

DEBUNKING THE IDYLIC VIEW OF NATURAL PROCESSES: POPULATION DYNAMICS AND SUFFERING IN THE WILD¹

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RESUMEN

Se cree de manera común que la ética animal supone el respeto por los procesos naturales, debido a que en la naturaleza los animales no humanos son capaces de vivir vidas relativamente fáciles y felices. Sin embargo, esta asunción está equivocada. Debido a la estrategia reproductiva difundida de forma más amplia en la naturaleza, la selección *r*, la abrumadora mayoría de los animales no humanos perece poco después de comenzar a existir. Mueren de hambre o son comidos vivos, lo que significa que su sufrimiento ultrapasa largamente a su felicidad. De aquí se sigue que la consideración de los animales no humanos supone que debemos intentar intervenir en la naturaleza para reducir la inmensa cantidad de daño que estos sufren. Aun cuando esta conclusión puede parecer a primera vista extremadamente contraintuitiva, solamente puede ser rechazada desde un punto de vista especista.

Palabras clave: Antropocentrismo, procesos naturales, dinámica de poblaciones, selección *r*, especismo.

ABSTRACT

It is commonly believed that animal ethics entails respect for natural processes, because nonhuman animals are able to live relatively easy and happy lives in the wild. However, this assumption is wrong. Due to the most widespread reproductive strategy in nature, *r*-selection, the overwhelming majority of nonhuman animals die shortly after they come into existence. They starve or are eaten alive, which means their suffering vastly outweighs their happiness. Hence, concern for nonhuman animals entails that we should try to intervene in nature to reduce the enormous amount of harm they suffer. Even if this conclusion may seem extremely counter-intuitive at first, it can only be rejected from a speciesist viewpoint.

Keywords: Anthropocentrism, natural processes, population dynamics, *r*-selection, speciesism.

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1. THE APPEAL OF THE WORD “NATURAL”

The word “natural” has a strong appeal for many people. It is commonly used as if it identified a valuable and morally relevant feature. That is, as if the fact of something being natural added some kind of value to it, making it good or at least better in some respect. In present times, however, this assumption has been seriously challenged. This has happened in several ways. For instance, some theorists have discussed whether it would be good or not to enhance the capacities human beings have. This amounts to questioning whether our natural features are ones we should consider good in themselves, and, therefore, something it is bad to alter.

Criticisms of assigning value to natural human features address only part of the problem with the assumption that what is (or is considered to be) natural is good. Restricting our focus to an analysis of the value of human nature and setting aside other meanings of “natural” is reasonable only if we think that the only individuals we should care about are human beings. However, such a view should be rejected as arbitrary, on the basis that human beings are not the only ones for whom things can be good or bad. There are other beings apart from humans for whom this is the case: sentient nonhuman animals. So the question of whether what is natural is good or not will necessarily be relevant for them as well. Once this objection is assumed, a criticism of the attribution of value and normative relevance to nature should not stop with human nature. It should be extended, in a way that may have far wider consequences. We have to question whether nature itself, and natural processes in particular, are something valuable.

This paper will assess this problem. To do so, we will start by taking a look at the different ways in which nature has been considered valuable.

2. WAYS OF IDEALIZING NATURE

Nature is often believed to instantiate a number of values. According to some environmentalist views, this is so because the existence of living entities is good in itself.² According to others, it is the existence of biocenoses, ecosystems or even mere biotopes or physical landscapes that is valuable.³ Other views value biodiversity or natural history.⁴ At any

2 Taylor, Paul, *Respect for Nature*, Princeton: Princeton University Press, 1986; Varner, Gary E., “Biocentric Individualism”, in Schmidtz, David and Willot, Elizabeth (eds.), *Environmental Ethics: What Really Matters, What Really Works*, Oxford: Oxford University Press, 2002, 108–20.

3 Leopold, Aldo, *Sand County Almanac, with Essays on Conservation from Round River*, New York: Ballantine Books, 1966 [1949]; Callicott, John Baird, *In Defense of*

rate, all these positions find something intrinsically valuable in nature. In addition, according to an anthropocentric viewpoint, nature can be considered highly valuable in an instrumental way, primarily as a source of nourishment, but also as one of scientific enrichment, recreational and emotional satisfaction, etc.⁵

However, these are not the only reasons many people think the existence of nature is something valuable. There are many who believe that nature is a rich source of value because of the existence of nonhuman sentient animals who have happy lives.

