n stand van sake teweeg te bring.

Acknowledgements

Firstly, I want to thank my supervisor Dr Susan Hall for her guidance, patience, and encouragement throughout the process of writing this thesis.

I am also grateful to my fiance, Ridalise, for being an ever-present sounding board and putting on a brave face whenever I raised the topic of my thesis at get-togethers with friends and family.

Lastly, I want to thank the philosophers David Pearce and Magnus Vinding, whose writings on the problem of wild animal suffering were an inspiration for this thesis.

Table of Contents

1 Introduction

1.1 Overview

In November 2013, the American TV personality and hunter, Melissa Bachman, posted a photo of her with her trophy on Facebook. The picture shows a beaming Bachman, rifle in hand, looming over a dead male lion. Outrage ensued, with thousands of people rushing to social media to condemn Bachman, calling her everything from “evil” to “a sorry excuse of a human being” (Moosa, 2013). The topic of trophy-hunting provokes strong emotions. Many of us think it wrong to kill an animal for sport, and one need not embrace an anti-speciesist perspective — the belief that it is wrong to discriminate against another being *solely* based on their species membership — to do so. Most reasonable people grant *certain* animals at least *some* moral consideration, meaning that their killing, therefore, needs to be justified on grounds stronger than that it produces pleasure in a small group of humans. Do such reasons exist?

Defenders of trophy-hunting often point to its economic and conservation significance in sub-Saharan Africa. Allowing private farmers or local communities to control wild areas and profit from using their natural resources — including wild animals — creates an incentive to grow and conserve rare and endangered species. In short, trophy hunting, so the argument goes, creates conditions that allow a species to flourish.

This view, however, is not without its critics. Opponents of the hunting-for-conservation argument point out that the industry is poorly regulated, lacks transparency, and is riddled with corruption. Furthermore, hunting quotas are often based on guesswork which can lead to over-shooting.

The debate around trophy-hunting, then, is often framed between those who argue that trophy-hunting *aids* wildlife populations and those who say that trophy-hunting *impedes* it. The dispute, therefore, can be said to be an empirical one. Who is right?

The purpose of this paper is not to settle this dispute but instead to challenge the premise that both sides agree on: an abundance of wildlife is good.

Most people have an idyllic view of nature. They believe that wild animals live pleasant lives and that we must do what we can to conserve — and expand — this state of affairs. When conservationists or journalists report on an increase in wildlife, they often describe the species

as "thriving" or "flourishing" . But is an expanding population a sign of success? Consider the species "*Gallus gallus domesticus"*, more commonly referred to as "*chicken"*. There are approximately 25 billion chickens alive at any moment in time (Shahbandeh, 2021), the vast majority of whom are raised on factory farms, meaning most of them suffer from restricted movement, undergo mutilation without pain relief, and many die from dehydration. The ethics of factory farming have been discussed by other scholars elsewhere, so I will not do so here. The lesson of this minor digression is this: population size is a poor criterion for measuring the success of a species.

While conservationists and environmentalists are, of course, quick to acknowledge the problems of *overpopulation* (i.e. habitat degradation, human-wildlife conflict, reduction in other species), they still consider an expansion of wildlife, in the absence of such externalities, a good thing. Defenders of that view may believe that being alive is valuable to the *individual* animals and that an uptake in overall numbers reduces the likelihood of a particular species going extinct. It is not self-evident, however, that either — the birth of an individual life in the wild or the survival of a wild species — is valuable.

Consider the lives of animals in the wild. Pristine landscapes may be aesthetically pleasing to the human eye and "the bush" can provide city dwellers with a welcome escape from the urban jungle, but for its inhabitants — wild animals — nature is a hostile place. In addition to the suffering inflicted upon prey by their predators, many wild animals are victims of disease, starvation and parasitism. Studies also show that wild animals experience higher levels of stress than those raised in captivity, excluding factory-farmed animals (Wilcox, 2011). Stress levels may not be a perfect measurement of wellbeing, but the claim that excessive stress is detrimental to living a happy life should not be controversial.

Are such lives valuable? To be sure, a life need not be free from suffering for it to have value, but that does not mean that *all* lives, irrespective of their quality, are worth living. When a cat or dog suffers from a debilitating disease, that is, when its life has become a net negative experience, euthanising that animal strikes many of us as ethically justifiable. Furthermore, we would consider practices and policies that incentivise the expansion of such lives as morally dubious. That is not to say that the lives of wild animals are equivalent to those of illness-stricken pets, but that it is possible to conceive of animal lives that are not worth living.

For a life to be of value, then, it may need to achieve a certain level of quality. Upon closer inspection, however, the lives of many wild animals fail to do so.

But even if one grants that animals live net-negative lives in the wild, their existence may still be justified on other grounds. Wildlife may be necessary for satisfying human interests: food, tourism, or the simple pleasure of knowing wildlife exists. Some wild species may also be a vital cog in the biosphere machinery, without which entire ecosystems may collapse, ultimately harming humans.

What about valuing conservation for the sake of the species? In his seminal work, *The Land Ethic*, the American ecologist Aldo Leopold wrote that “A thing is right when it tends to preserve the integrity, stability and beauty of the biotic *community* (italics my own). It is wrong when it tends otherwise” (Callicott, 2021). Leopold’s writings inspired a revival in ecological concern, with a growing number of philosophers arguing for the intrinsic value of nature. In an article published in 1973, the Norwegian philosopher Arne Naess introduced the term “deep ecology” into philosophical literature (Naess, 1973). Deep ecology ethics, which has since turned into an environmental movement, go beyond concerns about the wellbeing of individual organisms, instead focusing on larger entities such as species, ecosystems, and the biosphere. To make the case that these abstract communities have intrinsic value would require demonstrating that their survival has value beyond their impact on conscious creatures — a difficult philosophical task and one that remains highly contentious.

There is a nascent movement in the animal advocacy space, wild animal suffering (WAS), that is often in tension with deep ecology. Previously considered a reductio ad absurdum in debates about vegetarianism — “Should lions be stopped from eating gazelles too?” — many animal advocates have started to “bite the bullet” in such arguments and have begun to answer in the affirmative, that is, they accept that wild animals should be kept safe from other wild animals.

In his online manifesto, *The Hedonistic Imperative*, the philosopher David Pearce — one of the most vocal supporters of wildlife interventionism — suggests that “non-human animals don’t need liberation; they need looking after” (Pearce, 2007). The interventions that Pearce and other animal advocates in the movement propose are aimed at reducing the suffering of individual animals, not species preservation. These interventions range from small acts of kindness such as rescuing injured animals to grand ambitions of rewriting vertebrates’ genomes — evoking biblical imagery of a place where “the wolf and the lamb shall feed together” and “the lion shall eat straw like the ox" (Isaiah 65:25). Given the amount of suffering that occurs in nature, some philosophers, such as Magnus Vinding, have gone one step further than this and suggested that it may be best for wild animals not to be born at all (Vinding, 2017). Vinding’s argument is based on the concept of “antinatalism”, popularized by the philosopher David

Benatar. On this view, creating new life is considered bad due to the asymmetry between pleasure and pain. Benatar argues that “the absence of pain is good, even if that good is not enjoyed by anyone”, whereas “the absence of pleasure is not bad unless there is somebody for whom this absence is a deprivation” (Benatar, 2006).

While Vinding’s theory that we ought to consider applying antinatalism to wildlife strikes many as deeply counterintuitive, it should not be dismissed as mere contrarianism — it warrants serious reflection. Doing so will require an investigation into what life is like in nature and whether wildlife has value independent of the wellbeing of those who compose it. This thesis aims to undertake this project.

1.2 Problem Statement and Research Aims

Nature is a hostile place. In addition to the suffering inflicted upon prey by their predators, many wild animals are victims of disease, starvation and parasitism. Yet, current consensus about wild habitats is that we must do what we can to preserve and expand them — and the same goes for wild animal species. While competing theories exist on how best to safeguard and grow wild species populations, the validity of the shared premise — that doing so is a good thing — remains largely unchallenged. The core problem this paper will investigate, then, is whether wildlife — the way it is commonly understood — should be conserved.

To address this problem, the following ancillary questions need to be examined:

- What is life like in the wild?
- Does wildlife have intrinsic value?
- Does wildlife have instrumental value?

In answering these questions, I will ultimately argue that traditional attitudes toward wildlife conservation should be abandoned and proceed to make a case for weak wildlife antinatalism.

1.3 Moral Framework

The chosen moral framework for the investigation that follows is sentientism, the ethical philosophy that holds that sentience is the deciding criterion for moral consideration (Woodhouse, 2019). Sentientism has gained popularity among many animal advocates over recent years, who see it as an alternative to the oft-misunderstood theory of anti-speciesism. Anti-speciesism maintains it is wrong to discriminate against other beings solely based on

species membership, a view that is often wrongly caricatured as wanting the same treatment for humans and animals alike.[1]

Sentientism does not suffer from easy — or deliberate — misinterpretation. Its claim is simple: beings that have the capacity to experience sensations — e.g. pain and pleasure — are worthy of moral consideration. It is a view that most people already hold, regardless of whether they are familiar with the term. We implicitly endorse it when we condemn negligent pet owners, feed birds in the park, or desperately avoid hitting a squirrel with our cars. While only some are willing to go as far as to extend legal rights to animals, the notion that we ought to treat them differently from insentient objects — rocks, telephones, or chairs — can be grasped intuitively.

Due to its emphasis on the pain-pleasure axis, sentientism is most commonly associated with utilitarianism, the normative theory that advocates for the maximisation of happiness. Some philosophers, such as Christine Korsgaard (2011, as cited in Sebo, 2020) and Tom Regan (2004, as cited in Sebo, 2020), have, however, also proposed a sentientist *Kantianism*. Sentientist Kantianism is an alternative to *rationalist* Kantianism, the view that holds you can only have moral status if you are rational. It must be remembered that the core principle of sentientism does not advocate for the maximization of utility; it only maintains that sentience is necessary and sufficient for moral concern, making it compatible with ethical theories other than utilitarianism.

There are, of course, ethical theories that reject the notion that sentience is a necessary condition for moral status. This view is especially common among environmentalists who insist that an environmental ethic must extend moral standing to insentient entities, such as species and ecosystems too. This is a view that I reject and will argue against in Chapter 3, so I will refrain from doing so here.

It is important to note, though, that to follow the proceeding arguments, one need not embrace the sentientist worldview in its entirety. One only needs to accept that wild animals' sentience is

[1] Embarking on a thorough analysis of anti-speciesism is beyond present concerns, but a short defence of it may be merited. The claim that the average human has cognitive architecture capable of producing a wider variety of experiences than that of the average animal should not be controversial. Even an anti-speciesist can acknowledge that the average human life should be prioritised over the average animal life. The difference in priority can, however, be explained by the difference in cognitive architecture alone, without invoking species membership. Similarly, it is possible to prioritise one human life over another human life for the same reason, the way it is often done when the life of a pregnant woman is given preference over the life of her 20-week old fetus in a medical emergency. Here, too, the difference in priority can be explained without appealing to species.

sufficient grounds for at least some moral consideration, a view most readers should be sympathetic towards.

1.4 Thesis Structure

Central to many of the arguments that follow is the premise that the majority of wild animals live bad lives. This is not a purely empirical claim — much will depend on one's conception of good, bad and wild — but it is a claim that necessitates empirical justification. The second chapter of the thesis will, therefore, a) provide an appropriate conception of "wildlife", and b) examine the many ways wild animals can — and do — suffer in nature, including predation, injury, starvation, disease, and parasitism. This chapter will also conduct a brief investigation into the reproductive strategies of wild animals. The purpose of this chapter is to convince the reader of the negative asymmetry between negative and positive experiences in the wild.

In Chapter 3, I consider the claim that the conservation of wild animals is intrinsically valuable. This chapter consists of two primary sections. Firstly, I consider the argument that each organism's life has intrinsic value and that conservation efforts should, therefore, be at the level of the individual. This is an admittedly extreme and rare claim but must be dealt with for the sake of completeness. In this section, I consider two properties that could provide wild animal life with intrinsic value, namely consciousness and the concept of life as a "teleological center."

The second section critiques the view that attributes intrinsic value to wild animals at the level of the species. I begin this section by examining the claim that species *diversity* is intrinsically valuable. Next, I consider Holmes Rolston III's idea of species being a teleological entity and Lawrence Johnson's case for species as rational agents with interests.

Chapter 4 consists of four sections and will investigate the view that wildlife should be conserved due to its instrumental value. Many of these arguments are framed in terms of the benefits of biodiversity, which can broadly be split into the use-value of biodiversity, the existence-value of biodiversity, the options-value of biodiversity, and the insurance-value of biodiversity.

The first section of this chapter looks at the use-value of biodiversity, such as its aesthetic and recreational benefits. The second section deals with the existence-value of biodiversity: the pleasure derived from knowing certain animals still exist. The third section focuses on the options-value of biodiversity, which argues that the value of many species — both current and

future — is yet to be realised, suggesting that we ought to maintain a variety of life. The fourth section examines the argument for biodiversity as a type of insurance, which considers the interconnectedness of various species, and how the extinction of one species could lead to the collapse of an entire ecosystem. Here, I will cite — and critique — the “rivet popper” hypothesis advanced by Paul and Anne Ehrlich that draws an analogy between the richness of species and rivets of an aeroplane. The removal of one rivet may not prove disastrous, but each consequent removal increases the likelihood of the plane coming apart. Similarly, every time a species goes extinct, the probability of the next extinction unravelling whole ecosystems increases. Throughout this chapter, I will illustrate that none of the benefits of biodiversity justifies the dominant view that wildlife as we know it ought to be maintained — or worse — expanded.

Chapter 5 will make a case for weak wildlife antinatalism from a sentientist perspective, an alternative approach towards wild animals that follows from the implications of the findings in Chapters 2, 3 and 4. The chapter consists of three sections and will begin with an examination of wildlife antinatalism and antinatalism more broadly. I will consider the works of the philosopher Magnus Vinding and David Benatar and attempt to illustrate why we should be hesitant to embrace *strong* antinatalism. In the second section, I will proceed to make the case for *weak* wildlife antinatalism and demonstrate how it is superior to the strong version. In the third section of this chapter, I respond to possible challenges to the weak wildlife antinatalism thesis, including whether antinatalism implies pro-mortalism, if weak antinatalism is compatible with a sentientist ethic, if a similar conclusion applies to humans, and if weak antinatalism is the best way to tackle the problem of wild animal suffering.

In Chapter 6, I will provide a short recap of some of the arguments presented throughout this thesis and make some concluding remarks.

1.5 Concluding Remarks

In this chapter, I have introduced the problem of wild animal suffering, presented my research aims, provided brief justification for the application of sentientism as a moral framework, and laid out the structure of my thesis.

Before proceeding to argue that traditional attitudes toward wildlife should be abandoned and make a case for weak wildlife antinatalism, we need to examine the situation of animals in the wild more closely. To this project, I turn next.

2 The Cruelty of Mother Nature

2.1 Introduction

> “The popular inclination to ascribe some kind of benign wisdom to an anthropomorphised Mother Nature serves, in practice, only to legitimate all manner of unspeakable cruelties.” - David Pearce, The Hedonistic Imperative (Pearce, 2015)

In his book *Leviathan*, the philosopher Thomas Hobbes describes nature as a condition of "continual fear and danger of violent death" (Hobbes, 2008). While Hobbes was referring to the state of humankind without a strong central authority to prevent "war of all against all," his words capture what life is like for most wild animals.

