

What Population Dynamics, Food Chains, And Survival Of The Fittest Indicate About Conditions In The Wild

QUALITY OF LIVES OF ANIMALS IN THE WILD AND IMPLICATIONS REGARDING THEIR BEST INTEREST

Many who oppose factory farming argue that it is better that factory farmed animals do not exist than continue to exist in lives that are filled with substantially more suffering than happiness. The same principle is applied to animals experimented on in labs or even to a family pet when the pet's life has deteriorated to where it experiences significantly more pain than pleasure. Very few extend this viewpoint to the trillions of net-negative lives that do not occur at the

ON BY MEANS OF NATURAL SELECTION, PRESERVATION OF FAVOURED RACES IN THE STRUGGLE FOR LIFE. By CHARLES DARWIN, M.A. FELLOW OF THE BOYAL, GEOLOGICAL, LINNACAN, ETC., SOCIETIES;
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Charles Darwin's revolutionary writings illustrated how brutal conditions in the environment each generation. This is a critical component of natural selection and evolution via survival of the fittest.

Darwin, Charles. *The Origin of* Species By Means of Natural Selection, or the Preservation of Favored Species in the Struggle for Life. London: 1859.

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hands of humans, but rather by the harsh conditions of nature. Most people think THE ORIGIN OF SPECIES of the environment in terms of biodiversity and ecosystem stability, but do not consider that the animals that inhabit these ecosystems are individuals who often live horrible lives caught in an evolutionary struggle to survive.1

Many animal activists consider nature to be comprised of animals that have decent lives. Sure, some parts of an animal's life in the wild may be unpleasant, but it is easily balanced out by all the pleasure and joy. Thus, protecting natural ecosystems is a good thing because it preserves the homes of these happy animals. Unfortunately, this romanticized view of the wild is in conflict with reality. Predation, dehydration, lethal viral and bacterial infections, starvation, ravenous parasitic infections, freezing, and overheating normally occur. The conditions are so hostile that most individuals do not survive to adulthood, and those that do still have high annual mortality rates. This is a key component of evolution. It is the killed most individuals in a species basis for natural selection via survival of the fittest.²

> For a population to remain stable, each breeding female can only have, on average, two offspring that survive to reach their own successful reproductive adulthood. The greater the number of offspring that a species has, the greater the number that will die prior to reproducing. In most species, a breeding female will produce tens to hundreds of offspring during her reproductive life. Given these high birth rates, consider how hostile conditions must be to create "stable populations."

Populations are kept stable by a host of painful factors ranging from extreme hunger and thirst to parasitic infections and predatory attacks. The following sections will provide examples of these factors and the individuals who experienced them. They are by no means extreme or unusual cases. They are the norm for trillions of sentient beings, that similar to animals in factory farms, have lives comprised of substantially more misery than happiness.

Predation

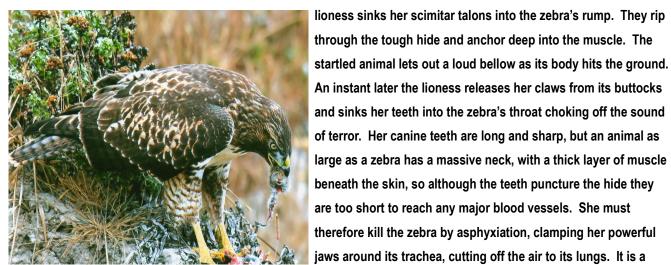
Though it is just one of an array of causes of misery, predation is the most well recognized cause of suffering in the wild. The violence of the predator-prey relationship has drawn the attention of theologians, ethicists, and philosophers. In contemporary times, philosophers such as Jeff McMahan of Rutgers have written about the horrific end

¹ Dawrst, Alan. The Predominance of Wild-Animal Suffering Over Happiness. An Open Problem; Bostron, Nick. Golden. www.nickbostron.com

² Darwin, Charles. The Origin of Species By Means of Natural Selection, or the Preservation of Favored Species in the Struggle for Life. London: 1859.

that countless millions of animals face each day. "Viewed from a distance, the natural world often presents a vista of sublime, majestic placidity. Yet beneath the foliage and hidden from the distant eye, a vast, unceasing slaughter rages. Wherever there is animal life, predators are stalking, chasing, capturing, killing, and devouring their prey. Agonized suffering and violent death are ubiquitous and continuous.³

In The Importance of Wild Animal Suffering, Alan Dawrst provides an example of a lion's attack on a zebra: "The



Source: Jurvetson, S. Red Tailed Hawk decapitating a California Meadow Vole. 15 December 2006.