Certainly people who believe this are aware that animals are systematically killed by other animals, and they may well think that animals also starve or die by disease, suffer hardships related to the climate, and so on. They may also know that this implies they suffer. But they fail to infer from this that all these circumstances make nonhuman animals' lives bad enough to require a qualification or abandonment of the idea that nature is a happy place. Of course different opinions are also maintained.⁶ However, the idyllic view of nature, which we can define as the idea that happiness is prevalent in nature, seems to be widespread nowadays.

3. SHOULD WE REALLY ACCEPT THE IDYLIC VIEW OF NATURE?

This romantic idea that happiness outweighs suffering in the wild has a crucial impact on the kind of attitude and policies we may favor towards nature. Surely, if we assume some of the environmentalist or anthropocentric positions described above we may not care at all about whether wild animals live happy lives or terrible ones. However, if we do care about animal suffering, we have a serious issue here. If the idyllic view is wrong, and if suffering prevails in nature, the reasons we have to support an environmentalist view may be challenged by other

the Land Ethic: Essays in Environmental Philosophy, Albany: State University of New York, 1989.

4 Rolston III, Holmes, *Environmental Ethics: Duties to and Values in the Natural World*, Philadelphia: Temple University Press, 1988.

5 Many theorists defend this, see for instance Bookchin, Murray, *The Philosophy of Social Ecology: Essays on Dialectical Naturalism*, Montreal: Black Rose Books, 1990; Hargrove, Eugene C. "Foundations of Wildlife Protection Attitudes", in Hargrove, Eugene C. (ed.), *The Animal Rights/Environmental Ethics Debate, The Animal Rights/Environmental Ethics Debate: The Environmental Perspective*, Albany: State University of New York, 1992, 151–83.

6 See for instance Mill, John Stuart, *Nature*, in his *Collected Works*, vol. X, London: Routledge and Kegan Paul, 1969 [1874], 373–402; Dawkins, Richard, *River Out of Eden: A Darwinian View of Life*, New York: Basic Books, 1995, ch. 4.

reasons that may overcome them. And for those who do not assume such anthropocentric or environmentalist conceptions of value and believe that what we should care about is the positive and negative wellbeing of all sentient individuals, this is an essential point.

In the following sections I will examine whether the idyllic view of nature is true, that is, whether happiness really prevails over suffering in the wild.

We may think that this task is impossible to carry out, since we have no access to the phenomenal experiences animals have, so there is no way to know whether suffering or happiness prevails for them. If this criticism were right, it would show the idyllic view of nature to be unwarranted, though it would also undermine its critique. A sterile scepticism would be all we would have left. However, even if this criticism is at least partly right, it is not completely so. The reason why this is so is that even if we cannot be completely sure of the kind of experiences that animals are having in the wild, we can nevertheless make informed guesses about them. And these guesses can be well-grounded in our knowledge of relevant facts about what happens to them in their lives. We have reasons to believe they can have positive and negative experiences,⁷ and we know some facts about their lives that appear to be relevant to the kind of experiences they may have. Given this, and in line with a Bayesian epistemological approach, we can make justified estimates about what we have most reason to think regarding the wellbeing of wild animals.

4. WE USUALLY CHOOSE UNREPRESENTATIVE EXAMPLES WHEN WE THINK ABOUT NATURE

Many people tend to have in mind very unrepresentative animals when they try to imagine the kind of lives wild animals live. They usually think of big animals that have very few or no predators such as tigers, whales, elephants, cheetahs, etc. And even when they have in mind animals that do have predators, they are likely to think of animals that are not really representative of those living in nature. They may have in mind big herbivores, such as, say, gazelles, who can suffer very painful deaths by being hunted by big cats or canids, and who can suffer from thirst, hunger, and disease, but who may also have several sources of pleasure in their life.

7 Smith, Jane A., "A Question of Pain in Invertebrates", *Institute for Laboratory Animal Research Journal*, 33, 1991, 25–32; Griffin, Donald R., *Animal Minds*, Chicago: University of Chicago Press, 1992; Ng, Yew-Kwang, "Towards Welfare Biology: Evolutionary Economics of Animal Consciousness and Suffering", *Biology and Philosophy*, 10, 1995, 255–85; Allen, Colin and Bekoff, Marc, *Species of Mind: The Philosophy and Biology of Cognitive Ethology*, Cambridge: MIT Press, 1997.