The vast majority of people, however, have an idyllic view of nature. They believe that wild animals have good lives because they are free. In the pages that follow, I will make the case that this widespread reverence for wildlife is misplaced. The majority of wild animals live a "poor, nasty, brutish and short" existence, and much of wildlife's supposed value — both intrinsic and instrumental — is either non-existent or better realised through different means.

While most people — including starry-eyed environmentalists — can acknowledge that life in the wild is not entirely free from suffering, few can appreciate the unspeakable cruelty of Mother Nature. The purpose of this chapter is not just to convince the reader that wild animals experience suffering, but to make the case that the lives of the vast majority are characterised by a surplus of negative experiences.

2.2 What is “Wildlife”?

To begin this chapter in earnest, we must start by defining our terms. What do we mean when we speak of “wildlife”? Some scholars have conceived of wildlife as “organisms living in an area without being introduced by humans” (Rolston, 1988), but this conception seems needlessly narrow. Consider the wolves introduced to Yellowstone National Park in 1995 (Peglar, 2021). Are they no longer wild because they were relocated via human intervention? While this conception may be useful in some contexts, for the purposes of this thesis, I will conceive of it more broadly and the way it is most commonly understood: undomesticated animals that live

away from civilization — deers in forests, meerkats in deserts, snakes in wetlands, zebras in the African savanna. What about squirrels in lush parks in the middle of a city? The boundary between the wild and civilization may well be blurry, but the crux of the arguments that follow do not hinge on borderline cases.

2.3 How do Wild Animals Suffer?

2.3.1 Predation, Food Scarcity and Stress

On January 12, 1995, eight wolves were introduced to Yellowstone National Park. These were the first wolves present in Yellowstone since their eradication by hunters seven decades earlier. The purpose of the reintroduction of wolves into the park was to stabilize the local ecosystem. In the absence of wolves, the local elk population had expanded, leading to the overgrazing of some regions of the park and the loss of young flora (Peglar, 2021).

In a YouTube video titled "How Wolves Change Rivers", which has garnered over 40 million views to date, the environmental activist George Monbiot spoke positively about the wolves' impact on Yellowstone. Not only had the wolves reduced the number of elk and deer, but they had also driven them from key areas of the park, allowing for the regeneration of Aspen trees and the reemergence of rare bird species (How Wolves Change Rivers, 2014). This, according to the majority of the people who watched the video, is cause for celebration. But what is the cost?

The way wolves reduce the number of elk and deer is by killing them. Death at the jaw of a wolf is rarely swift, with many of their prey dying slowly of muscle damage or blood loss. In 2008, a hunter who witnessed a wolf's killing of a doe recalls the predator feasting on his victim while she was visibly trying to escape. The deer tried to run away repeatedly, but her severe injuries made it easy for the wolf to thwart her attempts to get free (Veine, 2008). Prey being eaten alive by their predators is not an uncommon occurrence in the wild. Bears, wild cats and even the North American short-tailed shrew are all known for keeping their meals alive for extended periods (Dvorsky, 2013).

As noted earlier, not only did the wolves reduce the number of deers via predation, the latter also had their foraging habits altered by the wolf’s presence. To avoid their predators, deers had to be on the move, spending more time browsing for food instead of grazing on the same fertile

land. This change of behaviour led to deers consuming fewer calories, causing some to die from starvation (Ellig, 2009). Starvation is a slow and excruciating process. It begins with a loss of body fat, which is followed by muscle deterioration, anemia, skin lesions, and, ultimately, organ failure (Humane Society, 2021).

The deers' reproductive habits were also affected, with some theories suggesting that their lower birth rates were a product of chronic stress brought on by the presence of wolves (Ellig, 2009). The issue of stress in wild animals deserves closer consideration. Despite stress's evolutionary selective benefits — it makes animals vigilant — its constant prevalence is incompatible with living a happy life. In humans, excessive stress can lead to depression, and while it may be speculative to suggest that the same is true for wild animals, the conclusion that stress affects their wellbeing negatively should not be controversial. Excessive stress is also not restricted to the deer population of Yellowstone National Park. A struggle for food, shelter and mating opportunities is a daily experience for animals in the wild. Research that involved testing the faecal samples of domesticated and wild animals for hormones indicative of stress revealed the latter have significantly higher stress responses (Wilcox, 2011).

The story of the wolves in Yellowstone Park provides an interesting case study of what life in the wild is like. It illustrates the way in which predation interacts with food scarcity and psychological harm, a phenomenon present in the majority of prey-predator relationships — be it lion and zebra, bear and fish, or fox and rabbit. None of this is to suggest that suffering is exclusively the domain of prey. Predators, too, can suffer in a myriad of ways, some of which will be explored in the remainder of this chapter.

2.3.2 Intraspecies Violence

Most of the brutality discussed thus far has revolved around predation. It must be remembered, however, that a significant portion of the violence experienced by wild animals is inflicted upon them by members of their own species. Fighting for territory, mates or social status are all examples of intraspecies conflict.

Consider the species *Canis lupus*, more commonly known as the wolf. Although wolves will try to avoid conflict by demarcating their territory through scent-marking and howling, they are often forced to resolve territorial disputes through aggression, leading them to kill or severely injure any intruders (Harrington and Mech, 1978:208). Other pack animals fiercely hostile to non-group members include lions, meerkats, chimpanzees, and mongooses (Cassidy et al., 2016). Among

chimpanzees, territorial wars can also involve the kidnapping of fertile females (Animal ethics, 2017:42).

The struggle over mates deserves closer consideration. In many polygynous species where tribes consist of a single dominant male and multiple females — e.g. elephant seals, baboons, gorillas, buffalos, elks — the position of leader is fiercely contested. In these winner-take-all combats, males would often seriously injure one another, occasionally resulting in death for one of the competitors. Although fatalities are rare, the losers of such contests would often be expelled from the tribe and be resigned to spend their remaining years in solitude.

But males are not the sole victims in intraspecies conflict. A common reproductive strategy in the animal kingdom is sexual coercion, which can take the form of physical restraint or repeated harassment (Clutton-Brock and Parker, 1994). In a Youtube video titled “The heavy, forced mating of Elephant Seals”, the master of a seal harem can be seen using his two-tonne bodyweight to immobilise the visibly reluctant female and forcefully copulate her (The heavy, forced mating of Elephant Seals, 2016). In another video, macabrely titled “Otter Love”, we can witness a male otter scratching, biting, and drowning his sexual victim into submission (Otter Love, 2015). These are not isolated incidents. Forced copulation is common in a wide variety of other wild species, including the great apes, ducks, and dolphins (Animal ethics, 2017:43).

Another widespread phenomenon among wild animals is infanticide. While the reasons for such behaviour may vary, the outcome is constant: premature death for the infant. Some animals kill young members of their own species as a source of food — or because they are competitors for it. Mothers sometimes kill their young because they are handicapped and would require too much maternal investment. Males often kill offspring unlikely to be their direct descendants. Again, it must be stressed that these are not rare events or restricted to a particular species. Infanticide has been observed in numerous wild species, including wild dogs, lions, hyenas, wolves, geese, coyotes, most primates and even squirrels. Infanticide does not always entail cannabilism. Among primates, a phenomenon known as “aunting to death” involves non-lactating females kidnapping another’s offspring only to let them starve to death (Hrdy, 1979).

Thus far, our focus on suffering in the wild has centred around conflict between animals. In the following sections, we will investigate other sources of misery common in nature.

2.3.3 Parasitism and Disease

On February 2, 2016, the American public broadcaster, PBS, published a video titled "Brain Parasite Turns Moose Into Zombie" (PBS, 2016). The video shows a visibly disorientated moose stumbling through a forest before collapsing in the snow. The moose was infected by the parasite *Parelaphostrongylus tenuis*, also known as a brain worm. Symptoms include loss of voluntary muscle control, listlessness, deafness and blindness, inability to forage, emaciation, paralysis, and ultimately death (Department of Environmental Conservation, 2021).

Parasitic infections of this kind are common in the wild. Other examples include Trichinella, Echinococcus spp., Leishmania, Sarcoptes scabiei canis, Babesia, Trichomonosis, and Haemosporida (Johannsen, 2021:15).

The worst example of parasitic infection may be Myiasis, the infestation of tissue by fly larvae. It begins with the New World screw-worm fly laying eggs on the wound of an animal. Once the larvae have hatched, they would eat the flesh of their host while emitting pheromones that attract new female flies to join the feast. What started as a minor injury has morphed into the animal's eventual demise: death by being eaten alive (Johannsen, 2021:15).

Turning to viral diseases, consider distemper, a single-stranded RNA virus that attacks the gastrointestinal, respiratory, and nervous systems of mammals, and usually causes fatal diseases, including pyrexia, anorexia, nasal discharge, diarrhoea, lymphopenia and encephalitis. While commonly observed in dogs, in the wild distemper affects lions, leopards, tigers, bobcats, bears, racoons, and other mammals. The few who survive are often left with serious neurological damage (Suzuki et al., 2015). Other deadly diseases in the wild include tularemia, rabies, brucellosis, bovine tuberculosis, rinderpest, and foot-and-mouth disease (Williams and Barker, 2001:vii).

Parasitism and infectious diseases are, of course, their own sources of suffering, but they also interact with the predicament of food scarcity. Animals in a poor physical state because of a lack of food are particularly vulnerable to dangerous pathogens, which, in turn, compound the problem by restricting the animal's ability to forage for food. What we have here, then, is a vicious cycle of a lack of food, disease, less food, greater vulnerability to further diseases, and ultimately death (Johannsen, 2021:14)

To make the problem of parasitism and disease in the wild more salient, consider what life was like for humans before the emergence of modern medicine. As the scientist Steven Pinker noted

in his book *Enlightenment Now*, “for most of human history, the strongest force of death was infectious diseases” (Pinker, 2018:62). Epidemics could decimate entire civilisations, as was the case when smallpox ravaged the populations of the Mayans, Aztecs, and the Incans (Diamond, 2005:67). Then there was the bubonic plague, which killed over 50 million Europeans in the 14th century (Benedictow, 2005). Yellow fever, dysentery, pneumonia, typhoid, and other diseases also led to agonising deaths for millions of people over the aeons (Pinker, 2018:63). While much of humanity has since managed to escape this brutality, wild animals remain, by definition, trapped in the savage state of nature.

2.3.4 Weather and Climate

As discussed above, predation and disease interact with food scarcity. The same is true for weather. For example, severe snowfall can render large amounts of land uninhabitable, leaving animals to crowd together in the few remaining livable and fertile spots. With fewer resources available, long winters can cause some deer herds to lose up to fifty percent of their members due to starvation (Wooster, 2003). Animals that hibernate are not immune to this problem. For example, if bats awake from their hibernation slumber, they may deplete their stored fat required to survive the rest of winter, meaning they, too, can starve or freeze to death (Animal Ethics, 2020:17).

On the other side of the temperature spectrum, droughts can cause a shortage of water. In addition to discomfort and death by dehydration, animals can become easy prey when forced to seek out the few remaining watering holes, leaving them vulnerable to attacks from crocodiles and other water-inhabiting predators.

Besides the problem of extreme temperatures, there are other ways in which weather can cause wild animals to suffer. They can be killed by heavy floods, forest fires, landslides, earthquakes, and volcanic eruptions. Less directly, wild animals can also die from the impact such phenomena have on their food supply (Animal Ethics, 2020:20-23).

Even if events like these do not kill animals outright, they still cause significant pain and distress. In the case of a wildfire, for example, inhaling too much smoke can cause lasting respiratory problems and severe burn injuries may never heal completely (Cope, 2019). But we need not rely solely on *extreme* weather events to show that life in the wild is brutal. Regular bad weather — an unusually hot day, strong winds, heavy rain — is a frequent source of misery too. High temperatures cause thirst and dehydration. Strong winds can render animals

disorientated or injured by falling debris. Heavy rains can flush away homes, leaving animals wet, cold, and without shelter.

The vast majority of human beings escaped these conditions a long time ago. Most of us would consider it an evolutionary success to no longer be so exposed to the elements. Yet, when it comes to wild animals, many of us believe it to be desirable that they remain trapped in the state of nature. This view, as I will argue in this thesis, is misguided.

2.3.5 The Evils of Evolution

So far in this chapter, I have shown that many animals endure terrible pain and distress in the wild. However, the goal of this chapter was not just to convince the reader that suffering exists in nature but to make the case that it exceeds all pleasure. Doubters may argue that human lives are full of misery too — poverty, illness, war — but that does not mean that the human race is in a state of disvalue. Similarly, while one can acknowledge that many wild animals suffer a terrible fate, that is not to say that the majority do. This is not a point that I am willing to grant. While it is true that large sections of humanity suffer too, most of us have escaped the Hobbesian state of nature. For wild animals, however, it is the very fact that they exist *in the wild* — left to their own devices without means to cure illness and violent conflicts — that makes their lives bad. To be sure, lives of wild animals are not void of pleasure altogether. Consider, for example, the thrill of a hunt or copulation. But even these events reliably come at the expense of an unwilling participant. Still, for those who remain unconvinced of the asymmetry between bad and good experiences in nature, there is one final aspect left to consider.

Humans follow a reproductive strategy known as K-selection. This also applies to animals who only give birth to a small number of offspring, allowing the parents to invest the necessary care to maximise their progeny's chance of reaching adulthood. Species that follow a K-strategy are, however, quite rare in the wild. The overwhelming majority of wild animal species are what is known as r-strategists (Horta, 2015). Instead of investing in the survival of just a few offspring, r-strategists pass their genes on to future generations by flooding the habitat with progeny so that, regardless of mortality, at least some of them will survive to reproduce (Johannsen, 2021).

The selection strategy is, of course, a continuum. On the one end, you have elephants who usually only give birth to one baby at a time. On the other side, you have some invertebrates that lay millions of eggs at once (Horta, 2015). Mortality rates of offspring may thus vary greatly from species to species, but the overall picture for animals born in the wild is bleak. Some may

question whether invertebrates should even be granted moral consideration, given we cannot be certain of their sentience. But r-selection strategies are not the sole domain of invertebrates *Most* mammalian species, too, produce a large number of offspring with only a handful reaching adulthood (Johannsen, 2021). Consider, for example, the meadow vole, who can have up to 17 litters a year, each of which consists of four to eight offspring. According to one study, 88% of them die during their first month of life, with the primary cause of death being predation (Getz, 1960). An infant mortality rate of such magnitude is common among species closer to the r side of the r/K spectrum; it is, after all, what it means to be an r-selection strategist. What should concern us is not only the fact that these animals die. Some may even argue that, if life in the wild is as bad as I claim, premature death may be desirable in these cases. The badness of death will receive closer attention in a later chapter, but the point to note here is that the process of dying is rarely a pleasant experience. As I have argued throughout this chapter, predation, starvation, and death by parasitism or illness are sources of extreme suffering. When viewing high mortality rates among infant animals, then, we should not only be aghast that so many of them die, we should lament the fact that they go through the experience of dying painful deaths. While animals whose reproductive methods more closely resemble that of a K-selection strategy have a higher chance of surviving infancy, our investigation in the previous sections should preclude us from concluding that their lives are overwhelmingly pleasant. For example, even among lions, who only have two to three cubs per litter, only about one in eight males reaches adulthood (Main, 2013).