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the neck; her canine teeth would then have probably crushed the vertebrae or the base of the skull, causing instant death. As it is, the zebra will last five or six minutes."

Dawrst continues, "Some predators kill their victims rather quickly, such as constrictor snakes that cut off their victims' air flow and induce unconsciousness within a minute or two, while others impose a more protracted death, such

as hyenas that tear off chunks of ungulate flesh one bite at a time,⁵ wild dogs disembowel their prey, venomous snakes cause internal bleeding and paralysis over the course of several minutes, and crocodiles drown large animals in their jaws."⁶

The suffering of being suffocated to death, ripped apart while fully conscious, or injected with toxic venom occurs after a life that is often comprised of far more misery than happiness. Many if not most animals are frequently malnourished and dehydrated, witness the death of their young, and get stalked numerous times prior to a fatal attack.



slow death. If this had been a small animal, say a Thompson's

gazelle the size of a large dog, she would have bitten it through

Source: Friedman, J. Cheetah with partially eaten impala. Marsai Mara National Park, Kenya. 14 July 2007. http://creativecommons.org/licenses/by/2.o/legalcode

³ McMahan, Jeff. *The Meat Eaters*. The New York Times. 19 September 2010.

⁴ McGowan, Christopher. The Raptor and the Lamb: Predators and Prey in the Living World. New York: Henry Holt and Company. pp 12-13, 1997.

⁵ Kruuk, H. The Spotted Hyena. Chicago: University of Chicago Press, 1972.

⁶ Dawrst, Alan. The Importance of Wild Animal Suffering. P 12 citing McGowan, Pp. 22, 49, 43.

Predator	Examples of Prey	Means of killing	Duration of
			killing (minutes)
lions	wildebeest, zebra, ungulates	suffocation (1)	5-6 [50, p. 13]
cheetahs	gazelles	suffocation	often 5-15,
		(occasionally 2-3 times)	sometimes 25
spotted hyenas	ungulates	biting off chunks of flesh	1 to 13
wild dogs	ungulates	disembowelment (2)	
coyotes	rabbits, rodents, reptiles,	may stalk prey for 20-30	
	amphibians, fish	minutes until prey is exhausted	100
heron	fish	swallow whole	≤ 2 to swallow
piranha	fish, cattle, "anything"	tear apart while alive	
constrictor snakes	rodents (3), mammals	prevent prey from inhaling (4)	1 [86]
small snakes	fish, frogs	swallow and digest alive (5)	. ,
venomous snakes	rodents, birds, reptiles	internal bleeding, paralysis (6)	a few minutes
crocodiles	birds, fish, reptiles, ungulates	grabbing in jaws, drowning (7)	

Source: Dawrst, Alan P7. Examples of prey and the method and duration of killing.

Persistent Hunger and Starvation

Starvation is responsible for the deaths of billions of animals annually. Unlike a predatory attack which can lead to a violent but quick death, death by starvation can drag on for months. During the winter, food is hard to come by. Edible vegetation is often nonexistent or buried beneath snow packs. Many young, weak, and sickly animals cannot endure the lack of food and starve to death. A Michigan Department of Natural Resources study noted, "the number of species diagnosed at the laboratory as dying from malnutrition and starvation are second only to those dying of traumatic injuries." When food is so scarce that billions starve, those that do survive are often chronically hungry and malnourished.