Moreover, they have in mind adult animals. When we consider the life of one of these animals, we might think it is unfortunate that she undergoes such terrible suffering, and that it would have been much better if she had been spared it, yet we can easily imagine that the positive wellbeing she also experiences may well outweigh all these disvalues.

This may drive us to think that the idyllic view of nature, though idealized and exaggerated, may still have some truth to it. However, such a conclusion would be far too hasty. It would be based on insufficient consideration of the kinds of lives that nonhuman animals live. As I have pointed out, when we examine this problem we tend to think of the story of an animal who dies in her adulthood. But, as we will now see, most animals live lives that are starkly different from those we tend to imagine. Most animals are not big vertebrates, most of them never reach adulthood, and, in most cases, their lives contain little more than suffering.

I will now explain the reasons why this is so, and why the idyllic view of nature must be drastically questioned in light of this fact. In order to understand this, we need to consider one issue that may pass unnoticed at first sight, but that, as Ng and Dawrst⁸ have shown, is crucial: the kinds of reproductive strategies that are prevalent in nature. To see why this is so, we need to start by examining some very basic notions of population dynamics whose enormous relevance to the question will be made clear in the following sections.

5. REPRODUCTIVE STRATEGIES

The wellbeing that animals may experience is closely linked to their chances of survival in a certain environment. This, in turn, is something that can be examined when we consider the way in which a population of animals may vary in a certain ecosystem. In population biology this is examined by means of several differential equations, depending on the factors one wants to analyse. A very basic one which represents the growth of populations is the Verhulst equation of population growth—or population dynamics—⁹ which can be formulated as follows:

$$dN/dt = rN(1-N/K)$$

The factors that this equation contains are explained as follows:

- (i) t stands for the period of time during which the growth of a population is considered;

8 Ng, "Towards Welfare Biology"; Dawrst, Alan, "The Predominance of Wild-Animal Suffering over Happiness: An Open Problem", *Essays on Reducing Suffering*, 2009, <http://www.utilitarian-essays.com/wild-animals.pdf>.

9 Verhulst, Pierre-François, "Notice sur la loi que la population poursuit dans son accroissement", *Correspondance Mathématique et Physique*, 10, 1838, 113–121.

- (ii) N stands for the initial population size (that is, N is a natural number which represents the quantity of individuals the population in question has at the point when t starts);
- (iii) r denotes the reproductive rate for the population in question (that is, the number of offspring it has relative to the number of individuals from previous generations); and
- (iv) K represents the carrying capacity of the population's environment during t (that is, the maximum population size that the environment can maintain, given the conditions the environment has for the survival of the members of this population).

Therefore, what this equation says is that the degree to which a population grows during a certain time t depends on two factors (apart from its initial size N): the size of the progeny that on average each animal has (which is expressed by r) and the survival rate that on average that progeny has (which is determined by K).

These factors determine the different reproductive strategies that different populations of animals may have. Two main ones are commonly distinguished:¹⁰

- (i) *K-selection*. Some animals have a high survival rate among their progeny. This requires investing lots of energy and time in them—i.e., in their gestation, their care, their education, etc. This means that it is not possible for these animals to have many descendents. Therefore, this reproductive strategy is referred to as *K-selection*, since the success of this strategy rests in making its individuals maximally prepared to survive given the conditions which the factor K express. In other words, because in the case of these animals, although r is very low, K is maximized.
- (ii) *r-selection*. Conversely, other animals can have a very high reproductive rate because they do not have to invest a lot in each of their descendents' survival. This reproductive strategy is referred to as *r-selection*, since maximizing r is what determines reproductive success in this case, even though K may be extremely low.

This is, of course, a simplification of what goes on in nature, where complex reproductive strategies are put into practice. The strategies which many animals follow actually combine to some extent elements of *r*- and

10 MacArthur, Robert H. and Wilson, Edward O., *The Theory of Island Biogeography*, Princeton: Princeton University Press, 1967; Pianka, Eric R., "On *r*- and *K*- Selection", *American Naturalist*, 104, 1970, 592–97.