As we have just seen, being genetically prolific does not require good parenting. Parents can “play the odds” and have an abundance of offspring, ensuring at least one of their prodigies will survive until they reach sexual maturity. Such behaviour is, of course, not the result of conscious deliberation on the part of an animal. These strategies have evolved over the aeons and proven successful from an evolutionary perspective among most species alive today, but this does not imply that their outcomes are morally desirable.

2.4 Concluding Remarks

In this chapter, I have tried to make the case that the vast majority of wild animals live net negative lives. To support my claim, we examined the myriad of ways that animals in nature can suffer. First, we looked at the problem of predation and the way it interacts with food security. Next, we considered intraspecies conflicts, such as struggles over territory and mating opportunities, as well as the common phenomenon of infanticide. But suffering in nature is not

solely the result of animal-on-animal violence. Parasitism, infectious diseases, and extreme weather, too, are regular sources of discomfort, despair and death. In addition to the above, the psychological harm of living in the wild must also be remembered. Hunger and thirst are sources of both physical and mental anguish, and the stress induced by fear of predators and the jostling for social status must also be considered.

Most of us, of course, recognise the savagery of nature. Who among us would want to return to the time of our ancestors 20 000 years ago when man still roamed the wilderness without access to adequate shelter, medicine, and modern technology? Some may claim that evolution has shaped animals to thrive in the wild, but as we have seen, evolution is a cruel mistress. As the evolutionary psychologist Robert Wright reminds us in his book *The Moral Animal,* natural selection “doesn’t ‘want’ us to be happy. It ‘wants’ us to be genetically prolific” (Wright, 1994:211). And, as the prevalence of r-strategist animals in the wild shows, genetic prolificness can produce a terrifying amount of dead infants.

Still, some may argue that there is more to life than merely positive and negative experiences. Wildlife may have value independent of the quality of the lives of those who compose it. This claim will be the focus of the next two chapters.

3 Does Wildlife Have Intrinsic Value?

3.1 Introduction

In the previous chapter, I have tried to make the case that wild animals experience a surplus of negative experiences throughout their lives. If this is true, then traditional wildlife conservation efforts could be described as the mere perpetuation of misery. Yet, even if one grants the premise that wild animals live bad lives, some may still argue that wildlife must be conserved due to its intrinsic value.

A few remarks on the concept of “intrinsic value” are useful here. Something is of intrinsic value if it is valuable for its own sake. The most self-evident example of this is the feeling of happiness. Why do we want to be happy? Here we are not required to provide further justification; we can simply state that being happy is valuable in and of itself. There are other properties claimed to be of intrinsic value, such as rationality, truth, and consciousness (Zimmerman and Bradely, 2019). A full examination of all these views may lead us too far astray from present concerns, but insofar they are relevant to the discussion of the value of wildlife — e.g. the view that consciousness has intrinsic value — they will be explored in the remainder of this chapter.

Intrinsic value is contrasted with "instrumental value", which refers to the quality of enabling the realisation of other, deeper values. The most cited example of something that has instrumental value is money. Why do we value money? Money can pay for things that we need and desire, such as food, rent, and TVs. Those things, in turn, provide us with comfort and entertainment, ingredients that many of us consider necessary for happiness.

Can wildlife be said to have intrinsic value? This is a difficult question to answer without breaking it down further. On the one hand, it can be claimed that the lives of wild animals are of intrinsic value and that we must do what we can to preserve — and create — individual lives regardless of their quality. On the other hand, intrinsic value can also be attributed to wild species as a whole, not to those who compose them. Both these views aim to secure the possibility of future generations — one for the sake of individual lives and the other for the sake of species.

This chapter, then, will look at both of these arguments. Firstly, I will consider the claim that wildlife is intrinsically valuable at the level of the individual, and, secondly, I will examine the assertion that whole species have intrinsic value.

3.2 Are Wild Lives Intrinsically Valuable?

3.2.1 Opening Remarks

To begin this section, I must first address the framing of the question in the heading, “Are wild lives intrinsically valuable?” Why did I not ask, “Are wild animals intrinsically valuable?” Given that I endorsed the ethical theory of sentientism in Chapter 1, I have already acknowledged that wild animals should be valued for their own sake. In that sense, they can be said to have intrinsic value because their moral status does not depend on their usefulness to humans. But by shifting the question of intrinsic value to their *lives*, we are conducting a different inquiry. We are not asking if wild animals are worthy of moral consideration, we are asking if their lives are good in and of themselves. The distinction between these two questions should become clearer in the pages that follow.

Despite providing a brief introduction to the concept of intrinsic value in the previous section, a deeper examination may be necessary. When talking about certain states of consciousness — pleasure, happiness, ecstasy — the notion of intrinsic value can be grasped intuitively. Making value judgments about life, on the other hand, is much more complicated. What makes life intrinsically valuable?

Several theories have been posited throughout the aeons for *human* life, be it because of the presence of God-given souls or due to “the Rationality of Man.” While an investigation into these views may prove interesting, it will do little to advance our goal of answering whether *wild animals*' lives are intrinsically valuable. After all, those who adopt such views in defence of the sanctity of human life rarely extend them to animals.

For our purposes, I will explore two theories that are commonly invoked to argue for the intrinsic value of life that apply to wild animals too. Firstly, I will examine the claim that wild animal lives are intrinsically valuable because they are *conscious* creatures, and consciousness is a — supposedly — intrinsically valuable property. Secondly, I will consider the theory of biocentrism, the ethical view that extends inherent worth to all living things. In the concluding remarks of this section, I will argue that neither argument is successful in demonstrating that the lives of wild

animals are intrinsically valuable and discuss some of the implications that do — and do not — follow.

3.2.2 Is Consciousness Intrinsically Valuable?

In this section, I will be using the term consciousness as conceived by Thomas Nagel in his essay, “What is it like to be a bat?” On this view, a being is conscious if it is like something to be it, that is, some subjective way the world seems from that being's mental or experiential point of view (Nagel, 1979:165-180). Some philosophers hold the view that consciousness is intrinsically valuable because it instantiates intrinsically valuable experiences (Lee, 2019). Consider the following thought experiment by the philosopher William Seager (Seager, 2001, as cited in Lee, 2019), which captures this type of thought.

“Imagine the devil gives you the choice: you can become the richest and most successful person on the planet, but at the cost of a total loss of consciousness. You will be a zombie, though undetectably such to the rest of the world, and a very well off zombie at that. It is easy to see that, all other things equal, this offer is no bargain; it is tantamount to death.”

While this thought experiment illustrates that consciousness may be *necessary* for life to have intrinsic value, it fails to show that it is *sufficient*. The kind of life that Seager imagines here will undoubtedly produce many experiences we would consider intrinsically valuable — pleasure, happiness, tantric bliss. But to show that a conscious life *contains* intrinsically valuable experiences is not enough to prove that consciousness *is* intrinsically valuable. As we have already seen in Chapter 2, consciousness also enables pain and suffering. Using the same logic as Seager would have us do, it could just as easily be argued that consciousness is intrinsically *dis*valuable for it instantiates disvaluabe experiences.

To avoid this paradoxical conclusion, there are those who insist that consciousness is intrinsically valuable without appealing to positive experiences. In his 1979 book, *Mortal Questions*, Thomas Nagel (1979:2) writes:

"There are elements which, if added to one's experience, make life better; there are other elements which if added to one's experience, make life worse. But what remains when these are set aside is not merely neutral: it is emphatically positive. Therefore life is worth living even when the bad elements of experience are plentiful, and the good ones too meager to outweigh

the bad ones on their own. The additional positive weight is supplied by experience itself, rather than by any of its consequences."

What are we to make of Nagel's claim? If he is insisting that *any* experience is superior to *no* experience, then his claim is demonstrably false. We reject this view whenever we request to be anesthetised before undergoing invasive surgery. Some may retort that this temporary loss of consciousness is only granted in light of its inevitable return. This may well be true, but the point that it is possible to conceive of instances when no experience is preferable to a bad experience stands.

What about Nagel's initial point? That, if positive and negative elements are discounted, what remains is still positive? To capture what this intuition entails, the philosopher Andrew Lee (2019) posits the following thought experiment.

"Consider two worlds that are empty save for a single creature inhabiting each world. In the first world, the creature has a maximally simple conscious experience that lacks any valence. Perhaps, for example, the creature has an experience of slight brightness. The creature's experience is exhausted by this sparse phenomenology. In the second world, the creature is not conscious at all. For example, we might suppose that in the second world, the creature is constantly in a dreamless sleep for the entire duration of its existence. We can stipulate that the two worlds are as similar as possible without violating the difference in consciousness between the two creatures."

On Nagel's view, the first world is better. But is this so? It is possible that readers' intuitions may fundamentally diverge here — some may be drawn to the first, some to the second, some may be indifferent — without us having good reason to adjudicate between them. But even if we were to grant Nagel that *some* positive property remains in the first world, the idea that it carries sufficient weight to offset *any* intrinsically disvaluable experiences — i.e. pain and suffering — is poorly motivated and ultimately unconvincing.

What, then, are we to make of the claim that consciousness is intrinsically valuable? The first argument we considered illustrated that consciousness is necessary for the instantiation of intrinsically valuable experiences. But this only proves that consciousness has *instrumental* value in helping us realise what we ultimately want: positive experiences. In the presence of *negative* experiences, many of us would prefer not to be conscious at all, as is evidenced by our desire to be unconscious during surgery or sleep off a hangover.

The second argument we encountered — the one offered by Thomas Nagel — is barely an argument at all. It is a mere appeal to the intuition that experience has value even in the absence of positive — or any — phenomenological character. While there may be those that share Nagel's intuition, he fails to illustrate that whatever property remains is sufficiently valuable to justify the presence of *negative* phenomenological character.

Ultimately, we should reject the claim that the presence of consciousness is sufficient to make life intrinsically valuable. Are there other reasons for thinking that animal life has intrinsic value? In the next section, we will examine the theory of biocentrism.

3.2.3 Biocentrism

Biocentrism, the ethical view that extends inherent worth to all living things, is most closely associated with the American philosopher Paul Taylor. In his book, *Respect for Nature*, Taylor argues that every living organism is a "teleological center of life" and that each of them "is a unique individual pursuing its own good in its own way" (Taylor, 1986:100). Taylor makes it clear that for an entity to have a good of its own, it need not be conscious, it only need to be a "system of goal-orientated activities" (Taylor, 1986:122). He then goes on to say that we should "regard every entity that has a good of its own as possessing inherent worth" (Taylor, 1986:155).

Even though Taylor's work is commonly cited when scholars or environmentalists discuss the intrinsic value of wildlife, Taylor himself only argued for its *inherent worth* — two concepts he asks us to "carefully separate in our minds" (Taylor, 1986:72). Taylor conceives of intrinsic value as "experiences, ends, and interests" that are "enjoyable in and of itself" (Taylor, 1986:73). In contrast, to say that an entity has inherent worth, is to assert that "a state of affairs in which the good of X (the entity) is realized is better than an otherwise similar state of affairs in which it is not realized" (Taylor, 1986:75). On Taylor's view, if a being has inherent worth, then a) that being is "deserving of moral consideration" and b) "moral agents have a prima facie duty to promote or preserve the entity's good as an end in itself" (Taylor, 1986:75).

Given the importance of Taylor's writings on environmental ethics, it would be a severe oversight to ignore his work when discussing the value of the lives of wild animals. However, his subtle but significant distinction between intrinsic value and inherent worth make a thorough examination of his views — for the purposes of this section — superfluous. By insisting that animals have inherent worth, he is merely making the case that they are deserving of moral consideration, a view that was defended in Chapter 1 of this thesis, albeit via different means.

To say that all life has *intrinsic value*, on the other hand, is to make a different claim with stark implications. It would not only mean that a state of affairs is better when the good of a living entity is realised, it would mean that a state of affairs can be improved by bringing new lives into existence — irrespective of their wellbeing or the wellbeing of those whose lives they would affect. If this were true, some may find no greater calling in life than to breed as many rats as possible in their backyard, for each additional rodent would increase the total amount of value in the universe.

Some readers may reject the above implication because they disagree with my conception of "intrinsic value." A fully agreed-upon definition may remain elusive, but there is value, as Taylor has done, in keeping its meaning narrow. It allows one to distinguish between believing an entity has moral status and believing that it is good for that entity to exist — two independent notions, which we implicitly support whenever we choose to euthanize ill pets or use contraceptives to avoid unwanted pregnancies.

Upon closer inspection, then, the theory of biocentrism does not pose a significant challenge to the claim that individual life, independent of its quality, lacks intrinsic value. Biocentrism only posits that life in all its forms merits moral consideration. *With regards to wild animals*, this is a judgement that is also endorsed in this thesis.

In the concluding remarks of this section, I will review what we have discussed thus far and address some of the implications of our conclusions.

3.2.4 Concluding Remarks

What I have tried to illustrate in the previous two sections is that life — whether conscious or not — cannot be claimed to have value *in and of itself*. For life to have intrinsic value, it needs to either a) be a net positive — i.e. have a surplus of intrinsically valuable experiences — or b) have other intrinsically valuable properties. We examined two properties applicable to wild animal life — consciousness and the concept of a "teleological center" — neither of which proved themselves to be of intrinsic value. Given that, in Chapter 2, we have already established that wild animals experience an excess of *disvaluable* experiences, and that we have now failed to show them to possess other intrinsically valuable properties, I want us to conclude that wild animals' lives are not intrinsically valuable.

The full implications of this conclusion will be addressed in Chapter 5, but some provisional remarks are necessary. By claiming that the lives of wild animals are not intrinsically valuable, I

am not claiming that they are not worthy of moral consideration. In Chapter 1, I defended the view that sentience — which wild animals possess — is sufficient for moral status, and none of the arguments presented in this chapter point to the contrary. Nor am I claiming that this gives us the right — or the obligation — to take the lives of wild animals. What I am arguing, however, is that efforts to bring future generations of wild animals into existence cannot be justified on the grounds that it produces intrinsically valuable lives. Conservationists will have to appeal to other reasons to support their claim that wildlife must be preserved. One reason often cited is that species have intrinsic value. In the next section, we will examine this claim.

3.3 Are Wild Species Intrinsically Valuable?

3.3.1 Opening Remarks

Once again, we must begin this section with a short preamble. By asking if wild species are intrinsically valuable, I am examining two claims:

1) Wild species — plural — are intrinsically valuable. That is, *diversity* of species is a good in and of itself.

2) Individual species are valuable in and of themselves. In that sense, it is the species that should be the object of direct moral concern, not its individual members.

The extension of moral consideration to abstract wholes such as species, ecosystems, and the biosphere is a common feature of contemporary environmental ethics and directly opposes the ethical framework endorsed in this thesis: sentientism. This section, then, can, in part, be seen as a continuation of the defence of sentientism presented in Chapter 1.

For the remainder of this section, I will firstly deal with the claim that diversity of species has intrinsic value, and secondly, I will examine the claim that species should be the object of direct moral concern, a view that commonly embraces some form of ethical holism.