Persistent Thirst and Dehydration

During droughts, millions of animals die from a lack of water. Dehydration kills more quickly than starvation,

but causes considerable pain as vital organs cannot operate properly without adequate hydration. It impairs cellular function and prevents animals from excreting waste products as the body attempts to conserve water. These waste products are toxic and further exacerbate the effects of inadequate hydration. "Though it is the death of elephants that has triggered public concern, other species of wildlife have also died in the dry spell which began in January this year." Broughts and water shortages are not infrequent occurrences. They occur in most habitable locations leaving animals in a panic as they search for sources of water.

Those dying from dehydration are indicative of a far greater

Source: Tamil, Nadu. Indian Bison that has died of dehydration. 30 September 2009.

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amount of misery. Consider being confined to a room with 9 other people where little or no liquid is available. All must remain in the room until one person dehydrates to death. Though only one of the ten dies, most in the room will suffer greatly.

^{7 &}quot;Malnutrition and Starvation" Michigan Department of Natural Resources. 11 July 2010.

⁸ Nair, Madhaven. "Hunger and Thirst Haunt Wildlife." The Hindu-India's National Newspaper. 26 March 2004.

Bacterial and Parasitic Infections

Unlike most Americans who receive medication to treat bacterial and parasitic infections, animals in the wild

suffer untreated infections. Infections destroy central nervous systems, cause inflammation of tissues and joints making movement painful, and weaken immune systems resulting in secondary illnesses. Mammals and birds are afflicted with infections ranging from a host of bacteria such as E. coli. and Salmonella.⁹ Infections are found throughout the body including the urinary tract, gastrointestinal tract, and the circulatory system.

In addition, parasitic infections routinely occur in birds, reptiles, and mammals. A common parasite are stomach worms such as Dispharynx nasuta. "Large numbers of worms (over 200 worms per bird) may be present in grouse by fall...In grouse, lesions severe enough to warrant consideration as a primary pathogen have been found in 33% of the birds examined from certain areas."

Though most of the examples provided thus far (as well as the

Source: Elainwe. Etosha National Park, Namibia. Zebra killed by Bacillus Anthracis Infection. 3 May 2010. Http://creativecommons.org/licenses/by/2.o/legalcode

Source: Bauer, Scott. United States
Department of Agriculture (USDA). A
wasp injecting eggs into a caterpillar.
When the eggs hatch, the larvae will eat
the caterpillar while it is alive over a
period of days.

www.ars.usda.gov/is/graphics/photos/k76 59-1.html

estimates of the number of animals starving, dehydrating,

etc.) have not included insects, the potential for suffering in the insect world must be considered. In The Predominance of Wild Animal Suffering over Happiness, Dawrst cites Stephen Gould's Nonmoral Nature: "Consider the parasitic relationship between the ichneumon wasp and host caterpillars. The ichneumon are a group of wasps, not flies, that include more species than all the vertebrates combined [hundreds of thousands of species]. The free-flying females locate an appropriate host and then convert it into a food factory for their own young. Parasitologists speak of ectoparasitism when the uninvited guest lives on the surface of its host, and endoparasitism when the parasite dwells within. Among endoparasitic ichneumons, adult females pierce the host with their ovipositor and deposit eggs within. Usually, the host is not otherwise inconvenienced for the moment, at least until the eggs hatch and the

ichneumon larvae begin their grim work of interior excavation.

Among ectoparasites, however, many females lay their eggs directly upon the host's body. Since an active host would easily dislodge the eggs, the ichneumon mother often simultaneously injects a toxin that paralyzes the caterpillar or other victim. The paralysis may be permanent, and the caterpillar lies, alive but immobile, with the agent of its future destruction secure on its belly. The eggs hatch, the helpless caterpillar twitches, the wasp larvae pierces and begins its grizzly feast. Since a dead and decaying caterpillar will do the wasp larvae no good,...the ichneumon larvae eat fat

⁹ Salmonellosis. Michigan Department of Natural Resources and the Environment. 8 July 2010.