K-selection.¹¹ But the dichotomy can give us a fair picture of what happens in general in nature, at least with regard to the key facts that we need to consider as far as suffering in the wild is concerned.

6. SUFFERING AS A BY-PRODUCT OF SUCCESSFUL REPRODUCTIVE STRATEGIES

The reproductive strategies mentioned above have been selected for because they are successful when it comes to gene transmission. This means that most individuals are sacrificed for the sake of the transfer of genetic information to new generations. *r*-selection entails that for each individual who survives to maturity, there are many hundreds or thousands who starve or are eaten shortly after they start to be conscious. The very low survival rate among members of *r*-selected species means most of them die shortly after they come into existence. Many die before being developed enough to be sentient. However, many of them live long enough to be sentient when they die. This means that they have very few opportunities for positive experiences, if any.

But that is not all. Since in most cases they either starve or are killed by other animals, their deaths are likely to be rather painful. This means that their lives contain proportionally far more suffering than positive wellbeing. Hence, we have good reason to conclude that these animals live lives whose overall levels of wellbeing are negative. Coming into existence has brought them far more negative things than positive ones. This is not something that has any evolutionary use in itself, of course. However, it is an inevitable by-product of one successful reproductive strategy. Reproductive strategies are not selected for maximizing happiness. Rather, they are selected because they are successful for gene transmission. Unfortunately, this process also entails that suffering is also significantly increased, and, in those cases in which *K* is exceptionally low and *r* extremely high (as frequently happens), actually maximized.

7. WHY THE PREVAILING REPRODUCTIVE STRATEGY DETERMINES THE BALANCE BETWEEN VALUE AND DISVALUE IN NATURE

The mere fact that there are individuals who have to undergo such terrible lives will be in itself something highly disvaluable for a number of theories in axiology and ethics, such as egalitarianism, sufficientarianism, prioritarianism and those views which accept some form of maximin

11 In line with this, for criticisms of an *r*- and *K*-selection reductionism see Stearns, Stephen C., "The Evolution of Life-History Traits: A Critique of the Theory and a Review of the Data", *Annual Review of Ecology and Systematics*, 8, 1977, 145–71.

principle. However, there is more to say here. The magnitude of the disvalue that *r*-selection causes is significantly raised by the fact that this situation is not merely suffered by some individuals every now and then. The fact is that *the overwhelming majority of the sentient beings who come to existence have to endure this fate*. There are two reasons for this:

- (i) *There are few survivors in each r-selected species.* As we have seen in the previous sections, *r*-selection entails that only a tiny minority of those sentient beings who come to existence survive. On average, in stable populations the surviving individuals in each generation is more or less equal to the number of the previous generation. The rest of them will not survive, and will most likely find themselves in the situations described above. Bear in mind that the lower the value of *K* in the Verhulst equation, the higher the number of casualties. And, as I have pointed out above, given the energy limitations for every animal about to reproduce, the higher the value of *r*, the lower the value of *K*. Moreover, even if *K* remained equal for populations of animals with different birth rates, the higher the value of *r*, the higher the number of casualties (both in absolute terms and in proportion to the number of survivors). So every time that members of *r*-selected species reproduce, huge numbers of animals are sentenced to suffer and die shortly after. And we must note that the average clutch size of many animal species can be considerably big, as Ng points out:¹² for instance, the bullfrog (*Rana catesbeiana*) lays on average 6,000-20,000 eggs and the American lobster (*Homarus americanus*) can lay around 8,500 eggs. Of course, many of them never end up developing into sentient beings. But the number of eggs that do give rise to sentient beings is still extremely high. In light of this, it seems that most of the sentient animals that belong to species that are *r*-selected live lives with more suffering than wellbeing.
- (ii) *There are few animal species in which r-selection does not prevail.* Unfortunately for most animals, *K*-selection is rather uncommon in comparison with *r*-selection. Most animals follow an *r*-selection strategy. This happens, in particular, in the case of small animals. It is a general strategy among invertebrates, that are by far the most numerous animals on Earth. But it is also widespread among vertebrates, in particular in the case of fishes (bony, cartilaginous or jawless) and amphibians, and also among other animals such as reptiles.

¹² See Ng, "Towards Welfare Biology".