3.3.2 Is Species Diversity Intrinsically Valuable?

There is widespread consensus among conservationists that we must do what we can to protect species diversity (Burch-Brown and Archer, 2017). Species diversity is commonly advocated for under the banner of biodiversity, which many conservationists claim to be essential in maintaining healthy ecosystems, allowing human and non-human animals to flourish. On this

view, biodiversity's value can be said to be *instrumental*, a topic we will address in Chapter 4. In this section, however, we will focus on the claim that biodiversity has *intrinsic* value. Here, we are not asking whether nature, ecosystems or a species have intrinsic value; instead, our emphasis of inquiry will be on the claim that what is valuable in nature is its species *diversity*.

To begin our investigation, we must, once more, define our terms. Species diversity is commonly accepted as referring to the number of distinct species present in a defined region (Santana, 2014). Some theorists also include the number of individuals per species as well as the distribution of species within a community in their conception of species diversity. However, none of the arguments that follow will hinge on whether we include these features in our definition. So, for the sake of simplicity, I will be using the conception first proposed, i.e. the number of species found in a defined region.

To claim that species diversity is intrinsically valuable would, then, mean that a world with greater variety of species is better than a world with less. But is this so? Imagine a world with 1000 species. Proponents of the diversity-has-intrinsic-value hypothesis would likely spend significant effort and resources on preventing a species from going extinct. After all, a world with 1000 species is better than one with 999. Yet, if a world with more variety is better, then a world with 1001 species would be more valuable than a world with 1000. Does it not follow that just as much effort and resources should be spent in the creation of new species? New technologies allow for synthetic speciation, a process that allows scientists to engineer novel species in a lab at a rapid rate (Leffer, 2020). If champions of diversity were earnest in their conviction, their time would be better served to advocate for the proliferation of lab-grown species rather than lobbying for policy changes that protect wild habitats. There are also studies that suggest that human encroachment on wild areas may, in fact, have a neutral net effect on species variety because, for every species driven to extinction, new species evolve through relocation and the creation of novel ecosystems (Bull and Maron, 2016). If this is so, those who value diversity for its own sake ought to be indifferent to the destruction of wild habitats.

Conservationists reluctant to embrace this conclusion may have to accept that when a species goes extinct, it is not the loss of diversity that is decried. Once the last remaining panda leaves this planet, few people will be consoled knowing that men in white lab coats can breed new species of fruit flies in test tubes. What would upset people is that a species with a unique history and characteristics is no longer with us. This leads some to conclude that what ought to

be the object of moral concern is not diversity but rather whole species. In the following section, we will examine this view more closely.

3.3.3 Ethical Holism

The 1970s saw a rise in the rejection of anthropocentrism, the view that only humans have moral status (Minteer, 2009:58). This was a welcome development. The realisation that beings other than members of the species homo sapiens are worthy of moral consideration is one of the clearest signs of moral progress.

The most forceful rejection of anthropocentrism is arguably best captured by the deep ecology movement. In 1973, the Norwegian philosopher Arne Naess wrote an influential article titled "The Shallow and the Deep, Long-Range Ecology Movement: A Summary" (Naess, 1973). In it, he distinguishes between, what he calls, "deep ecology" and "shallow ecology." Naess considered "shallow ecology" to be dominant amongst environmentalists of his time, one that values nature in anthropocentric terms (Keller, 2009:206). On this view, the main reason for preserving wildlife and biodiversity is to enable the realisation of human interests — food, tourism, the simple pleasure of knowing it exists. In contrast, deep ecology wants to go beyond anthropocentric concerns for the environment and value nature for its own sake.

While Arne Naess asserted that deep ecology is essentially descriptive — disingenuously so according to some philosophers (Keller, 2009:208) — and primarily invoked a *metaphysical* holism, much of modern environmental ethics is underpinned by an *ethical* holism (Nelson. 2009:491). Ethical holists maintain that environmental wholes — species, ecosystems, biospheres — are intrinsically valuable entities and should be objects of moral obligation (Nelson, 2009:491).

The environmental philosopher Holmes Rolston III speaks specifically about our duties to species. According to Rolston, a species is a specific form of life with a *telos*; it pursues a pathway through the world, resists death and maintains a normative identity over time. From this he concludes that a species is a survival unit, making it the "appropriate level of moral concern" (Holmes, 1988:149-151).

Rolston's use of the word “telos” is instructive. *Telos* is an ancient Greek term used by the philosopher Aristotle to refer to the inherent purpose of something and the idea that a

phenomenon is caused by an end (Telos, 2021). But to ascribe *telos* to a species is to be confused about *why* a species appears to be behaving the way it does.

This merits a minor digression. There are two categories of “why?” questions: “what for?” and “how come?” The former attempts to understand the purpose or function of a particular activity. For example, someone could ask me why I am writing this thesis. Another way of framing this question would be to ask, “*what* am I writing this thesis *for*?” Here, I could respond by claiming that I am doing so because I want to convince conservationists of their misguided ways or that I want to further my career as an academic. Whatever reason I provide, it would be an attempt to justify my action. “How come?” questions, on the other hand, are concerned with the processes behind a particular occurrence. For example, when we ask why the space shuttle Challenger exploded in 1986, we are not asking “for what purpose” it exploded. We are asking “how come” it exploded; that is, we are trying to understand what went wrong in the design of the shuttle.

By attributing *teloi* to species, then, Rolston is getting the causal chain backwards when he attempts to explain natural phenomena — i.e. species existing over time — in terms of purpose instead of the biological processes that underlie it. That is, he is confusing a “how come?” question with a “what for?” question. Species that exist over time do so because the individuals that compose them have a birth rate higher or equivalent to their death rate (process) — not because they have end goals (purpose). To be sure, species may appear to be on a unique trajectory of sorts, but the same could be said about the climate. Global temperatures have been rising for centuries, suggesting an upward trend. Does it follow that we have a duty to heat the planet in order to protect the climate’s “normative identity”?

Teleological thinking of this kind, which is all too common, should be guarded against. It is easy to spot — and ridicule — when we see religious zealots interpret hurricanes as God’s way of condemning sodomy (purpose), rather than as the rise of warm ocean air creating a vacuum for high air pressure to move into (process). When it comes to other phenomena in nature, however, it is a trap that many fall into, so much so that teleological reasoning has been identified as a major obstacle to biology education (Trommler and Hammann, 2020).

Let us now put aside the notion of species as a teleological being. Are there other reasons why we should view species as being an appropriate target of direct moral concern? In his book, *A Morally Deep World*, the philosopher Lawrence Johnson makes the bold claim that species have interests. He writes, "a species, like an individual organism, but unlike a tractor or a rock, is an ongoing coherent organic whole, a thing process, with past, present, and orientation and

drive toward the future" and that "a species entity like an individual organism has an interest in continuing to exist" (Johnson, 1991:157-158). Johnson makes it clear that when he says that a species has interests, he is not referring to the interests of its individual members, a notion he considers "trivial" (Johnson, 1991:156). He also insists that species' interests are not exclusively concerned with avoiding extinction but that they can suffer and succeed in other ways. One such example, according to Johnson, was the first lunar landing, an event he cites as a great achievement for the species homo sapiens (Johnson, 1981:158).

As other scholars have noted, it is a real philosophical question whether species can be considered individual entities with interests (Singer, 2011:253). But the challenge for Johnson is not simply to show that species have interests but to illustrate that the realisation of those interests is morally significant — without invoking the interests of the species' members. Johnson anticipates this charge by pointing out that some of the criteria commonly invoked to argue for the moral significance of individual human interests, like rationality, autonomy, and significant relationships, are also applicable to humanity as a whole as well as other species (Johnson, 1981: 161). From this he concludes that species' interests are just as morally significant as those of individual humans. This view is, of course, in direct opposition to the ethical framework used in this thesis: sentientism. Yet, to dismiss Johnson’s arguments on that basis alone would be unsatisfying to most readers. The remainder of this chapter can, then, in part be seen as a further defence of the sentientist ethic.

Let us unpack Johnson's claim more closely. In what sense can a species be said to possess rationality, autonomy and significant relationships? According to Johnson, the species homo sapiens— an example he uses for demonstrative, not anthropocentric, reasons — engages in "complex activities that are more than aggregations of individual activities", which means "humanity acts as a rational being" (Johnson, 1981:159). Moreover, individuals have reciprocal relations with humanity as a whole, as is evidenced by the fact that we benefit from the successes of the human race (Johnson, 1981:160).

At this point, it is still not clear if any of these acts cannot be said to be carried out by individual humans. But if we were to grant the notion that it is *humanity* that engages in these complex activities, then similar arguments could be made for the moral significant interests of corporations. To make this point more salient, let us choose a more contemporary, albeit hypothetical, version of the aforementioned lunar landing as an example of a species's success. Imagine the year is 2023, and the company SpaceX successfully lands a rocket on Mars. Once

again, this event would be lauded as a great achievement for — and by — humanity. But similarly, and more justifiably, the company SpaceX could be credited for this momentous occasion. The fact that humans all around the world would take pride in such a feat is not indicative of humanity having acted as an individual entity in pursuit of its goal; it merely reveals something about human psychology. Some advocates of the species-have-interests view may be prepared to "bite the bullet" here and concede that companies can be said to have morally significant interests too. But this picture can be complicated further still.

In his book, *Practical Ethics*, the philosopher Peter Singer suggests that one way of examining whether interests are morally significant would be to ask what it would be like for the interest-haver to have their interests denied (Singer, 2011:253). Humans and animals, for example, have an interest in being well-nourished and free from injury. A failure to satisfy those interests would undoubtedly cause pain and suffering, phenomena many of us would intuitively accept as disvaluable. Now imagine a fictional company on a distant planet run by philosophical zombies. The goal of the company is to produce paper clips; it is, after all, a paperclip-making company. It procures galvanised steel, engineers the relevant machinery, and shelves the final products — activities that cumulatively meet the criteria for complexity. Can this company be said to act as a rational being? Can this company be said to have interests? What would it be like for the company to have its interests denied? While the first two questions could produce genuine debate, the last one is barely intelligible. Fanciful thought experiments can often be the object of ridicule, but they still serve a useful purpose: by stipulating the conditions and controlling all the variables, it allows us to tease out our ethical principles. In this case, I want us to conclude that in the absence of sentience, inquiries into morally significant interests are nonsensical.

So far, what I have tried to illustrate is that the claim that collectives — be it species, ecosystems, or companies — have morally significant interests *independent of their sentient members* should be rejected. While this conclusion may be easy to accept when viewed in terms of companies run by philosophical zombies, there may be psychological reasons for why many will be slow to embrace it when it comes to human and animal species. Still, I argue that the principle is the same: a group cannot flourish or suffer in a morally significant way; only those who compose it can. What follows is that if anything ought to be the object of direct moral concern, it is the individual — not the species.

Let us now turn to the issue of extinction. If we conclude that a species ought not to be valued for its own sake, should we be indifferent to its survival? This is not a necessary conclusion to draw. Imagine the fictional species of Zevutan, a species whose members are known for their peaceful and happy existence. To speak of the importance of the survival of the Zevutan species would not be to commit a metaphysical faux pas, it would be a mere shorthand for a) expressing a concern for the individual Zevutans, and b) lamenting that their extinction would cancel future blissful lives from coming into existence.[2]

But how should we feel about the extinction of a species whose members live *disvaluable* lives? Should we merely say, “good riddance”? Doing so may strike some as crass, but in the absence of plausible interventions that could improve the lives of the individuals, it is, I believe, an appropriate attitude to take.

After discussions about teleology, missions to Mars, paperclip-producing zombies, and the fictional species Zevutan, it is now time to return our original question: Do wild species have intrinsic value? In the concluding remarks of this section, I will posit an answer to this question.

3.3.4 Concluding Remarks

Let us take stock of the arguments presented in support of the intrinsic value of species. First, we considered the claim that species *diversity* has intrinsic value. While there may well be good reasons to value diversity, the notion that we ought to value it for its own sake is fraught with problematic implications. Diversity could, after all, be achieved through different means — e.g. synthetic speciation — most of which would not, in the eyes of diversity enthusiasts, offset the cost of the loss of a species. Most arguments for diversity, then, appear to collapse into pleas for the preservation of existing species.

Next, we examined the claim that whole species should be the object of direct moral concern. Two main arguments were presented in defense of that thesis. First, we looked at Holmes Rolston III’s idea of species being a teleological entity that resists death and aims to maintain its identity over time. Second, and somewhat relatedly, we considered Lawrence Johnson’s case for species as rational agents with interests. Although both arguments had the virtue of being interesting, they fail to be convincing. In the case of Rolston, he made use of teleological

[2] There are some theorists who challenge the notion that eliminating the possibility of good lives coming into existence is a bad thing. After all, no one can have an interest in their own creation, meaning no interests are denied. This view will be explored in Chapter 5.

reasoning where it does not belong, while Johnson failed to show that the interests of species — insofar they can be said to have any — are morally significant.

Thus, I want us to infer that species — wild or otherwise — are not intrinsically valuable. It bears repeating that this conclusion is not a product of my own anthropocentric biases; it is a more general rejection of the notion that abstract entities can be said to possess intrinsic value.

So far in this thesis, I have tried to show that most wild animals endure a nasty, brutish and short existence, and that neither their individual lives nor the species they form a part of are intrinsically valuable. Do good reasons remain as to why we should conserve wildlife? In the next chapter, I will look at arguments that support wildlife conservation for instrumental reasons.

4 Does Wildlife Have Instrumental Value?

4.1 Introduction

I must begin this chapter with a brief disclaimer. When discussing the instrumental value of wildlife — or anything for that matter — we are entering the terrain of empirical inquiry. After all, the claim that wildlife or biodiversity plays a key role in scientific breakthroughs or are necessary for maintaining whole ecosystems relates to discoverable facts that can be observed and verified. What follows, however, is not a scientific investigation. But just like historical hypotheses are not exclusively the domain of historians, neither should inquiries into the utility of wildlife be reserved for biologists alone.

For example, scholars of history may disagree about the legacy of colonialism. Some may argue that, while undoubtedly inflicting oppression and suffering on its victims in the short term, colonialism also led to the spread of democracy, improvements in health care and education, and the empowerment of women around the world. This is a controversial claim, one that remains a subject of fierce debate. However, whatever the empirical facts are, it does not follow that philosophers cannot wade into the discussion. We can remain somewhat agnostic but still challenge the causal narrative: Was colonialism's role necessary or merely sufficient? Did modern civilization emerge because of it or despite it? Is democracy even desirable?

Similarly, the purpose of this chapter is not to engage in a factual dispute about the causal relationship between wildlife and its supposed benefits. Instead, we will try to complicate the matter by asking if these benefits are, in fact, best realised via traditional conservation methods.

This chapter consists of four primary sections, each of which will investigate different instrumental aspects of wildlife. The first section looks at its use-values, such as its recreational and economic benefits. The second section deals with the existence-value of wildlife: the pleasure derived from knowing wild animals exist in nature. The third section focuses on its options-value, which argues that the value of many species — both current and future — is yet to be realised. The fourth section examines the argument for biodiversity as a type of insurance, which considers the interconnectedness of various species, and how the extinction of one species could lead to the collapse of an entire ecosystem.