¹⁰ Proventricular or Stomach Worm. Michigan Department of Natural Resources and the Environment. 16 October 2010.

bodies and digestive organs first, keeping the caterpillar alive by preserving intact the essential heart and central nervous system. Finally, the larvae completes its work and kills its victim, leaving behind the caterpillar's empty shell." ¹¹

There are hundreds of thousands of species of parasitic ichneomonoidea with conservatively tens of millions of individual members of each species. Even using unrealistically conservative estimates, there are over 10 trillion caterpillars and other hosts each year that are eaten alive while their nervous system remains functioning. In other words, there are 27.3 billion hosts that meet this fate daily, or 1100 million each hour, or 19 million each minute.

CONCLUSION

For every one animal that experiences a net-negative life at the hands of humans, there are millions that experience miserable lives at the hands of nature. The numbers are so extreme that they are difficult to contemplate.

As animal rights activists, we have spent our time fighting against human mistreatment of animals. We have focused on extending the basic rights to not be assaulted, mutilated, and slaughtered to all sentient beings. Treating similar groups dissimilarly is the hallmark of an unjust legal and ethical system. It is inconsistent to provide these rights to humans, cats, and dogs, but withhold them from cows, chickens, and pigs given that these groups share similar nervous systems and similar aversions to pain. Providing consistent rights to those that share similar characteristics is crucial to any equitable legal system, but focusing solely on these issues does a disservice to the trillions enduring wretched lives at the hands of nature.

Most people have been incorrectly conditioned to view nature in what can best be described as an ignorant reverence. They believe that the unhappy periods of most animals' lives are more than balanced out by the good times. This view of life in the wild is naïve.

Though many animal activists understand the fundamentals of evolution and natural selection, they fail to realize the ramifications of these processes on the quality of animals' lives. Nature is indifferent as to whether animals experience overall painful, net-negative lives so long as it enhances their rates of survival and reproduction. In an environment where far more individuals are born than could ever be sustained in a stable population, the struggle to survive is fierce. The issue becomes: At what point is a life sufficiently bad that non-existence is in an animal's best interest? Non-existence is not optimal, but it is superior to a life comprised of substantially more misery than happiness.

Animal activists already apply this standard to animals who are intensely confined. These activists realize that it is absurd to promote veganism because it "saves animals' lives." The animals currently on factory farms will never be let free to graze in a luscious meadow. Rather, veganism reduces the demand for animal products, and therefore will prevent the future existence of some animals on factory farms. This is a fundamental of economic supply and demand curves: Reduce the demand for a product, and in the future the supplier will produce less of the product.

The difficult transition for most animal activists is to apply this standard consistently to animals in the wild. Why is preservation of the natural environment intrinsically good if the vast majority of animals in the wild experience lives comprised of substantially more pain than pleasure?

We, as ethical individuals, have a responsibility to all sentient beings. In most instances, we can help those in need by providing food, medical care, housing, etc. However, the natural environment is not one of these cases. If the

¹¹ Gould, Stephen. Nonmoral Nature: Hen's Teeth and Horses Toes: Further Reflection in Natural History. New York: W.W. Norton. (1994) pp.32-34.

options are to leave trillions to endure gruesome lives or promote policies that result in fewer sentient beings in the wild, the choice is clear. Environmental preservation results in countless animals enduring net-negative lives each year, and is incompatible with an ethic focused on preventing animal misery. The more land that is converted from highly populated ecosystems to drastically less populated land such as farmlands or deserts, the fewer animals that will endure net-negative lives. Since over 99% of these negative existences occur in nature rather than at the hands of humans, this must be a priority for those concerned about the best interests of animals.

Comments and Frequently Asked Questions

"If animals' lives in the wild are so bad, why do they try to survive?"

Animals have not chosen to exist in the harsh conditions of nature. They exist because of random chance, and are genetically programmed to struggle to survive no matter how painful and unhappy their lives are. This survival instinct should not be confused with a life that is worth living. Animals tortured in labs also struggle to survive, but most would agree that it would be foolish to equate this with a net-positive life.

"Who are you to intervene in nature? Let them be! Let's focus on human mistreatment of animals."