The consideration of these two points leaves little room for manoeuvre. The overwhelming majority of the animals of the overwhelming majority of species appear to have significant suffering but little (or no) happiness in their lives. Therefore, we have very strong reasons to conclude that there is far more suffering than happiness in nature.

There are two objections, however, that could be presented against this conclusion. First, we must note that many animals that belong to *r*-selected species have very simple central nervous systems, and we may be unsure about whether they are sentient. This is a very problematic question.¹³ Though we may have good reasons to think that many small and simple invertebrates are indeed sentient, this objection is still reasonable. Second, because the lives of the animals who die shortly after coming into existence are so brief, the total suffering they have to endure is not so great after all.

These are important points which we need to consider very seriously. It is undoubtedly right that they must drive us to qualify the conclusions we should draw according to the facts mentioned above. Because of them, the expected amount of suffering present in nature is much lower than it would have been if the casualties of *r*-selection had to endure longer agonies and if there were no doubts of any kind regarding their sentience. But even with this qualification, it appears that a sensible estimate of the amount of suffering present in nature will still be significantly greater than a similar estimate of the amount of happiness present in nature. The asymmetry between the number of individuals who survive early infancy and those who do not is so big that these two objections, important as they are, do not weigh enough to counterbalance it. I will show one example that illustrates this in the next section.

8. AN EXAMPLE: THE CASE OF ATLANTIC COD (*GADUS MORHUA*) IN THE GULF OF MAINE

In order to see that the disvalue which *r*-selection generates can be so high that the two objections I have presented do not alter the conclusions I have presented thus far, consider just one example regarding a certain species of animals, the Atlantic cod (*Gadus morhua*). These animals can lay from a few thousand to several million eggs.¹⁴ Let us suppose that they lay 2 million each time. It is estimated that in 2007 there were around

13 See Smith, "A Question of Pain in Invertebrates".

14 Jørstad, Knud E.; Fjalestad, Kristinne T.; Ágústsson, Thorleifur and Marteinsdottir, Gudrun, "Atlantic cod—*Gadus morhua*", in Svåsand, Terje (ed.), *Genetic Impact of Aquaculture Activities on Native Populations*, 2007, 10–16, p. 11, http://genimpact.imr.no/_data/page/7650/atlantic_cod.pdf.

33,700 tons of Atlantic cod in the Gulf of Maine bank alone.¹⁵ An adult cod can weigh up to 25-35 kg.¹⁶ Assuming they have an average weight of 33,7 kg, there would be around a million of these animals (the average weight I have proposed is too high, though on the other hand I am assuming, for the sake of simplicity, that these animals are all adult animals). Assuming the cod population remains stable, on average only two of the eggs that a female cod lays in her life end up developing into adults. Thus, a total of 2 trillion eggs laid will fail to become adults. Assume each egg has a 0.1 probability of developing into a young, immature fish, a codling, and that there is a 0.1 probability that codlings are sentient. Finally, assume that on average they suffer for just ten seconds before they die.

All of these are extremely conservative assumptions. Yet they entail that each time these animals reproduce we can expect that 200 billion seconds of suffering is experienced (and these are only the cods in the Gulf of Maine). Since there are 31,556,926 seconds in a year, this amounts to 6337.7529 years of suffering. If this continues over an average human lifespan (that is, six decades), the number of years of suffering generated would be 380, 265.174. All this for a very specific species in a very specific area.

9. THE EVIL OF DEATH

Thus far we have just considered the disvalue of suffering. However, there is something else we can take into account here. According to some theorists (as at least mental-statist total utilitarians do), in order to consider the value or disvalue contained in the life of an individual we just need to know the positive and negative experiences she has had and aggregate them. However, many others think that there is something else to consider apart from this (even though they may be accused of double-counting by utilitarians). These other theorists can claim that the deprivation of goods is something disvaluable that must be added to the calculus of wellbeing I have just considered. They will argue that the fact that a sentient being dies shortly after she has started to be conscious is bad for her not only because her death may be painful, but also because it deprives her of the

15 Mayo, Ralph K.; Shepherd, Gary; O'Brien, Loretta; Col, Laurel A. and Traver, Michele, *The 2008 assessment of the Gulf of Maine Atlantic cod (Gadus morhua) stock*, Woods Hole: US Department of Commerce, Northeast Fisheries Science Center, 2009, <http://www.nefsc.noaa.gov/publications/crd/crd0903/crd0903.pdf>.