Finally, a quick remark on my use of the term “instrumental.” As noted at the beginning of Chapter 3, something is of instrumental value if it possesses the quality of enabling the realisation of other, deeper values. Here, I am not exclusively referring to human interests. We could, for example, also claim that the zebra has instrumental value to the lion, who requires the former’s existence to meet his protein needs. My conception of instrumental value is also more inclusive in another sense. Aesthetic value, for example, is sometimes seen as another form of intrinsic value, while existence value is considered its own category. However, both of these are best perceived in their relation to satisfying human interests; hence, they are discussed in this chapter.

4.2 The Use-Values of Wildlife

Safari is one of the main tourist attractions in Africa. Whether watching a pride of lions lazing under the sun, listening to the rumblings of a herd of elephants, or witnessing a leopard drag his prey up a tree, observing wild animals in their natural habitat can elicit feelings of awe and adventure like few other experiences can.

Commercial wildlife encounters of such kinds capture many of the use-values wild animals have to offer. They produce economic value for owners of game reserves, their employees, and other stakeholders in the tourism industry. They produce aesthetic value whenever a tourist lays eyes on the majestic African elephant, the black rhino, and even the modest impala. They produce recreational value — adventure, excitement, and curiosity — whenever we catch a glimpse of the rarely sighted leopard. The causal connection between wildlife and instrumental value, therefore, cannot be under dispute.

But let us turn back the clock by two millennia to the height of the gladiatorial games when men used to fight to the death for the entertainment of others. While it is easy to judge this era when viewed through the lens of modernity, these bloody spectacles were not only enjoyed by moustache-twirling psychopaths. Many psychologically normal Romans, no doubt, enjoyed seeing these armed combatants engage in violent conflict too. The presence — and killings — of exotic animals such as bears, rhinos, tigers and elephants — many of which would have inspired awe and wonder among the audience — was also a common occurrence (Gladiators, Chariots, and the Roman Games, 2021). Furthermore, the gladiatorial games were lucrative business for slave owners, trainers and social elites staging private events (Tchakarov, 2020). They can, then, be said to have produced economic, aesthetic, and recreational value too.

Some readers may find this comparison invidious. They will reject the idea that going on safari is anything like watching men kill for the enjoyment of others. To be sure, the analogy is not a perfect one. The Romans were fully aware of the suffering of their entertainers, whereas many tourists remain oblivious to the suffering of theirs. But the moral difference may start to slowly dissipate once the horrors of life in the wild become salient to the general public.

The purpose of this analogy is not to accuse wildlife enthusiasts of being moral monsters. The goal is to illustrate that many practices of the past, while undoubtedly producing value to many at the time, were rightfully abandoned. And just like previous generations could find new avenues to fulfil their economic and recreational needs, so, too, would future generations be able to satisfy theirs — without necessitating the use of wildlife.

Although it is true, then, that wildlife is a source of use-value given current views, it does not carry sufficient weight — especially in light of predictable future attitudes — to justify the maintenance and perpetuation of wild animal suffering. That is, conventional conservation efforts need to be grounded in better reasons than presented thus far. Do such reasons exist? In the next section, our search continues.

4.3 The Non-Use Values of Wildlife

Non-use values are derived from the environment and its resources that do not involve their direct or indirect use. The first of these is *existence value*, the simple pleasure of knowing that wild animals continue to exist in nature. The second non-use value is *bequest value*, which refers to the value that current generations place on ensuring the availability of species diversity for their descendants (Bealing and Clough, 2018).

As an example, consider your own feelings about an endangered species — the Siberian tiger, the black rhinoceros, or the blue whale. Many of us have never had — and are unlikely to have in the future — the pleasure of observing these animals in the wild. Yet, news of their extinction would sadden most of us nonetheless. If we had to justify our feelings, some may lament that neither they nor their children will ever get to see these animals. But for most of us, it is the mere fact that they no longer exist — regardless of our own interactions with them — that darkens our mood.

While it is true, then, that wild animals provide non-use value, its significance may be much smaller than many of us care to admit. How much time do we spend yearning for the return of

the woolly mammoth? Who among us mourns the long-lost sabre-toothed tiger? The dodo still elicits some sympathy, perhaps. But, given its common invocation in popular culture — i.e. “dead as a dodo”, “going the way of the dodo” — this may be more a product of hip-signalling than genuine concern about the bird's demise. It should not be considered speculative that future generations will adopt similar attitudes toward species on the brink of extinction today.

It must also be remembered that many of our feelings about the status of wild species are intertwined with an idyllic — and mistaken — view of nature. Much of our desire to keep species from going extinct is rooted in altruism, believing that animals in the wild have good lives because they are free. Therefore, it is possible that once the extent of wild animal suffering becomes widely accepted, existence value will be replaced by existence *disvalue* — that is, the painful realisation that wild animals continue to live in a state of despair.

So far, much of our focus in this chapter has been on the psychological value of wildlife. In the following two sections, attention will be paid to the material benefits that species conservation has to offer.

4.4 The Options-Value of Wildlife

In environmental studies, options-value refers to the importance of preserving species diversity for the sake of future benefits to humans. The agricultural economist Alan Randall (1991) summarises this argument as follows:

- First premise: Wild species have proven useful to humans in the past.
- Second premise: Most wild species have not yet been evaluated for their potential benefits.
- Third premise: New technologies may unlock new uses of wild species.
- First conclusion: There is a high probability that both known and unknown species will, at some point, prove useful.
- Second conclusion: We must conserve wild species to maximize expected value.

We can put aside any discussions about the expected values that are financial, recreational, aesthetic, or non-use, for these were covered earlier. One other oft-cited reason for maintaining species diversity is its potential medicinal benefits. Although this argument is most commonly made in reference to plant diversity, some pharmaceuticals require the use of animals too. Consider the Chinese hamster, whose ovarian cells are used to generate recombinant protein therapeutics to treat a variety of diseases (Wurm, 2004). Then there is also the shellfish, who

aids the production of glucosamine, omega-3 fatty acids, and calcium (National Research Council, 1999). There are other such instances, too, no doubt, but are any of these — individually or cumulatively — sufficient to justify the conservation of wildlife as we know it? As the American biologist David Ehrenfeld points out, pharmaceutical companies can produce new drugs faster and cheaper in laboratories by using computer modelling and genetic engineering. Researchers no longer need to "waste time and money slogging around in the jungle" in search of rare species with medicinal qualities (Ehrenfeld, 1988: 213, as cited in Randall, 1991). Another shortcoming of this rationale is that many wild animals do not appear to possess the type of value advocated for here. Should the rhinoceros be preserved because of the aphrodisiac powers of its horn? Must we protect the elephant due to the healing properties of its tusk? No serious person would propose such pseudo-scientific nonsense. But this poses a problem for conservationists: Most wild species do not possess any homocentric value at all.

Many conservationists are sceptical of the options-value argument themselves. They rightly worry that any justification for conserving wild species expressed in instrumentalist terms runs the risk of being rendered irrelevant once new information emerges from the lab — that is, that we do not need wildlife to achieve our goals. A great number of environmentalists, of course, believe in the *intrinsic* value of nature and all it encompasses, and only reluctantly invoke instrumental arguments so as to appeal to economists, policy-makers, and the general public. What we have here is a meta-instrumental argument, of sorts: an instrumental argument for instrumental reasons.

If wholly dependent on the options-value theory, then conservation of wildlife is on shaky ground. Can a firmer footing be found elsewhere? In the next section, we will explore one final instrumental argument.

4.5 The Insurance-Value of Wildlife

In their 1981 book, *Extinction*, the American biologist Paul Ehrlich and his wife, Anne Howland Ehrlich, make the case for the insurance-value of species diversity by positing a statistical argument. They do so via their "rivet popper" hypothesis, which draws an analogy between the richness of species and rivets of an aeroplane. The removal of one rivet may not prove disastrous, but each consequent removal increases the likelihood of the plane coming apart. Similarly, every time a species goes extinct, the probability of the next extinction unravelling

whole ecosystems increases. In short, we must preserve wild species as insurance against future ecological collapse (Faith, 2021)[3].

Scientific consensus is that humans need functioning ecosystems to thrive. We need clean water, fertile soil, pollinated plants, and fresh air to breathe. How vital is wildlife in creating these life-sustaining elements? As I tried to show in Chapter 3, conceiving of abstract communities as single entities can be a problem on both theoretical and ethical grounds. My use of the term "wildlife" throughout this thesis, then, could be construed as questionable given my own views. To be sure, wild animals are not a monolith. My regular referencing of "wildlife" was only ever used as a shorthand, which, thus far, has served us well. But when it comes to examining the roles of wild animals in maintaining ecosystems, we need to be specific which wild animals we are talking about. Bees, beetles, and ants pollinate plants; birds and bats spread seeds; mammals fertilise our soil. Many wild animals clearly play their part in maintaining ecosystems. But how many of them do? And insofar as they do, is it a necessary one?

Many vegetables and legumes, including tomatoes, peppers, eggplants, green beans, and peanuts, are self-pollinating (Albert, 2015), whereas crops such as wheat, rice, corn, rye, barley, and oats are pollinated by gusts of wind (FDCE, 2020). Seeds can be spread using technology, as is the case in everyday agricultural practices. As for fertile soil? Synthetic fertilisers can take care of that.

Even if we grant that *some* wild animals — e.g. pollinators — are, indeed, necessary for functioning ecosystems, many wild species remain whose instrumental purpose is far from self-evident. Do we really need rhinos, pandas, and sloths to fertilise our land? In Chapter 2, we spoke of the role of predators controlling the population of their prey. But to claim that we need wild species A for the sake of wild species B in a discussion about the value of wildlife would be to beg the question.

Let us return to the analogy introduced at the beginning of this section. By positing the "rivet-hypothesis", the Ehrlichs present us with a wager of Pascalian proportions[4]. Having

[3] It should be noted that Paul Ehrlich had a terrible record of predicitng the impact of human action on the environment. In 1969 he famously claimed that "If I were a gambler, I would take even money that England will not exist in the year 2000". In the 1980s, he participated in a bet with businessman Julian Simon wherein Ehrlich made grim predictions about the future availability of natural resources, all of which turned out to be false (Regis, 1997).

[4] In the 17th century, the French philosopher and mathematician Blaise Pascal made a statistical argument for living as though God exists. If God exists, a person would enjoy infinite bliss and avoid eternal damnation. If God does not exist, a person would only sacrifice *finite* bliss — the pleasure that

heightened the stakes to the extent that they have — ecological collapse — we appear to be left with no choice but to preserve all wild species at almost any cost. Yet, we know that species extinction is an ongoing occurrence, with approximately 98% of all species to have walked the Earth no longer being with us (Begum, 2021). Habitats have changed throughout the eons, causing species to adapt or die. But the idea that the species *homo sapiens* could not survive — or even thrive — with far fewer wild species appears unconvincing and ignorant of the power of modern technology. Could the extinction of the polar bear trigger a domino effect and ultimately bring humanity to its knees? To advance such a paranoid theory in earnest would be akin to fearing eternal damnation for skipping church on a Sunday.

The impact that the disappearance of *all* wildlife would have on the biosphere is, of course, a question that requires serious scientific inquiry — our brief excursion into empirical territory was by no means exhaustive. And, while it is certainly not conclusive, the theory that *some* wild species may be necessary for functioning ecosystems appears prudent. Yet, the stronger claim that *any* loss of wild species brings us one step closer to ecological catastrophe is almost certainly false. Therefore, I want us to tentatively conclude that many — if not most — wild animals are not essential in supporting human life.

In the concluding section of this chapter, I will offer some final thoughts on the instrumental value of wildlife.

4.6 Concluding Remarks

The purpose of this chapter has not been to trivialise species extinction. Species dying involves the loss of individual lives, which is rarely swift and entails pain and suffering in the process. The goal was to challenge the notion that wildlife is vital to human flourishing, a view commonly endorsed by conservationists and nature lovers around the world. After closer examination, however, many of wildlife's supposed benefits are either not as great as many would have us believe or not best realised via traditional conservation methods. Although it is true that wildlife is a source of much value — economic, aesthetic, recreational, existence, and medicinal — for many people, most of these do not carry sufficient weight to justify the maintenance and perpetuation of wild animal suffering. History and technological progress also suggest that much of the value produced by wildlife today can be achieved through different means in the future.

---

comes in indulging in ungodly vices. It follows, therefore, that we should seek to believe in God to maximise our expected value (Hajek, 2017).

The strongest case for conserving wildlife lies in its role in maintaining functioning ecosystems. To be sure, not all wild animals play a vital part. For example, the black rhinoceros or the Siberian tiger, for all their beauty, could go the way of the dodo without threatening ecological collapse. Yet, other wild species — e.g. pollinators — may, indeed, be essential.

Let us return to the question posed at the beginning of this chapter, “Does wildlife have instrumental value?” In short, we can answer this question with a qualified “yes.” But, as we have discussed throughout this chapter, its value is not significant enough to justify the dominant view that wildlife *as we know it* ought to be maintained or — worse — expanded.

What, then, should our approach towards wildlife be? The answer to this question will be the focus of the next chapter.

5 A Case for Weak Wildlife Antinatalism

5.1 Introduction

Let us take stock of what we have discussed thus far. To start, we demonstrated that nature is a hostile place. In addition to the suffering inflicted upon prey by their predators, many wild animals are victims of disease, starvation, parasitism, and other forms of violence. Animals are sentient beings and most reasonable people agree that they are worthy of at least some moral consideration, and that therefore this suffering ought to be an issue of serious moral concern. Given the sheer number of wild animals roaming the planet — some estimates suggest over a trillion mammals — it follows that we are in the midst of a moral emergency. Yet, popular opinion is that wildlife ought to be preserved in its natural state — that is, in a state of despair. Can this consensus be justified?

To answer this question, we had to conduct an investigation into the value of wildlife. Firstly, we examined the claim that wildlife has intrinsic value. Although we acknowledged that individual animals have intrinsic value in the sense that they are worthy of moral consideration, our investigation led to the conclusion that neither their *lives* nor the *species* they form a part of can be said to be intrinsically valuable. Secondly, we considered whether wildlife has instrumental value. Here, we emerged with three conclusions:

1. Wildlife's use, non-use, and options-value are not sufficient to offset the disvalue experienced by animals in the wild.
2. Much of its value can be realised through different means — especially in the future.
3. *Some* wildlife may be necessary for functioning ecosystems and, in turn, for human flourishing.

Given our findings, what should our approach to wildlife be? It is now time to suggest a new path forward.

5.2 Wildlife Antinatalism

In a 2017 essay, the philosopher Magnus Vinding proposed a controversial alternative to traditional attitudes toward wildlife, namely that it may be best for wild animals not to be born at all (Vinding, 2017). While Vinding's theory may strike many of us as deeply unsettling and

counterintuitive, it cannot be dismissed out of hand. In the remainder of this chapter, I will offer a further defence of his view with the addition of a few caveats.

Vinding's argument is based on the concept of *antinatalism*, the ethical theory that creating life is morally bad. In recent years, antinatalism has been popularised by the philosopher David Benatar, but is not a new idea. In Ecclesiastes, it is written that "most fortunate of all are those who are not yet born" (Ecclesiastes, 4:3), while Buddhist teachings tell us that "life is suffering." Since then, philosophers such as Arthur Schoppenhauer, Emil Cioran, and Hermann Vetter have expressed similar views (Benatar, 2017).

