



SENTIENT NONPERSONS AND THE DISVALUE OF DEATH

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ABSTRACT

Implicit in our everyday attitudes and practices is the assumption that death ordinarily harms a person who dies. A far more contested matter is whether death harms sentient individuals who are not persons, a category that includes many animals and some human beings. On the basis of the deprivation account of the harm of death, I argue that death harms sentient nonpersons (whenever their lives would be worth continuing). I next consider possible bases for the commonsense judgment that death ordinarily harms persons more than it harms sentient nonpersons. Contrary to what some philosophers believe, it is doubtful that the familiar resources of prudential value theory can vindicate this judgment. I show that the approach that at first glance seems most promising for supporting this judgment – namely, invoking an objective account of well-being – faces substantial challenges, before arguing that McMahan’s time-relative interest account supplies the needed theoretical basis. I then go on to extract a significant practical implication of the first thesis, that death ordinarily harms sentient nonpersons: We should find a way to discontinue the routine killing of animal subjects following their use in experiments.

Implicit in our everyday attitudes and practices is the assumption that death ordinarily harms a person who dies. Exceptional circumstances aside, the termination of a person’s life is assumed to be bad for that person, independently of any harm incurred during the dying process. A far more contested matter is whether death harms sentient individuals who are not persons, a category that includes many animals and some human beings.

The present discussion understands personhood in a psychological and purely descriptive sense: A person is a being with the capacity for relatively complex forms of consciousness such as temporal self-awareness, a nontrivial ability to plan, and linguistic thought. Obviously, the reader and writer of this essay are persons. In addition, ordinary human three-year-olds clearly qualify as persons on this conception whereas fetuses and newborn infants clearly do not. Most mentally retarded human beings and those in the early stages of Alzheimer’s disease qualify as persons whereas those in the very late stages of Alzheimer’s do not. Great Apes and cetaceans

possibly qualify as persons whereas the vast majority of animals, including cats and dogs, do not.¹

Sentience is the capacity to experience feelings. (Here I use the term ‘feeling’ in a way that entails conscious experience.) Having the capacity to feel pain is sufficient for sentience. Available evidence overwhelmingly supports the thesis that mammals and birds are characteristically sentient beings while there is also strong evidence for the sentience of members of most or all vertebrate species and, among invertebrates, at least cephalopods.² Beyond those species, the evidence is mixed or weak. In discussing animals who are sentient nonpersons, we may keep in mind such uncontroversial examples as eagles, rodents, cows, cats, and dogs.

¹ For a fuller discussion, see D. DeGrazia. Great Apes, Dolphins, and the Concept of Personhood. *Southern Journal of Philosophy* 1997; 35: 301–20.

² For a review of the evidence, see D. DeGrazia. 2014. What is Suffering and What Sorts of Beings can Suffer? In *Suffering and Bioethics*. Ronald Green and Nathan Palpant, eds. New York: Oxford University Press: 134–153.

Against the background assumption that a person's death ordinarily harms its victim, and with the present understandings of personhood and sentience, this article will address these questions:

- (1) Does death (ordinarily) harm sentient nonpersons? If so, how is this disvalue best accounted for?
- (2) Does death (ordinarily) harm sentient nonpersons *less* than it harms persons? If so, how is this difference in disvalue best accounted for?

Answering these questions will illuminate both the underexplored topic of the disvalue of death for sentient nonpersons and some associated issues in prudential value theory. This theoretical advance may help us address some ethical issues regarding health priority-setting near the beginning and end of human life as well as issues concerning the killing of animals. For reasons of space, I will extract just one important practical implication – for animal research ethics.

THE HARM OF DEATH FOR SENTIENT NONPERSONS

A person's death ordinarily harms its victim. More precisely, a person's death harms its victim whenever the quality of her remaining life would have made it worth continuing (as I assume is usually the case³). I contend that death harms a sentient nonperson for the same basic reason that it harms a person. So let's start with the basis of prudential harm in personal death. Throughout the discussion, I will assume that death ends the existence of its victim. I assume, that is, that there is no afterlife (reflecting a naturalistic perspective) – and that we do not continue to exist as corpses (reflecting my assumption that we are essentially living beings). Moreover, importantly, I will focus on cases in which life would have been worth continuing, making death a prudential harm.

