

34. Limited aggregation and zoonotic disease outbreaks

M. Eggel^{1,2*} and A. Martin¹

¹Philosophisches Seminar, Steinengraben 5, 4051, Switzerland, ²Environmental Sciences and Humanities Institute (UniFR_ESH Institute), Chemin du musée 4, 1700 Fribourg, Switzerland; matthias.eggel@unibas.ch

Abstract

Human and animal interests are often in conflict. In many situations, however, it is unclear how to evaluate and weigh competing human and animal interests, as the satisfaction of the interests of one group often inevitably occurs at the expense of those of the other group. Human-animal conflicts of this kind give rise to ethical questions. If animals count morally for their own sake, then we must ask in which cases the satisfaction or frustration of the interests of humans and animals in conflict situations is justified or unjustified from an ethical perspective. In this article, we argue that limited aggregation accounts represent a promising means for resolving interspecies conflicts. The reason for this is that they can appropriately consider the *qualitative relevance* of interests, their *relative importance* to each other, and the *number* of individuals affected. For our argument, we start from the premise that animals count morally for their own sake, albeit to a lesser extent than humans. That is, we accept the view that animals may be used, for example, as a source of food or in animal research. However, as we will show, many basic interests of animals are *sufficiently similar* to human interests and can thus be compared to them. Hence, they ought to be aggregated in cases of conflict with human interests. We illustrate our account and its practical implications with the real-world example of a human-animal conflict during the outbreak of a zoonotic diseases among farmed animals. We conclude that, in many cases, animal interests ought to be given more importance than they currently receive, which includes distributing the burdens and risks of farming practices more fairly.

Keywords: animal ethics, human-animal conflicts, weighing of interests

Introduction

The interests of humans and animals are often in conflict, for example, in the case of zoonotic disease outbreaks amongst farmed animals. In the case of highly infectious diseases, the well-being and life of farmed animals, humans, and other animals (such as wild ones) are at stake. In such cases, culling is often considered the main means for controlling the outbreak of the disease. Hence, satisfying the interests of humans often inevitably comes at the expense of those of animals. However, this gives rise to ethical concerns. If animals count morally for their own sake, then we must ask in which cases the satisfaction or frustration of the interests of humans and animals in conflict situations are justified or unjustified from an ethical perspective. In this article, we argue that limited aggregation accounts represent a promising means for resolving such interspecies conflicts.

Limited aggregation for resolving interspecies conflicts

Conflicts between the interests of humans and animals arise in many situations. Not only do humans use animals for research and food, but animals and humans share habitats and interact in various ways with each other. For example, wild animals may pose a threat to human health or may be a nuisance for human property. At the same time, humans destroy the habitats of wild animals through their extensive use of natural resources. This can lead to the damaging or even destruction of one party's possessions, livelihood, and even health, resulting in suffering and sometimes even death. In these situations, the

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interests of *both* humans *and* animals often cannot be satisfied at the same time. That is, the satisfaction of the interests of one group necessarily involves the frustration of the interests of the other group. General principles and applicable theories are urgently needed to guide decision-making when it comes to such cases of interspecies conflicts.

What renders decision-making difficult in this context? First, in many cases, interests of *different strength* are at stake: There may be a conflict between trivial human interests and the fundamental interests of animals, and vice versa. Second, the interests of animals and humans may have *similar strength*, which makes it difficult to decide whose interests should be prioritized and why. In such cases, the human interests often receive lexical priority over the interests of animals. The reason for this is that many people assume that humans matter morally more than animals. Finally, the *number of individuals affected* may vary substantially. For example, an animal experiment may require hundreds or even thousands of research animals, while at the same time it is unclear how many human beings might eventually benefit from the outcome of this research. Potentially, this number will be much smaller than the number of animals used. This raises the question of how many animals can legitimately be sacrificed in order to improve the health of an indeterminate number of humans. Therefore, a theory that can resolve conflicts between the interests of humans and animals ought to be responsive to interests of varying strength and the number of individuals affected.

These factors have been thoroughly considered in the philosophical literature on aggregation, which often revolves around paradigmatic thought experiments such as the following (Tomlin, 2017):

Case 1: You can save one person from death or some larger number of people, N1, from paralysis.

Case 2: You can save one person from death or some larger number of people, N2, from a mild headache.

According to accounts of aggregation, the importance of the interests of all individuals affected has to be calculated in order to decide whose interests should receive priority. Proponents of *unlimited aggregation* (Norcross, 1997, 2009) argue that one ought to save the large group of individuals from paralysis (Case 1) and headaches (Case 2). According to this view, lives, paralysis, and headaches can all be weighed and aggregated against each other. Other philosophers claim that, in both Case 1 and Case 2, one ought to save the person who is going to die. They argue death should *never* be aggregated against 'lesser' harms, such as headaches, paraplegia, and broken limbs (i.e. the non-aggregation of death, defended for example by Kamm, 2007). Finally, some philosophers have argued in favour of *limited aggregation*. On such accounts, one ought to save the one person from death in Case 2, because one ought not sacrifice the life of one person to spare thousands or even millions of individuals from a mild headache. In Case 1, however, one ought to save the larger number of individuals from paralysis, because death and severe harms can be aggregated, but only against other basic or non-trivial interests (Lefkowitz, 2008; Voorhoeve, 2014, 2015). In practice, this means that only interests of *similar relevance* ought to be aggregated. In cases of interests that are qualitatively significantly different, aggregation is precluded. After all, a minor nuisance, such as a sore throat or a light headache, has a relatively insignificant effect on our life and well-being, as compared to more serious harms, which have much more significant negative effects on our well-being, functioning, and capabilities (Voorhoeve, 2015). This means that the qualitative negative effect of a sore throat or a light headache ought not to be compared with and aggregated against the detrimental effects of more severe harms, such as broken limbs, paraplegia, or death. By contrast, the latter are sufficiently similar in importance that they should be aggregated against each other.⁷