16 Cascorbi, Alice and Steven, Melissa M., *Atlantic Cod (Gadus morhua) Northeast Region (U.S. and Canada): Seafood Report—Seafood Watch*, Monterey: Monterey Bay Aquarium, 2004, p. 6, http://www.seachoice.org/files/assessment/report/48/MBA_SeafoodWatch_AtlanticCodReport.pdf.

positive experiences she could have had.¹⁷ Those who assume this will add extra disvalue to the fact that the lives of these animals include more suffering than wellbeing, because of their early deaths.

We must note that this does not alter in essence the conclusion we reached in the previous section. I have pointed out that we may add the harm of death to the disvalue resulting from the experienced positive and negative wellbeing because according to a number of axiologies this is an important disvalue. However, even if we rejected this claim, we would still have to maintain that the prevalence of suffering—and thus of disvalue—in nature is remarkable.

10. THE QUESTION OF INTERVENTION IN NATURE

Thus far I have said nothing about the way we should act with regard to nature. However, the practical conclusions that can be derived from what we have seen in previous sections are not difficult to guess. Whatever ethical theory we hold will not be credible if it says that the facts presented above regarding the massive suffering of uncountable animals are not something that needs to be taken into account in our moral decisions. Until now, the question of whether to act to benefit wild animals has been seldom tackled. Some theorists have reflected on whether we should accept the evils that animals suffer in nature or try to do something to mitigate them.¹⁸ However, this idea is still new and may be a strange one to many people. Nevertheless, it appears quite reasonable in light of what we have seen here. Indeed, it would be strange *not* to think about ways in which we could act to improve the situation of animals in the wild once we are aware of the immense amount of suffering present in it.

Despite this, the idyllic view of nature is so prevalent that it is obvious that the idea of intervention in nature will be met with much opposition.

17 On the question of the harm of death see for instance Nagel, Thomas, "Death", *Noûs*, 4, 1970, 73–80; McMahan, Jeff, *The Ethics of Killing: Problems at the Margins of Life*, Oxford: Oxford University Press, 2002; Broome, John, *Weighing Lives*, Oxford: Oxford University Press, 2004.

18 This has been done in particular in the case of predation, as in Sapontzis, Steve F., "Predation", *Ethics and Animals*, 5, 1984, 27–38; Bonnardel, Yves, "Contre l'apartheid des espèces: À propos de la prédation et de l'opposition entre écologie et libération animale", *Les Cahiers Antispécistes*, 14, 1996, http://www.cahiers-antispecistes.org/article.php3?id_article=103; Fink, Charles K., "The Predation Argument", *Between the Species*, 13 (5), 2005, <http://digitalcommons.calpoly.edu/bts/vol13/iss5/3/>; Pearce, David, "Blueprint for a Cruelty-Free: Reprogramming Predators", *The Abolitionist Project*, 2009, <http://www.abolitionist.com/reprogramming/index.html>; McMahan, Jeff, "The Meat Eaters", *The New York Times*, 19 September 2010, <http://opinionator.blogs.nytimes.com/2010/09/19/the-meat-eaters/>; McMahan, Jeff, "A Response", *The New York Times*, 19 September 2010, <http://opinionator.blogs.nytimes.com/2010/09/28/predators-a-response/>.

Many may claim that *any* kind of intervention at all would be dangerous for its unforeseen and potentially disastrous consequences, or that we have no right to carry it out. There are reasons, however, to reject such criticisms as speciesist. Humans intervene constantly in nature. In most cases, they do so in order to obtain benefits for themselves. The most clear case in which this happens is when humans radically change some landscape for purposes such as agriculture, mining, construction, etc., though there are many other ways in which humans alter the environment. Besides, human beings often intervene in nature for environmental purposes. They do so, for instance, in order to conserve some species or landscapes. In some cases, they even work to transform an existing ecosystem in order to restore some biocenoses that existed previously.¹⁹

It is interesting to note that these practices are seldom met with strong objections. This shows us why the criticisms of the idea that we should help wild animals are biased. Such criticisms express concerns that are not really taken seriously when human beings are involved, thus showing a clear speciesist prejudice.²⁰ If humans were suffering and dying and altering an ecosystem would help them, nobody would object that it was too dangerous or that we had no right to do it. For instance, few people object to agriculture, which is needed for human subsistence, even though agriculture means altering radically the previously existing ecosystems.