The processes of nature are not sacred and ought not be revered by anyone who feels an ethical obligation to mitigating animal misery. They are random amoral processes. Just because suffering in the wild is natural does not mean it is acceptable to let it occur. Many human behaviors such as rape, theft, and murder may be natural under certain circumstances, but in no way is this an ethical defense of these behaviors. Intervention in nature is morally urgent since that is where most net-negative lives are occurring.

To the animals enduring wretched lives, it is irrelevant whether the suffering is caused by humans or by natural conditions. For example, a deer dying of dehydration or a parasitic infection is no less deserving of assistance than a deer that has been hit by a car. To the deer, the source of its pain is irrelevant. The interest of the deer to not languish in pain is imperative in both scenarios.

"Animals in the wild are adapted to the conditions in nature. They are adapted to their ecosystems."

This argument exemplifies a lack of understanding of evolutionary biology and population dynamics. In a biological sense, a species is considered adapted to a certain ecosystem if it is able to maintain a population in that ecosystem. As previously discussed, if a species maintains a stable population in a habitat, this does not indicate that most individuals in that species will have a net-positive life. In reality, the overwhelming majority will likely have harsh lives and will die of an often painful condition prior to successfully reproducing. Though a *species* is adapted to a habitat, this should not be confused with *individuals in that species* generally having good lives.

"How can you judge whether animals are happy or miserable?"

You can judge the happiness or misery of animals in the wild similarly to how you judge the happiness or misery of animals experimented on in medical laboratories or confined in factory farms. Animal activists would consider it foolish to claim that one cannot determine if a rabbit is in pain when the rabbit is twitching as toxic chemicals are poured

into its eyes. Similarly, when a pig in a gestation crate cannot turn around and develops lesions, it is obvious to animal activists that the pig is enduring a net-negative life. Alternatively, when a companion dog is wagging its tail as it is being pet or being fed, most would claim that the animal is happy at that time. A similar standard should be applied to animals in the wild. When an animal develops frostbite over 10% of its body, it is freezing. When an animal begins digesting its own muscle tissue because of a lack of food, it is starving. When an animal is riddled with bacterial and parasitic infections that result in inflammation throughout the body, the animal is in agony and cannot reasonably be assessed as having a net-positive life.

"Do you think animals in the wild have some good times in their lives?"

Yes. We are not claiming that animals' lives are comprised of 100% misery. Certainly, animals derive pleasure from some aspects of their life such as eating and sexual success. Animals may also derive pleasure from galloping, flying, playing with their offspring, etc. We are arguing that for most animals in the wild (but not all), the level of pain and misery easily eclipses the amount of pleasure and happiness. In addition, some animals such as those afflicted by lethal parasitic infections endure a long period of time in conditions that are overwhelmingly unpleasant.

"You are correct about unimaginable suffering and net-negative lives in the wild. But what can be done?"

To start, educate other activists about the reality of conditions in the wild. Remaining willfully ignorant or down-playing the seriousness of this issue is unacceptable. Be creative. Promote government policies and individual choices that may succeed in reducing the number that endure horrific lives. For every decision you make, consider the effect that it has on the environment. For example, why is recycling paper products a beneficial action if it results in environmental preservation and thus more habitat where countless animals experience net-negative lives? The same is true for most forms of eco-friendly actions.

This leaflet doesn't have all the solutions. It should serve as a starting point for individuals to develop their own strategies to address this issue of paramount ethical concern. Let logic and reason be your guide. Question everything and challenge commonly held beliefs. We have an obligation to do all we can to make a positive difference in the world.

"IT IS EASY FOR US TO CRITICIZE THE PREJUDICES OF OUR GRANDFATHERS, FROM WHICH OUR FATHERS FREED THEMSELVES. IT IS MORE DIFFICULT TO DISTANCE OURSELVES FROM OUR OWN VIEWS, SO THAT WE CAN DISPASSIONATELY SEARCH FOR PREJUDICES AMONG THE BELIEFS AND VALUES WE HOLD."

-PETER SINGER