Most antinatalists, including some of the scholars listed above, adopt what is described as a suffering-focused ethics. Suffering-focused ethics prioritises the prevention of suffering over the creation of happiness (Vinding, 2018). This prioritisation, however, is not merely a pragmatic consideration. For example, many hedonistic utilitarians may *appear* to prioritise the alleviation of suffering too. After all, utilitarianism's most famous contemporary proponent, the philosopher Peter Singer, is primarily concerned with reducing the harms associated with extreme poverty and factory farming. But Singer's prioritisation can be explained by the fact that much bigger gains can be made when helping those who are worst off. For example, a donation of $1000 dollars does a lot more for a family living in a war-torn country in Africa than it would for Hollywood starlets residing in Beverly Hills. Similarly, the evils of factory farming could be curbed by a simple adjustment to our dietary choices. Many antinatalists, on the other hand, prioritise suffering alleviation over the creation of happiness for *normative* reasons. They believe there are morally significant asymmetries between pain and pleasure, which are laid out below.

(1) Benatar argues that "the absence of pain is good, even if that good is not enjoyed by anyone", whereas "the absence of pleasure is not bad unless there is somebody for whom this absence is a deprivation" (Benatar, 2006). This asymmetry is best captured in population ethics, where some theorists believe that, while we do not have an obligation to bring about happy lives, we do have an obligation to avoid creating unhappy ones (Vinding, 2018).

(2) The magnitude of pain and pleasure is asymmetrical. For example, if we were offered ten years of maximum pleasure for the cost of ten years of hellish torture, most of us would reject such a proposal (Vinding, 2018).

(3) Lastly, there is an asymmetry in the prevalence of pain and pleasure experienced throughout our lives. Pleasures are often fleeting while pain often endures; injury can happen in an instant, but recovery is often slow; desires are often never satisfied and if they are, it is only after long

periods of dissatisfaction (Benatar, 2017). In short, life is disvaluable because it contains more negative experiences than positive ones.

It is important to note that one need not accept all of these asymmetries as true to be sympathetic to the idea of *wildlife* antinatalism. For example, asymmetry (1), the idea that "the absence of pleasure is not bad unless there is somebody for whom this absence is a deprivation" is fiercely contested. Many people, of course, do believe that the absence of pleasure is bad, and that we, therefore, have a duty to create happy lives. Pronatalist attitudes are common to most of the world's religions[5] and even some secular movements. Many proponents of effective altruism[6], for example, consider the continuance of the human race their main priority (Ord, 2020). They do so not because they believe the species *homo sapiens* to be intrinsically valuable, but because its extinction would cancel out future happy lives.

As for asymmetry (2), it is not clear that we would refuse an offer to receive pain and pleasure in equal measure. Humans run marathons, climb Mount Everest, and cross the Atlantic on tiny sailboats with limited supplies. They put themselves through hours and even weeks of torment just to revel in the joy of accomplishment. Similarly, a failed romantic relationship can take years to overcome, yet many of us still think it better to "have loved and lost than never to have loved at all." Readers can come to their own conclusions if asymmetries (1) and (2) hold up to scrutiny. For our purposes, however, the only relevant asymmetry is (3), the difference in the *quantity* of pain and pleasure in the life of wild animals.

As discussed in Chapter 2, the majority of wild animals experience a surplus of suffering throughout their lives. To therefore conclude that it may be best for them not to be born is reasonably straightforward. Consider our attitudes toward *human* procreation in countries suffering from high rates of child mortality. There is a well-established correlation between family planning and lower rates of infant mortality (Potts, 1990), making access to contraceptives and safe abortions morally urgent. Similarly, when prospective parents choose to abort their fetus after discovering it to carry a life-threatening — and life-worsening — genetic disorder such as cystic fibrosis, muscular dystrophy, or hemophilia, many would view their choice as altruistic given that the child would be destined to lead a life of significant distress.

---

[5] For example, Roman Catholicism prohibits contraception and Orthodox Judaism forbids use of the condom or any male methods that prevent insemination. Classical Islam, Hinduism, and Confucianism, while more permissive regarding use of birth control, share the traditional religious bias in favor of marriage and large families (Green, 1995).

[6] Effective altruism is a philosophy and social movement that advocates the use of evidence and reasoning to determine the most effective ways to do good.

Infant mortality and prospects of a disease-ridden life are, of course, much more common among wild animals — as are severe injury, rape, parastic infections and death at the jaws of a predator. To suggest that we should be indifferent to this tragic state of affairs would be needlessly discriminatory and contradictory to a sentientist ethic — even if it is only weakly held. Preventing such lives from coming into existence may, then, be one of the best strategies to alleviate tremendous amounts of suffering.

A common hindrance to embracing wildlife antinatalism is the belief that their lives or the species they form a part of are intrinsically valuable — two ideas I have tried to refute in Chapter 3. More challenging to the antinatalism thesis is wildlife's instrumental value. As we have already discussed, the existence of some wild animals may indeed be necessary for functioning ecosystems. This should give us reason for pause given our adoption of a sentientist ethic, which requires us to consider the interests and wellbeing of *all* sentient beings. In the next section, I will propose a more balanced way forward.

5.3 Weak Wildlife Antinatalism

Wildlife antinatalism would lead to the loss of all wild animals. Although deeply counterintuitive, it is a world with much less suffering than the current state of affairs. Theoretically, then, it is an idea that should elicit sympathy. But to keep this discussion restricted to the domain of theoretical inquiry would be to do it a disservice. For theoretical arguments may be too easy to dismiss on practical grounds by those who find the idea of wildlife antinatalism unsettling. Given the vital role some wild animals play in maintaining the biosphere and consequently human wellbeing, it is unlikely that any proposal for *strong* wildlife antinatalism would be entertained outside philosophical circles. What is needed is a version of wildlife antinatalism that is feasible in practice without threatening the future of sentient beings altogether. Hence, my case for *weak* wildlife antinatalism.

Before elaborating on the benefits of the *weak* version, we need to answer the following questions. What makes it weak? And how would it be implemented? It is weak in three senses. Firstly, *strong* antinatalism may require embracing all three asymmetries related to pain and pleasure. As I have argued, however, we have good reasons to doubt asymmetries (1) and (2). The only asymmetry that I am willing to endorse is (3), that is, most wild animals experience a surplus of negative experiences throughout their lives. The second sense in which it is weak is that I reject the notion that wild animals reproducing is bad *in principle*. It is possible that life in

nature may one day be a lot less cruel. Advances in gene-editing technology could “veganise nature” by turning traditional predators into herbivores. Surveillance and medical capabilities will undoubtedly improve too, which would enable the locating and rescuing of trapped or injured animals. To be sure, this scenario is far-fetched. My goal is not to defend interventions of this kind — although I am sympathetic to them — but to merely point out that we can conceive of circumstances that could make living in nature pleasant. Thirdly, and somewhat relatedly, on the weak view, antinatalism would not apply to all wildlife. Assuming it is true that some wild animals play a significant role in functioning ecosystems, then their extinction could be detrimental to the flourishing of sentient beings left behind. Furthermore, if the number of wild animals is drastically reduced, it may be possible to monitor them and intervene when necessary, meaning even instrumentally fungible animals could be left to procreate.

Let us now turn to the other question: How would weak wildlife antinatalism be implemented? Here, it is tempting to assert that my proposal for weak wildlife antinatalism is merely theoretical and that any practical concerns are for others to investigate. But to propose any theoretical arguments for real-world problems in earnest, we must have *some* idea for how to go about its implementation. At the very least, we must show it to be technically conceivable. Fortunately for us, fertility regulation for wildlife is already underway.

For example, immunocontraception involves the use of an animal's immune system to prevent it from fertilising offspring. Immunocontraceptives, such as porcine zona pellucida and gonadotropin-releasing hormone vaccines, have already been successfully administered to over 85 different wildlife species, including wild horses, urban deer, bison, and African elephants (Kirkpatrick et al., 2011). Recent advances in gene-editing technology, such as CRISPR, could also be used to curb the populations of wild species by editing their genetic codes to favour male offspring (Grunewald, 2019).

To be sure, a lot more research is necessary before wildlife fertility regulation and similar proposals can — and should — be implemented on a global scale. Any rushed intervention could produce undesirable knock-on effects and may do more harm than good. Yet, given the existence of immunocontraceptives, we can at least begin to challenge the utility of cruel and misguided practices such as culling and the introduction of predators to reduce the populations of particular species.

Some of the benefits of *weak* wildlife antinatalism have already been alluded to, but for the sake of clarity, a summary is warranted.

1. By preventing most wild animals from being born, a tremendous amount of suffering would be avoided.
2. Ecosystems would continue to function which is necessary for the wellbeing of sentient beings. We need clean water, fertile soil, pollinated plants, and fresh air to breathe.
3. If the number of wild animals is reduced drastically, it may be possible to perform the required interventions to make their lives net-positive.
4. Other instrumental values, such as recreational, aesthetic, economic, existence, can be preserved, albeit at a lesser scale. This would allow many humans to continue benefiting — that is, contribute positively to their wellbeing — from much of what wildlife has to offer.

While undoubtedly complex, weak wildlife antinatalism appears scientifically feasible. Setting aside, for a moment, the technical challenges of such an ambitious project, its biggest obstacles will most likely be earning public support and political will. Attachment to nature is deep and widespread, meaning any proposal to drastically reduce — if not outright drive to extinction — any wild species would be met with fierce opposition. In the next section, I will address some possible objections.

5.4 Responding to Objections

1. *If life for wild animals is so bad that they are better off not being born, does it not follow that we may have an obligation to kill those who are already alive?*

This and related objections are common whenever the topic of antinatalism is raised. After all, if non-existence is superior to existence, then death appears to be a logical remedy. But this is to confuse the position of antinatalism with that of pro-mortalism, the philosophical position that it is always better to cease sentient existence rather than continue it.

The distinction between these two philosophies can be captured by the difference between *a life worth starting* and *a life worth continuing*. As Benatar points out, the “judgement that an impairment is so bad that it makes life not worth continuing is usually made at a much higher threshold than the judgement that an impairment is sufficiently bad to make life not worth beginning” (Benatar, 2006). As an example, Benatar asks us to consider a life without a limb. Most of us would not deem such a life so bad as to be worth ending it. Yet the same people — Benatar believes — would also think it best not to bring such a person into existence (Benatar, 2006).

Benatar's criteria for what makes a life worth starting may be unusually high. Imagine a wealthy couple that discovers their fetus to be missing a limb. Given the advances in modern medicine and prosthetic technologies, it is not unreasonable to assume that these prospective parents could provide their child with a life worth starting. Nevertheless, it is possible to conceive of a life that does fit the description of *not worth starting* but still *worth continuing*. To provide a more convincing example, we would have to adjust some of the circumstances that a handicapped person is born into. Consider a disabled child in a war-torn, poverty-stricken country. Without access to adequate healthcare, good education, and nutritious food, it should not be controversial to suggest that it would have been best if the child's parents made use of contraceptives. Yet, it does not follow that the child should be killed in a misguided act of compassion. Firstly, alternative interventions exist that could reduce the child's suffering, as is evidenced by the many nonprofits dedicated to improving the lives of those in third world countries. Secondly, and more importantly, most of us consider death bad and as something to be desperately avoided. For once we are born, many of us develop an interest in our own future — a future that death would thwart. This is another key point in the favour of the antinatalist position, in that, never being born is the only way of avoiding death.

The badness of death deserves closer consideration. The Epicureans, for example, only thought of the death of a person as being bad for the loved ones left behind (Benatar, 2017). Death could not be bad for the dead themselves for they are not around to lament their deadness. Given sentientism's emphasis on sentience — that is, the capacity to *feel* — as the primary criterion for moral consideration, some might argue that it should yield a similar conclusion as that of the Epicureans. But sentientism is not an exclusively hedonistic endeavour. As discussed in Chapter 1, sentientism can accommodate multiple normative theories, including those that consider interest-deprivation as bad for reasons other than it being experience-denying. Once moral status is granted to a being on account of its sentience, its interests ought to be considered morally significant, which include its interest in avoiding death.

Do wild animals have such an interest? Here, the problem of other minds is at its most glaring — how can we know what other beings feel, sense, and desire? When it comes to having an interest in avoiding pain, we can assume animals have that interest in common with humans without much contestation. But the claim that animals have an interest in *living* is considered controversial in some circles. The argument is that only humans have the cognitive architecture to understand that they are alive and, therefore, only they can desire to be alive. Non-human animals are not rational self-conscious beings capable of seeing themselves existing over time.

The argument continues that, without an awareness of one's own future, one cannot be said to have an interest in it. It follows, therefore, that non-human animals are not harmed by death, because no interest is denied. But the claim that one needs to be aware of a condition in order to benefit from or be harmed by it is fiercely contested. For example, I can unbeknownst to me have inherited five million US dollars from a distant aunt I never knew. If the lawyers overseeing her estate kept this a secret from me and found a dubious way of bestowing the money to themselves, then I could be said to be harmed, even if I were oblivious to the entire affair. But, even if one were to grant the premise that awareness is necessary for harm to occur, to claim that animals do not possess such self-awareness is misplaced. In his book *Practical Ethics*, the philosopher Peter Singer refers to such an argument as "an example of a pitfall to which philosophers of previous generations were especially prone: reaching conclusions from the armchair on a topic that demands investigation in the real world" (Singer, 2011: 97). Many animals of course do exhibit behaviour suggestive of self-awareness and forethought. Consider the squirrel that buries his nuts for future use or the cat meowing in anticipation of getting fed. Work done by the primatologist Frans de Waal also shows that many animals engage in complex social and even "moral" behaviour, from working as a team to acquire food to exhibiting signs of having a sense of fairness (de Waal, 2011). Although we may never know for certain that animals have an interest in their own future, there is enough evidence to suggest that we should treat them as if they do without us incurring charges of anthropomorphisation.

That is not to say an animal *always* has an interest in continuing to live. As is the case with some illness-stricken pets, there may be situations in the wild in which death may be preferable to life. But to choose death over life is to choose the lesser of two evils, which still acknowledges the badness of death (Benatar, 2017). Evaluating the lives of wild animals does, of course, require *some* speculation. Nevertheless, given our investigation into what life is like in nature in Chapter 2, it appears reasonable to conclude that, while most wild animals may live lives that were not worth starting, they may not be so bad as to be not worth continuing.

In addition to the badness of death to the dead, death can also be bad for those who survive. Many wild animals, like humans, have the capacity to form close bonds and mourn the loss of family members. Animal grief is a well-studied phenomenon and has been observed among many animals, including elephants, wolves, and chimpanzees (Cormier, 2018). It could still be argued that this would not be a consideration if we killed entire family groups. But do we really want to create a culture that considers the mass-killing of animals "for the greater good" as unproblematic? Here, I would suggest that cultivating a healthy attitude for respect for life would,

ceteris paribus, be beneficial to the fabric of society. This is an admittedly empirical claim, one that is vulnerable to falsification. Still, weak antinatalism does not incur the same difficulties. After all, norms encouraging the sterilisation of animals are already a feature of modern life — i.e. the neutering of companion animals — without us having to worry about how such practices would shape the psychology of the masses.