Therefore, interventions in nature would not be new at all, since, as I have just pointed out, we carry them out constantly.²¹ The only thing that would be completely different (although it is a very important difference) is that thus far we have been intervening for the sake of human interests or in order to further some environmental purposes, and the proposal here is to do it for the sake of the wellbeing of animals. These are different purposes which are often opposed, as the main argument presented in this paper shows.

A proposal such as the one I am making here may be questioned because, while anthropocentric and environmental ideals are seen as important, the wellbeing of nonhuman animals is seen as completely irrelevant. This is why, as I mentioned above, such criticisms can only be held if we assume speciesist positions.²²

19 For a critique of this practice see Shelton, Jo-Ann, "Killing Animals that Don't Fit In: Moral Dimensions of Habitat Restoration", *Between the Species*, 13 (4), 2004, 1–21, <http://digitalcommons.calpoly.edu/bts/vol13/iss4/3/>.

20 Horta, Oscar, "The Ethics of the Ecology of Fear against the Nonspeciesist Paradigm: A Shift in the Aims of Intervention in Nature", *Between the Species*, 13 (10), 2010, 163–87, <http://digitalcommons.calpoly.edu/bts/vol13/iss10/10/>.

21 Cowen, Tyler, "Policing Nature", *Environmental Ethics*, 25, 2003, 169–82.

22 I shall not address here the question of why we should reject all kinds of speciesist positions, but see on this Horta, Oscar, "What Is Speciesism?", *Journal of Agricultural and Environmental Ethics*, 23, 2010, 243–66.

As I mentioned above, there are people who defend some environmental principles who may be prepared to completely disregard the plight of nonhuman animals. However, it is interesting to note that among those who claim to defend these environmental principles very few are consistent. With the exception of theorists such as Linkola²³ who defends the mass-killing of human beings for the sake of the environment (a view which few of us would probably support), most of those who claim to be defenders of holism or biocentrism just maintain these principles insofar as they do not conflict with human interests.²⁴ Their views, when they disregard the suffering of nonhuman animals, are speciesist, and must be rejected.

11. WHY THE PREVALENCE OF SUFFERING IN NATURE IS SO RELEVANT

We have seen that we have very strong reasons to conclude that suffering is vastly prevalent in nature. However, we might think that this is not really as crucial as I claimed above. We could argue that, strictly speaking, there is an important respect in which discovering this could be of little practical relevance.

It may be possible to intervene in order to reduce the harms that nonhuman animals suffer in the wild. But note that, provided we are not speciesist, this is something we would also have reasons to do even if the suffering of wild animals did not outweigh their wellbeing. So we might consider the arguments I presented above unnecessary. It would not be so crucial, after all, to know whether or not suffering outweighs wellbeing in nature. The point at stake here would rather be whether or not we can and should intervene in nature in order to reduce the harms that wild animals suffer.

This is right to some extent (in particular if what we have in mind are ways to minimize the suffering that some beings endure without acting in ways that impede their continuing to come into existence). However, there are reasons why being aware of the prevalence of suffering in nature is extremely important.

First, the usefulness of intervention might be questioned if we had the wrong view of nature as an idyllic place. We might be discouraged to intervene by being too cautious regarding the further effects our action may have. Of course, we have to be very careful. But if we believed that happiness prevails we might easily be too cautious and fail to act when it

23 Linkola, Pentti, *Can Life Prevail?: A Radical Approach to the Environmental Crisis*, London: Integral Tradition Publishing, 2009.

24 See for instance Leopold, *Sand County Almanac, with Essays on Conservation from Round River*; Callicott, *In Defense of the Land Ethic*; Varner, "Biocentric Individualism".

was necessary. We might think that, after all, nature generates a significant amount of wellbeing, and even if this means that some individuals have to endure lives that are not worth living, trying to fix this could reduce the total amount of positive wellbeing in nature. Egalitarians, prioritarrians, sufficientarians and negative utilitarians should not be convinced by such an argument, since for them helping those who suffer a great harm would be required even at the risk of reducing the wellbeing of other individuals with positive levels of it (I am myself sympathetic to this view). And some deontologists, virtue ethicists and care ethicists would also agree with this view. But for others, such as (non negative) utilitarians, this might be a reason not to act. This is one reason why pointing out that suffering outweighs wellbeing in nature can be important. By indicating this, we show that such qualms would hardly be warranted.