⁷ We acknowledge that limited aggregation accounts are not uncontested. However, we do not have the space to elaborate on that discussion here. For a more detailed account of the topic, refer to Norcross (1997), Parfit (2003), Broome (2004), and Tomlin (2017).

This means that limited aggregation accounts can account for the three following important factors:

1. The *qualitative importance of individual interests* – this factor is responsive to varying strengths of individual interests from a moral perspective.
2. The *comparative importance of interest* – this factor is responsive to the relative importance of interests compared to other interests.
3. The *number of individuals affected* – this factor is responsive to the quantitative importance of interests.

So far, limited aggregation accounts have exclusively been applied to interhuman conflicts. However, limited aggregation accounts are also promising when it comes to resolving interspecies conflicts. For our argument, we start from the assumption that the interests and well-being of sentient animals matter morally for their own sake. This is a rather uncontroversial view, not only among academics, but also among citizens of Western societies in general. However, there is a controversy with regards to *how much* animals' interests count. Two views can be distinguished: (1) the view that animal interests matter as much as similar human interests; and (2) the view that human interests matter more than similar animal interests. The former position presupposes that animals have an equal moral status to humans, while the latter one endorses a hierarchical understanding of moral status. For the sake of our argument, we accept here the view that animals count morally for their own sake, albeit less than humans (i.e. a *hierarchical understanding of moral status*). The reason for this assumption is rather pragmatic, namely because a hierarchical view of moral status underlies most current human-animal relations (e.g. farming practices and animal research) in many societies. It is often assumed that humans are allowed to make use of animals, but that their suffering must be reduced to a minimum.⁸

One important aspect often neglected by hierarchical understandings of moral status is the 'painless' death of animals. The focus of the animal-use industry often lies on the minimization of harm and does not consider animal death from a moral perspective. However, even if one assumes that animals and their interests count less than human interests, morally speaking, their death should still be given some weight. We commonly consider the killing of humans morally problematic, even if it is done painlessly and even if those killed are not psychologically tied to their future, such as in the case of new-borns. Similarly, we claim, the painless death of animals also requires a moral justification (even if they are not strongly psychologically connected to their future, but even more so, the more developed these connections are). That is, we presuppose here that the deaths of animals matter morally, because death is the ultimate harm: It deprives animals of the possibility of future positive experiences and interest-satisfactions.

In the following, we outline the implications of limited aggregation accounts on the management of zoonotic disease outbreaks amongst farmed animals. We claim that even if one assumes that the interests of animals have less significance than the similar interests of humans, we ought to rethink the ways in which the burdens, benefits, and risks are distributed among farmed animals and humans. Of course, if one assumes an egalitarian view of moral status, the practical implications of the account presented here will be even more significant.

⁸ For our argument, we assume acceptable living conditions for farmed animals, such as free-range farming of chicken, cattle, and pigs. Industrial factory farming which involves considerable animal suffering is excluded from our account here. The reason for this is that such practices are incompatible with a hierarchical understanding of moral status that respects animals for their own sake. Furthermore, as industrial factory farming likely involves more suffering than pleasure, the animals involved would probably be better off dead than alive.

Responsibility towards farmed animals during outbreaks of zoonotic diseases

Zoonotic disease outbreaks, such as Ebola, SARS, and COVID-19 represent major threats to public health (Santana, 2020). In cases of zoonotic disease in farmed animals (e.g. among animals destined for the food or fur industry), an immediate response is often the mass culling of thousands (and sometimes even millions) of infectious but still healthy animals, in order to protect the health and lives of both animals and humans (Degeling *et al.*, 2016; Parry, 2004). Most will agree that these are important interests that ought to be safeguarded. At the same time, however, culling practices raise ethical issues.