2. *The practical implications of any form of wildlife antinatalism would require the forced sterilisation of wild animals. Would this not be an infringement on their liberties and contradict a sentientist ethic? What gives us the right to do so?*

Most of us consider liberty to be fundamental to living a happy life. By including animals in our circle of moral consideration — as sentientism propels us to do — it would appear that we ought to extend liberty to animals too. But the concept of liberty is a tricky thing. Except for strident libertarians, few among us would value liberty above all else. Most of us recognise that there are circumstances where we are justified in overriding the personal freedoms of others, as is the case when parents deny their children's desire to eat candy for breakfast, lunch, and dinner. The Covid-19 pandemic has also taught us that some infringements on liberty — such as mask-wearing mandates and lockdowns — may occasionally be necessary in the case of moral emergencies. Wild animal suffering is, so I have argued, such an emergency.

To be sure, forced sterilisation is a much more serious infringement on liberty than curbing the sweet tooth of a child or requiring people to cover their mouths while an infectious virus is on the loose. Most of us would not, for example, accept forced sterilisation for humans who were destined to create lives not worth starting. While drawing an analogy to humans is often useful by revealing unjustified anthropocentric bias, to do so here is misplaced. Humans are more aware of their surroundings than animals, and any public policy that would override their personal autonomy to such an extent would cause fear and chaos to permeate society. The philosopher Magnus Vinding, who has faced similar objections, also points out that, in the case of humans, we would not have to act by force (Vinding, 2017). Instead, we would implement policies that promote family planning.

There are related arguments lurking here, ones that oppose most — if not all — forms of wildlife interventionism. At your next dinner party, propose the idea of intervening in nature — never mind wildlife antinatalism — to reduce wild animal suffering and you are likely to be met with ridicule and looks of confusion. "Wild animals suffering is natural", "leave nature alone", or "we have no right to interfere in the lives of wild animals" will undoubtedly be uttered by someone at

the table. Whether couched in a defence of liberty or a misguided attachment to nature, such arguments should hold no sway.

The human analogy *is* constructive in this case. Think of a distant country in which thousands of people die annually from starvation and easily preventable disease. Most of us find the idea that we should not do something about their suffering because their deaths are "natural" morally abhorrent. So too are we appalled by the suggestion that we should let them be "free" to resolve their own struggles. Not only do we have a right to act, but most of us would consider it an obligation. Given that the situation of wild animals in nature is arguably worse than any war-torn, poverty-stricken country is for humans, we should view intervening in wildlife as not merely justifiable but as morally urgent.

Reasonable people can, however, still disagree about the manner in which we should intervene, the topic of which brings us to our final objection.

3. *By drawing analogies to humans — as you have done — you seem to be implying that human lives that are likely to be characterised by more suffering than pleasure should also be prevented.*

While *I* consider the claim that we should avoid bringing bad *human* lives into existence to be self-evident, there may be some who disagree. It could be argued that a life with a surplus of negative experiences may still be worth starting because suffering gives life meaning. Consider the soldier in the trenches defending his country or the Paralympian who overcame his handicap to win a gold medal. While it may be true that some people can find meaning in their struggle, many do not. Think of the homeless man roaming the streets in urine-stained clothes or the child rummaging through garbage looking for food. Are those meaningful experiences? That is not to say such individuals should not be treated with dignity — they should. But we should be sceptical of the claim that suffering produces meaningful experiences as a matter of principle. Furthermore, those that *do* attribute meaning to their suffering may only do so as a way of coping with it — that is, as a way to lessen it. If that is the case, those who espouse the virtues of suffering may just be closeted hedonists.

There may be other reasons to think that human lives are worth starting regardless of their quality. Perhaps human lives are intrinsically valuable because they are rational beings or possess God-given souls. But to examine whether *human* lives contain any such intrinsically valuable properties — or if such properties are, indeed, intrinsically valuable — would be beyond the scope of this thesis. The purpose of drawing analogies to examples involving

humans was not to start a separate debate about the value of human life; the goal was to illustrate that many of us *already* think that some human lives are better off not coming into existence and that this attitude should be extended to wild animals. Even if the claim that it would be best for some human lives not to come into existence is rarely made explicit, many endorsements of "family planning" — be it via contraceptives, easy access to abortions, or even norms that encourage waiting until marriage to have children — is an implicit acknowledgement of that premise.

However, it must be noted that, even if readers continue to reject the claim that human lives that are likely to experience a surplus of suffering should be prevented, doing so should have little bearing on whether one accepts the claim of this thesis: that most *wild animals* are better off never having been. Analogies are useful tools in making certain propositions more salient, but the case for weak wildlife antinatalism does not hinge on anyone accepting similar examples involving humans. Instead, I trust the arguments that I have presented thus far — i.e. the hostility of nature, wildlife's lack of intrinsic value, wildlife's fungible instrumental value — will suffice.

4. *Even if we grant that animals suffering in nature is something we ought to prevent, it is not clear that weak wildlife antinatalism is the best solution.*

Nature is complex and more research on this topic may, indeed, reveal that other interventions are better suited to tackle the problem of wild animal suffering. But progress is often made through conjecture and falsification. The current consensus on what our attitudes towards wildlife should be — to preserve and expand it — is deeply flawed. It often justifies the presence of vast amounts of suffering by nothing more than pithy appeals to nature "as it should be". Weak wildlife antinatalism, I have argued, would be an improvement on the status quo because it addresses the problem of wild animal suffering. Other scholars would, then, be encouraged to critique the idea of weak wildlife antinatalism and put forward a conjecture that corrects for its flaws — whatever they may be.

However, it is difficult to imagine any successful intervention in nature that would not involve some form of mass fertility regulation programmes. As is the case with companion animals already, sterilisation is considered a key component of animal welfare practices. Most of us recognise the problem of stray cats and dogs roaming the streets, getting into fights and being run over by cars. The lesson here is that, if they cannot be looked after, it may be best for them not to be born. Weak wildlife antinatalism extends this attitude to wild animals.

5.5 Concluding remarks

After critiquing traditional attitudes towards wildlife throughout this thesis, the purpose of this chapter was to suggest a new path forward. Here, I proposed the concept of weak wildlife antinatalism, which leans on the work of the philosopher Magnus Vinding, who explored a stronger version of this idea in an essay in 2017.

At its core, weak wildlife antinatalism proposes the controversial idea that it may be best for most wild animals not to be born. Unlike conventional theories of antinatalism, however, it does not have a negative view of existence *in principle*. Many sentient beings, including animals, throughout the world, do, of course, enjoy blissful lives. Think of a dog chasing a ball in the sun or a cat sleeping on a soft chair next to the fireplace. For wild animals, however, life is often riddled with injury, disease, and premature death. Weak wildlife antinatalism may, thus, be one of our best available strategies to prevent much of this suffering.

Troubled by such a conclusion, there will be those that will scrutinise this idea further: If existence for wild animals is so bad, does it not follow that we ought to kill them? Would forced sterilisation not be an infringement on the animals' freedom? Is weak wildlife antinatalism the best way to reduce suffering in nature? Do my arguments not apply to humans too?

While all of these questions are warranted, none of them proves fatal to my thesis. Death can be shown to be an inferior solution to non-existence than never having been, a restriction on liberty may be justified in this case, and any proposal to improve the welfare of wild animals is likely to involve some kind of fertility regulation. As for the question of whether my arguments suggest weak antinatalism should count for humans too, we need not settle that debate here to accept the case that it pertains to wildlife.

6 Conclusion

> "The total amount of suffering per year in the natural world is beyond all decent contemplation. During the minute it takes me to compose this sentence, thousands of animals are being eaten alive; others are running for their lives, whimpering with fear; others are being slowly devoured from within by rasping parasites; thousands of all kinds are dying of starvation, thirst and disease." - Richard Dawkins, River Out of Eden (Dawkins, 1995)

We are in the midst of a moral emergency. Every day, billions of animals around the globe are victims of extreme suffering. Those of us who are sympathetic to the wellbeing of animals will be quick to think of the evils of intensive animal agriculture, where many animals are subjected to cruel slaughtering methods, mutilation without pain relief, death from dehydration, and other horrors. Occasionally we are exposed to video footage that reveals such brutal events, making us regret our past — or current — dietary choices. However, most animal suffering does not occur on factory farms: it happens in nature.

Life in the wild is savage. Animals suffer and die from predation, parasitism, infectious diseases, infanticide, and a myriad of other causes. Yet, as the popularity of rewilding initiatives and other conservation programmes suggest, public consensus appears to be that this state of affairs is morally desirable.

The purpose of this thesis was to challenge this notion and investigate whether wildlife should be conserved at all.

To aid this investigation, this thesis examined three ancillary questions:

1. What is life like in the wild?
2. Does wildlife have intrinsic value?
3. Does wildlife have instrumental value?

In Chapter 2, I considered what life is like for wild animals in the wild. My investigation into the state of nature led me to conclude that life in the wild is characterised by a surplus of negative experiences. Predation, intraspecies conflict, extreme weather, parasitism, and infectious diseases are all sources of tremendous amounts of physical and mental anguish. Still, it could be argued that to show that suffering exists in nature is not enough to prove that it outweighs all positive experiences. Human lives are full of misery too — poverty, illness, war — but that does

not mean that the human race is in a state of disvalue. But this analogy fails to account for the fact that most of humanity has managed to escape a Hobbsian state of nature, whereas wild animals are trapped in nature — left to their own devices without means to cure illness and violent conflicts. A closer look at wild animals' reproductive strategies also reveals that an extremely high rate of infant mortality is par for the course. If humans were faced with similar circumstances, we would recognise it for the moral emergency that it is.

Conventional wildlife conservation efforts could, thus, be described as the mere perpetuation of misery. Yet, even if one grants the premise that wild animals live bad lives, some may still argue that wildlife must be conserved because it has other valuable properties.

This led me to investigate the second question noted above in Chapter 3, namely, whether wildlife can be deemed to have intrinsic value. In this chapter, I first considered whether wild animals lives — at the level of the individual — have intrinsic value. Given that we have already established that wild animals endure an excess of *disvaluable* experiences, the only way for wild animal lives to be intrinsically valuable is if they possess some other intrinsically valuable property. We examined two candidates applicable to wild animal life that seemed to be the most plausible candidates: consciousness and the concept of life as a "teleological center" as argued for by the philosopher Paul Taylor. Upon closer examination, however, neither of these properties proved sufficient in bestowing intrinsic value on the lives of wild animals. While I argue that wild animals have intrinsic value in the sense that they are worthy of moral consideration, I concluded that their *lives* cannot be claimed to have value *in and of themselves*.

Second, I examined whether wild *species* are intrinsically valuable. Here, I began by considering the idea that species *diversity* has intrinsic value. But to make the claim that we ought to value diversity for its own sake is a difficult philosophical task. Diversity could, after all, be achieved by *artificially* increasing the total number of species. Yet, whenever a species goes extinct, it is unlikely that biodiversity champions would find solace in the fact that scientists could offset this loss by creating a new species in a lab.

Next, we investigated the claim that whole species should be the object of direct moral concern. The main arguments in defence of that thesis that we considered were Holmes Rolston III's idea of species being a teleological entity and Lawrence Johnson's case for species as rational agents with interests. Neither argument was convincing. In the case of Rolston, he made use of teleological reasoning where it does not belong, while Johnson failed to show that the interests

of species are morally significant. This led us to conclude that wild species are not intrinsically valuable.

In Chapter 4, I turned to the third question identified above, that is, whether wildlife has instrumental value. This proved to be a complex inquiry, because when examining the way in which wildlife impacts human flourishing, we enter the realm of empirical investigation. However, this did not preclude us from commenting on the issue. A closer inspection of wildlife's supposed benefits revealed that many of them are fungible or not best realised via traditional conservation methods. Although it is true that wildlife is a source of much value — economic, aesthetic, recreational, existence, and medicinal — for many people, most of these do not carry sufficient weight to justify the conservation of wildlife at its current scale.

The strongest case for preserving wildlife lies in its role in maintaining functioning ecosystems, for which the existence of some wild animals is probably necessary. While I thus acknowledged that wildlife does have instrumental value, I concluded that the dominant view that wildlife *as we know it* ought to be conserved or expanded is misguided.

Having answered the ancillary questions to this thesis, I then proposed a new path forward that is in line with a sentientist ethic — the moral framework adopted for this thesis. Here, I proposed the concept of weak wildlife antinatalism, which is the idea that it may be best for most wild animals not to be born. The argument for weak wildlife antinatalism can be stated as follows:

- First premise: Sentient beings, including wild animals, matter morally.
- Second premise: The lives of wild animals are characterised by a surplus of disvaluable experiences.
- Third premise: Wildlife has no intrinsic value.
- Fourth premise: Wildlife has limited instrumental value.
- Conclusion: Preventing future generations of wild animals from coming into existence would decrease the amount of disvalue in the universe.

In short, weak wildlife antinatalism may be one of our best available strategies in reducing tremendous amounts of suffering. While such a proposal will strike many as deeply unsettling, it is both theoretically feasible and morally desirable. To be sure, more research is required and we should not intervene in nature before doing our due diligence. However, the biggest obstacle to such and similar interventions will not be technical, but sociopolitical. A deep reverence for wildlife is widespread, and any form of wildlife interventionism is likely to be met with fierce

resistance. Well-intentioned as these objections may be, they only serve to legitimise unspeakable cruelty. As the philosopher David Pearce (1996) notes, “The conservatism of the tender-minded is understandable; but profoundly reactionary. If triumphant, its living victims will continue to be sacrificed on the altar of a Mother Nature whose existence in rose-tinted guise has no place outside the romantic imaginations of its creators.” If we want to prevent the suffering of wild animals, it will be necessary to disabuse people of their stubborn attachment to nature, as well as to open up their minds to counterintuitive — and controversial — proposals to intervene in it. The goal of this thesis has been to lend intellectual support to this project.

7 References

Albert, S. 2015. *Self-Pollinating Vegetables* [Online]. Available: https://harvesttotable.com/self-pollinating-vegetables/ [2021, September 19]

Animal Ethics, 2020. *Introduction to wild animal suffering: A guide to the issues, Oakland: Animal Ethics* [Online]. Available: https://www.animal-ethics.org/introduction-wild-animal-suffering [2021, August 13]

Begum, T. 2021. *What is mass extinction and are we facing a sixth one?* [Online]. Available: https://www.nhm.ac.uk/discover/what-is-mass-extinction-and-are-we-facing-a-sixth-one.html [2021, August 22]

Benatar, D. 2006. *Better Never to Have Been: The Harm of Coming into Existence* [Kindle version]. Available: https://www.amazon.com/Better-Never-Have-Been-Existence-ebook-dp-B000TODSCY/dp/B000TODSCY/ref=mt_other?_encoding=UTF8&me=&qid= [2021, February 16]

Benatar, D. 2017. *Kids? Just say no* [Online]. Available: https://aeon.co/essays/having-children-is-not-life-affirming-its-immoral [2021, June 7]

Benatar, D. 2017. *The Human Predicament: A Candid Guide to Life's Biggest Questions* [Kindle version] Available: https://www.amazon.com/Human-Predicament-Candid-Biggest-Questions-ebook-dp-B071XX2QVJ/dp/B071XX2QVJ/ref=mt_other?_encoding=UTF8&me=&qid= [2021, May 10]

Benedictow, O. 2005. *The Black Death: The Greatest Catastrophe Ever* [Online]. Available: https://www.historytoday.com/archive/black-death-greatest-catastrophe-ever [2021, August 11]

Biblica. 1978: New International Version. [Online]. Available: https://www.biblegateway.com/passage/?search=Isaiah%2065%3A25&version=NIV [2021, February 21]

Bull, J.W. & Maron, M. 2016. How humans drive speciation as well as extinction. *Proceedings of the Royal Society. B, Biological sciences*. 283(1833):20160600–.