Second, if in nature happiness outweighed suffering, we would have a reason to actively defend the conservation of nature, even if that meant sacrificing a number of sentient animals who would be innocent casualties of it. Again, egalitarians, prioritarrians, sufficientarians, negative utilitarians and others would have other kinds of reasons that would counter this claim, but non-negative utilitarians would accept it. But if this claim is false, as we have seen, not even these utilitarians have reasons based on the wellbeing of individuals to defend such an enterprise.

We are all so familiar with the idyllic view of nature that it seems extremely counterintuitive to think that it may be blatantly false. For this reason, the consequences to be derived from the fact that in nature suffering is so great are hard to accept. But if we want to be consistent, if we really do not want to be blind to the facts, and, finally, if we really want to be committed to the search for the good of those suffering, we cannot ignore them. This is an extremely important issue that we need to tackle.

12. PRACTICAL CONSEQUENCES

I have not addressed here the kinds of measures that could be implemented in order to reduce the disvalue present in nature. I have just mentioned that intervention for this sake should not be considered a mere fantasy, especially in light of the fact that we do intervene in nature constantly for the sake of other purposes (agriculture, building, all kinds of industrial processes...) The only real way to oppose all intervention in nature would be by advocating immediate mass suicide for every one of us, something we would all surely reject. So the question is not "Should we intervene in nature?", but rather "In what ways should we intervene?"

There are some ways we could intervene right now in order to help animals living in nature. For instance, they often starve, and there are

many situations in which it would be perfectly feasible for us to feed them (this is so, for example, in cases in which winters are particularly severe for them). There are other cases in which they die due to diseases that we could cure. Moreover, there are also situations in which nonhuman animals suffer and die because of the ways in which we currently intervene in nature. We could change the ways we act in order to improve these situations.²⁵

Of course, it is clear that by intervening in different ways now we could help some animals, but only a small number of them, and we would not be addressing the main problems with regard to disvalue in nature I have discussed above. But in the future we may have the capacity to intervene in new ways which would reduce the huge amount of suffering and death existing in nature in a far more significant way. However, for that to occur, we need to start to work now to set up the conditions that will make it possible. This entails doing three things.

First, we need to start to discuss these issues immediately. We need to question the idea that nature is an idyllic place in which any kind of intervention should be considered taboo.

Second, we must question speciesism. As I have pointed out above, most of those who reject intervention in nature for the sake of nonhuman animals do accept that we intervene when human interests are at stake. This radically differential consideration is due to the fact that most people are speciesist. In fact, even many of those who sympathise with the idea that nonhuman animals should not be exploited and who assume a vegan lifestyle still maintain many speciesist views. As long as that continues to happen, it will be very difficult for us to advance the idea that we should actively help nonhuman animals living in the wild. Therefore, in order to further this view, we should strongly advocate that more and more activism against speciesism is carried out. Of course, this should be done with an approach that clearly distinguishes the case against speciesism from any environmentalist view (note that most of the public is unaware of the arguments we have seen in this paper and, unfortunately, may confuse these positions).

Third, it is very important to learn in which ways it is possible for us to intervene in nature. Even if significant intervention for the sake of nonhuman animals is not going to be carried out now, doing research on it may lead to it becoming possible sooner. Discovering and showing the

25 For an example of this, see Horta, "The Ethics of the Ecology of Fear against the Nonspeciesist Paradigm".

feasibility of new ways we could intervene would also help us to defend the case for intervention.

Because the main causes of disvalue in nature are things we cannot solve right now, our primary focus today should be on doing these three things, rather than engaging in carrying out particular interventions. We might think that this is not a very effective way of changing the situation in which nonhuman animals find themselves in nature today. But, as I have argued in this last section, that would be a naïve view. Promoting debate on this issue, doing research on it and questioning speciesism appear to be the most important ways in which we all can work today in order to reduce the immense amount of suffering and death that exists in the world.*

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