In our opinion, the well-being and lives of the animals affected (i.e. infected animals) are of sufficient moral significance to be aggregated against the well-being and lives of humans and other animals (i.e. healthy farm animals and potentially even wild animals who may be negatively affected by the disease). This holds true even if one defends a hierarchical view of moral status that assumes that human interests are generally considered more important than qualitatively similar animal interests. In other words, in hierarchical accounts of moral status, animal interests will lose out to human interests of similar strength in a one-to-one comparison. Importantly, however, on aggregationist accounts, the interests of a *large number of animals* will trump those of a small number of humans in cases of conflict concerning similar interests. The more similar animal and human interests are, qualitatively speaking, the fewer the number of animals that need to be affected in order to trump human interests. That is, the suffering of large numbers of animals (e.g. due to pain, bodily impairment, and psychological stress) can trump human pain, suffering, bodily impairment, and potentially even death. Hence, culling practices can only be justified once the qualitative, comparative, and quantitative significance of interests of infected animals have been properly considered and aggregated against human interests (and the interests of healthy animals who are potentially affected). To illustrate this, let us consider the following thought experiment:

Case 3: Imagine a zoonotic disease that causes severe symptoms in animals (e.g. a serious infection that causes high fever and potentially leads to death) and in humans (e.g. a serious infection that causes the immune system to overreact, which also potentially leads to death). Is it ethically permissible to kill animals to prevent the transmission of this disease among the animals and eventually to humans?

The permissibility of culling in this case depends on the number of both animals and humans affected and the potential negative impact on their well-being. That is, human interests prevail in scenarios where both: (1) the well-being and lives human and animal are in danger; and (2) the number of humans affected is larger than, similar to, or even slightly smaller than the number of animals affected. However, in cases where both human and animal lives are in danger, but the number of affected animals is significantly larger than the number of affected humans, animal interests ought to prevail. Consequently, the culling of animals in such cases would not be ethically justified, even if this resulted in significant negative effects on human well-being and potentially even the death of some individuals.⁹

The threshold number for the prevalence of human or animal interests strongly depends on the severity of the disease for animals and humans. In cases of animal diseases that are highly infectious for humans, but only have a minor impact on human health (e.g. a mild fever, headache, or being bedridden for a few days), the interests of animals will already prevail at much smaller numbers than in Case 3 above. Similarly, a zoonosis which primarily represents an economic threat to humans has comparatively little weight against the well-being and life of animals.

Importantly, humans not only have a duty of care and assistance towards the infected animals, but also towards healthy farm animals (and even towards wild animals who may be affected). However,

⁹ We remain agnostic here as to what the exact numbers would have to be for such scenarios.

culling infected farm animals to protect other healthy animals should not be considered the standard operation procedure. Rather, provided that they are likely to be effective, medical treatment, isolation and monitoring options should take precedence over premature culling. Thus, our account has significant implications for how farms ought to be built and run. This includes reducing the number of animals per farm (in order to be able to properly care for sick animals), having enough space for each individual animal (which, in turn, also reduces the risk of disease occurrence and transmission), and having space available for the isolation of infected animals.

Finally, the evaluation of the danger of zoonotic diseases requires a risk assessment. That is, in cases in which the outcome of a disease is not determinate, the numbers of infected individuals (animals and humans), as well as the development and severity of the disease, have to be estimated. Risk is usually classified in terms of the probability of an event occurring and its magnitude. In current animal-farming practices, the burden and risks of the human-animal relation are often distributed in a one-sided way: The benefits lie almost exclusively on the human side, whereas the burden and the risks associated with this relation lie almost entirely on the side of the animals. This is illustrated by the fact that often not only infected, but also healthy animals are culled to minimize the risk for human health.¹⁰ However, according to an account of limited aggregation, where the qualitative, comparative, and quantitative moral significance of animal interests are properly taken into consideration, animals' fundamental interests should often receive more consideration in the case of outbreaks of zoonotic diseases. That is, proper consideration requires a fairer distribution of the burden and risks associated with human-animal practices.

This is even more the case given that humans brought farmed animals into existence and thus are responsible for their dependency on human care, food, and shelter. In such cases, humans acquire special duties of care and assistance. These duties do not fall away in times of zoonotic outbreak and other crises. Hence, humans must be willing to take on a much greater share of the burden and risks associated with farming practices than is often the case at present.

Conclusions

An account that aims to solve interspecies conflicts must be able to take into consideration the quality of interests (*qualitative* moral significance of interests), their relative importance compared to other interests (*comparative* moral significance of interests), and the number of individuals affected (*quantitative* moral significance of interests). We argued that limited aggregation accounts are well placed to take these factors into account and are thus promising for resolving interspecies conflicts. We started from the widely held belief that animals matter morally, albeit to a lesser extent than humans. We argued that animal interests can nonetheless be sufficiently similar to human interests so that they ought to be aggregated against human interests. In practice, this means that animal interests can, in some cases, trump human interests.

We illustrated the implications of limited aggregation accounts for the culling of animals during outbreaks of zoonotic diseases. On this basis, we claimed that animal interests are often due greater consideration than is currently the case. Consequently, our account calls for a fairer distribution of burdens and risk in human-animal relationships, especially when it comes to situations in which humans have brought farmed animals into existence and thus are responsible for their dependency on human care. This duty of care is substantial and does not *eo ipso* fall away in times of a crisis, such as during the

¹⁰ We acknowledge that culling is also undertaken to protect healthy farmed animals and wildlife. However, the point remains that the burden of the culling measures falls entirely on the side of the farmed animals.

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outbreak of a zoonotic disease. Rather humans ought to be willing to bear a greater part of the risks associated with human-animal relations than is often the case at present.

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