Burch-Brown, J., Archer, A. 2017. In defence of biodiversity. *Biology & philosophy* [Electronic], 32(5962). Available: https://www.researchgate.net/publication/319904363_In_defence_of_biodiversity [2021, August 17]

Callicott, J.B. 2021. The Land Ethic and the Earth Ethic(s). *Ethics, Policy & Environment.* [Electronic]. Available: https://www.tandfonline.com/doi/full/10.1080/21550085.2021.1904532 [2021 May, 15]

Cassidy, K.A., Smith, D.W., Mech, L.D., Macnulty, D.R., Stahler, D.R., Metz, M.C. 2016. *Territoriality and Inter-Pack Aggression in Gray Wolves: Shaping a Social Carnivore's Life History* [Online]. Available: https://www.nps.gov/yell/learn/ys-24-1-territoriality-and-inter-pack-aggression-in-gray-wolves-shaping-a-social-carnivores-life-history.htm [2021, July 23]

Clough, P., Bealing, M. 2018. What's the use of non-use values? [Wellington]: NZIER [Online]. Available: https://www.treasury.govt.nz/sites/default/files/2018-08/LSF-whats-the-use-of-non-use-values.pdf [2021, August 21]

Clutton-Brock, T.H., Parker, G.A. 1995. Sexual coercion in animal societies. *Animal Behaviour* [Electronic], 49(5). Available: https://www.sciencedirect.com/science/article/pii/S0003347285701662 [2021, July 27]

Cope, R.B. 2014. *Overview of Smoke Inhalation.* [Online]. Available: https://www.merckvetmanual.com/toxicology/smoke-inhalation/overview-of-smoke-inhalation [2021, August]

Cormier, Z. 2018. *The truth about animal grief* [Online]. Available: https://www.bbcearth.com/news/the-truth-about-animal-grief [2021, September 27]

Dawkins, R. 1995. *River Out of Eden: A Darwinian View of Life.* New York: Basic Books.

Department of Environmental Conservation. 2021. *Brain Worm* [Online]. Available: https://www.dec.ny.gov/animals/72211.html [2021, August 13]

De Waal, F. 2011. *Moral behaviour in animals.* [Video file]. Available: https://www.ted.com/talks/frans_de_waal_moral_behavior_in_animals?language=en [2021, September 22]

Diamond, J. 2005. *Guns, Germs & Steel.* London: Vintage Random House.

Dvorsky, G. 2013. *9 Predators With The Most Brutal Hunting Techniques* [Online]. Available: https://gizmodo.com/9-predators-with-the-most-brutal-hunting-techniques-510100768 [2021, July 15]

Ehrenfeld, D. 1988. Why put a value on biodiversity, in E.O. Wilson (ed.) *Biodiversity.* Washington: National Academy Press.

Ellig, T. 2009. *Greater Yellowstone elk suffer worse nutrition and lower birth rates due to wolves* [Online}. Available: https://web.archive.org/web/20090923152708/http://www.montana.edu/cpa/news/nwview.php?article=7324 [2021, July 15]

Faith, D.P. 2021. *Biodiversity. In the Stanford Encyclopedia of Philosophy.* [Online]. Available: https://plato.stanford.edu/entries/biodiversity/ [2021, October 10]

FDCE. 2020. Wind Pollination Isn't Enough [Online]. Available: https://fdcenterprises.com/wind-pollination-isnt-enough/ [2021, September 12]

Getz, L.L. 1960. A Population Study of the Vole, Microtus pennsylvanicus. *The American Midland Naturalist* [Electronic], 64(2), Available: https://doi.org/10.2307/2422671 [2021, September, 17]

Gladiators, Chariots, and the Roman Games. 2021. [Online]. Available: https://www.ushistory.org/civ/6e.asp [2021, September 9]

Green, R.M. 1995. *Population Ethics: III. Religious Traditions: A. Introduction* [Online]. Available: https://www.encyclopedia.com/science/encyclopedias-almanacs-transcripts-and-maps/population-ethics-iii-religious-traditions-introduction [2021, July 24]

Grunewald, S. 2019. CRISPR's Creatures: Protecting Wildlife in the Age of Genomic Editing. *UCLA journal of environmental law & policy.* 37(1):1–.

Harrington, F.H., & Mech, L.D. 1979. Wolf Howling and Its Role in Territory Maintenance. *Behaviour* [Electronic], 68(3-4). Available: http://www.jstor.org/stable/4533952

Hobbes, T. 2008. *Leviathan* (J. C. A. Gaskin, Ed.). Oxford: Oxford University Press.

Horta, O. 2015. The Problem of Evil in Nature: Evolutionary Bases of the Prevalence of Disvalue. *Relations Beyond Anthropocentrism* [Electronic], 3(1). Available: https://www.ledonline.it/index.php/Relations/article/view/825 [2021, July 19]

Humane Society. 2021. *Animal cruelty and neglect FAQ* [Online]. Available: https://www.humanesociety.org/resources/animal-cruelty-and-neglect-faq [2021, July, 18]

How Wolves Change Rivers, 13 February 2014. [Video file]. Available: https://youtu.be/ysa5OBhXz-Q [2021, July 10]

Hrdy, S. B. 1979. Infanticide among animals: A review, classification, and examination of the implications for the reproductive strategies of females. *Ethology and Sociobiology* [Electronic], 1(1). Available: https://www.sciencedirect.com/science/article/abs/pii/0162309579900049 [2021, October 10]

Johannsen, K. 2021. *Wild Animal Ethics*. New York: Routledge.

Johnson, L.E. 1991. *A morally deep world : an essay on moral significance and environmental ethics.* Cambridge, England: Cambridge University Press.

Keller, D.R. 2009. Deep Ecology, in J.B. Callicott and R. Frodeman (eds.) *Encyclopedia of Environmental Ethics and Philosophy.* Detroit: Macmillan Reference USA [Online]. Available: https://go.gale.com/ps/i.do?p=GVRL&u=27uos&id=GALE|CX3234100082&v=2.1&it=r&sid=bookmark-GVRL&asid=30a01227 [2021, June 16]

Kirkpatrick, J.F., Lyda, R.O. & Frank, K.M. 2011. Contraceptive Vaccines for Wildlife: A Review: Contraceptive Vaccines for Wildlife. *American journal of reproductive immunology* (1989). 66(1):40–50.

Korsgaard, C. 2011. Interacting with Animals: A Kantian Account *,* in T.L Beauchamp & R. G. Frey (eds.) *The Oxford Handbook of Animal Ethics.* Oxford: Oxford University Press. 91-118.

Lee, A.Y. 2018. Is consciousness intrinsically valuable? *Philosophical Studies* [Electronic], 176(655-671). Available: https://link.springer.com/article/10.1007/s11098-018-1032-8 [2021, May 15]

Leffer, L. 2020. *New insect species made via genetic engineering* [Online]. Available: https://scienceline.org/2020/12/new-insect-species-made-via-genetic-engineering/ [2021, August 21]

Main, D. 2013. *Becoming King: Why So Few Male Lions Survive to Adulthood* [Online]. Available: https://www.livescience.com/41572-male-lion-survival.html [2021, May 19]

Minteer, B.A. 2009. Anthropocentrism, in J.B. Callicott and R. Frodeman (eds.) *Encyclopedia of Environmental Ethics and Philosophy.* Detroit: Macmillan Reference USA [Online]. Available: https://go.gale.com/ps/i.do?p=GVRL&u=27uos&id=GALE|CX3234100027&v=2.1&it=r&sid=bookmark-GVRL&asid=af5df810 [2021, June 21]

Mossa, T. 2013. *Lion hunter Melissa Bachman isn't the problem. South African law is.* [Online]. Available: https://www.theguardian.com/commentisfree/2013/nov/23/melissa-bachman-lion-hunting-internet-backlash [2021, March 5]

Naess, A. 973. The shallow and the deep, long‐range ecology movement. A summary∗. *Inquiry* [Electronic], 16(1–4). Available: https://www.tandfonline.com/doi/abs/10.1080/00201747308601682 [2021 May, 15]

Nagel, T. 1979. *Mortal Questions.* Cambridge: Cambridge University Press.

Nelson, M.P. 2009. Holism, in J.B. Callicott and R. Frodeman (eds.) *Encyclopedia of Environmental Ethics and Philosophy.* Detroit: Macmillan Reference USA [Online]. Available: https://go-gale-com.ez.sun.ac.za/ps/retrieve.do?resultListType=RELATED_DOCUMENT&userGroupName=27uos&inPS=true&contentSegment=&prodId=GVRL&isETOC=true&docId=GALE|CX3234100154 [2021, 15 June]

Ord, T. 2020. *The Precipice: Existential Risk and the Future of Humanity* [Kindle version]. Available: https://www.amazon.com/Precipice-Existential-Risk-Future-Humanity-ebook/dp/B07V9G

HKYP/ref=sr_1_1?crid=2U7SPEU4YAK5B&dchild=1&keywords=the+precipice&qid=1635164555&s=books&sprefix=the+prec%2Cstripbooks-intl-ship%2C286&sr=1-1 [2021, September 30]

Otter Love, 11 July 2015. [Video File]. Available: https://youtu.be/3vwgnd53q-4 [2021, October 9]

PBS. 2016. *Brain Parasite Turns Moose Into Zombie.* [Video file]. Available: https://youtu.be/-_MxDcY_osw [2021, July 25]

Pearce, D. 1996. The Post-Darwinian Transition [Online]. Available: https://www.hedweb.com/animals/c5.htm [2021, October 20]

Pearce, D. 2007. *The Abolitionist Project.* [Online]. Available: https://www.hedweb.com/abolitionist-project/index.html [2021, February 21]

Pearce, D. 2015. *The Hedonistic Imperative* [Kindle version]. Available: https://www.amazon.com/Hedonistic-Imperative-David-Pearce-ebook/dp/B00SW3PKHA [2019 May 1

Peglar, T. 2021. *1995 Reintroduction of Wolves in Yellowstone* [Online]. Available: https://www.yellowstonepark.com/park/conservation/yellowstone-wolves-reintroduction/ [2021, July 10]

Pinker, S. 2018. *Enlightenment Now*. New York: Penguin Random House.

Potts, M.1990. Family planning is crucial to child survival. *Network Research Triangle Park NC.* [Electronic], 11(4). Available: https://pubmed.ncbi.nlm.nih.gov/12283718/ [2021, September 29]

Randall, A. 1991. The Value of Biodiversity. *Ambio* [Electronic], *20*(2). Available: https://www.jstor.org/stable/4313778 [2021, September 18]

Regan, T. 2004. *The Case for Animal Rights.* Berkeley: The University of California Press.

Regis, E. 1997. *The Doomslayer* [Online]. Available: https://www.wired.com/1997/02/the-doomslayer-2/ [2022, January 25]

Rolston, H. 1988. *Environmental ethics : duties to and values in the natural world*. Philadelphia, Pa: Temple University Press.

Santana, C. 2014. Save the planet: eliminate biodiversity. *Biology & philosophy*. 29(6):761–780.

Seager, W.E. 2001. Consciousness, value and functionalism. *Psyche* [Electronic], 7(20). Available: https://philpapers.org/rec/SEACVA [2021, May 15]

Sebo, J. 2020. The Moral Problem of Other Minds. *The Harvard Review of Philosophy* [Electronic], 25. Available: https://www.pdcnet.org/harvardreview/content/harvardreview_2018_0025_0051_0070 [2021 March 3]

Shahbandeh, M. 2021. *Number of chickens worldwide from 1990 to 2019*. [Online]. Available: https://www.statista.com/statistics/263962/number-of-chickens-worldwide-since-1990/ [2021, March 11]

Singer, P. 2011. *Practical ethics*. 3rd ed. ed. New York: Cambridge University Press.

Suzuki, J., Nishio, Y., Kameo, Y. et al. 2015. Canine distemper virus infection among wildlife before and after the epidemic. *J Vet Med Sci* [Electronic], 77(11). Available: https://pubmed.ncbi.nlm.nih.gov/26074342/ [2021, June 15]

Taylor, P.W. 1986. *Respect for nature : a theory of environmental ethics.* Princeton, N.J: Princeton University Press.

Tchakarov, V. 2020. *The Truth About Roman Gladiators and the Different Fighter Classes* [Online]. Available: https://curiosmos.com/the-truth-about-roman-gladiators-and-the-different-fighter-classes/ [2021, August 29]

Telos. 2021. [Online]. Available: https://philosophyterms.com/telos/ [2021, July 10]

The heavy, forced mating of Elephant Seals, 12 May 2016. [Video File]. Available: https://youtu.be/T0XwCB_6Kbc [2021, October 9]

Trommler, F., Hammann, M. 2020. The relationship between biological function and teleology: Implications for biology education. *Evolution: Education and Outreach* [Electronic]13(11). Available: https://evolution-outreach.biomedcentral.com/articles/10.1186/s12052-020-00122-y [2021, August 1]

Veine, M. 2008. *Eaten Alive* [Online]. Available: https://www.outdoorlife.com/photos/gallery/photos/2008/11/eaten-alive-wolf-predation-captured-camera/ [2021, July 10]

Vinding, M. 2017. *The Speciesism of Leaving Nature Alone and the Theoretical Case for "Wildlife Anti-Natalism"* [Kindle version]. Available: https://www.amazon.com/Speciesism-Leaving-Theoretical-Wildlife-Anti-Natalism-ebook/dp/B07199J8GF [2021, February 10]

Vinding, M. 2018. *Effective Altruism: How Can We Best Help Others?* [Kindle version]. Available: https://www.amazon.com/Effective-Altruism-Best-Help-Others/dp/1986844676 [2021, June 27]

Wilcox, C. 2021. *Bambi or Bessie: Are wild animals happier?* [Online]. Available: https://blogs.scientificamerican.com/guest-blog/bambi-or-bessie-are-wild-animals-happier/# [2021, February 21]

Williams, S.E., Barker, I.K (eds). 2001. *Infectious Diseases of Wild Mammals*. 3rd edition. Ames: Iowa State University Press.

Woodhouse, J. 2019. *Sentientism: Evidence, reason and compassion for all sentient beings* [Online]. Available: https://www.researchgate.net/publication/338345812_Sentientism_Evidence_reason_and_compassion_for_all_sentient_beings [2021, March 9]

Wooster, C. 2003. *What Happens to Deer During a Tough Winter?* [Online]. Available: https://northernwoodlands.org/outside_story/article/what-happens-to-deer-during-a-tough-winter [2021, September 15]

Wright, R. 1994. *The Moral Animal.* New York: Random House, Inc.

Wurm, F.M. 2004. Production of recombinant protein therapeutics in cultivated mammalian cells. *Nature biotechnology*. 22(11):1393–1398.

Zimmermann, M.J., Bradley, B. 2019. *Intrinsic vs. Extrinsic Value. In the Stanford Encyclopedia of Philosophy.* [Online]. Available: https://plato.stanford.edu/entries/value-intrinsic-extrinsic/#WhaHasIntVal [2021, July 19]