When a person dies, she is deprived of everything the rest of her life would have contained. Here we may speak of the goods – more precisely, the net good, since we must consider both the goods and the bads – she would have had, had she lived. Death harms this person, as I understand the matter, by depriving her of this net good. Like several other theorists from the analytic tradition of philosophy who have addressed the issue, I accept some form of the deprivation view of the harm of death.⁴

³ The present assumption is denied in D. Benatar. 2006. *Better Never to Have Been*. Oxford: Oxford University Press.

⁴ See, e.g., T. Nagel. *Death*. *Nous* 1970;4: 73-80; F. Kamm. 1993. *Mortality, Mortality*, vol. 1, chaps. 1-4. Oxford: Oxford University Press (although Kamm views deprivation as only one major source of death's harmfulness); S. Luper. 2009. *The Philosophy of Death*. Cambridge: Cambridge University Press; and S. Kagan. 2012. *Death*, chap. 10. New Haven: Yale University.

The deprivation view makes reference to the goods, or net good, within a life. Here I will make the admittedly controversial assumption that a life that contains no conscious experiences contains no prudential goods.⁵ Although some will disagree with this assumption, I will treat it as axiomatic in this discussion. (Any thinker who disagrees with one or more of my assumptions may treat my arguments as conditional – 'If such-and-such is true, then we should also believe...' – and assess my arguments accordingly.) Now, if a life contains no prudential goods, then there is nothing to be deprived of in losing one's life. So death does not harm a plant, a never-sentient animal, or an anencephalic infant (whose brain lacks cerebral hemispheres). Indeed, I suggest that such creatures cannot be harmed at all, although they can be *damaged* – just as a car or an insentient robot can be damaged but not harmed.⁶

Crucially, it is not only persons who can be deprived of the goods of life. Newborns, although sentient, are not persons. If, as seems plausible, death's deprivation of future goods harms the newborn who dies, then some sentient nonpersons are harmed by death. With the possible exception of those sentient nonpersons who have no psychological unity over time at all – if there are such beings, a question I consider later – I contend that death harms sentient human nonpersons in general. (It is important to remember that I am addressing cases in which those who die had lives worth continuing.)

Now imagine a healthy, flourishing dog: good human caretakers, another dog to interact with, lots of opportunities to exercise, ample access to the outdoors, etc. This dog's life is, on balance, good for him. If his life continues, it will continue to be good for him. If the dog is killed, the dog will miss out on the good his life would have contained. Premature death would harm him for the same basic reason it would harm me: by depriving its subject of life that, on balance, is good. Does the fact that the dog is not a person block this inference? I cannot see how it could. The dog's life undeniably contains prudential good – a point that is entirely independent of considerations of personhood.

⁵ This assumption is closely related to what has been called the Experience Requirement in prudential value theory: the thesis that something affects one's well-being only if it affects one's experience. See, e.g., L. W. Sumner. *Welfare, Happiness, and Pleasure*. *Utilitas* 1992; 4: 199-223.

⁶ I bracket the tricky question of whether a being that is only *potentially* sentient can be harmed by death. The individual in question has not yet had any good in its life, but can grow into a being who would experience goods. Does that potential confer a stake in staying alive in order to access the goods of life, in which case death would harm this being? As I discuss elsewhere, I believe there are about equally good arguments for the thesis that "actual sentience is necessary" and the opposing thesis that "potential sentience is sufficient" (D. DeGrazia. 2012. *Creation Ethics*, pp. 29-31. New York: Oxford University Press).

DOES DEATH HARM PERSONS MORE THAN IT HARMS SENTIENT NONPERSONS?

A theoretical challenge

Death, I have argued, ordinarily harms sentient nonpersons in the same way that it harms persons: by depriving them of the goods their lives would have contained. Yet this thesis is compatible with the claim that death ordinarily harms persons *more* than it harms sentient nonpersons; for brevity, I will refer to this claim as ‘Death Harms Persons More.’ This claim may seem obvious. Whether or not it is obvious, how to justify Death Harms Persons More is not at all obvious.

Assuming death harms a dog, as I have argued, why should we believe Death Harms Persons More? A popular answer among philosophers appeals to persons’ allegedly superior *quality of life*. In Mill’s classic variant of this approach, persons have certain capacities that nonhuman animals lack, capacities that enable ‘higher’ pleasures (such as those associated with reading great literature), which count more in a calculus of well-being than the ‘lower’ pleasures (such as agreeable sensations) of which nonhuman animals are capable.⁷ Among types of value theories, Mill’s approach might be classified as mental-statist (hedonist), since it claims that well-being is a function of pleasures and their contribution to happiness. But, more saliently to our discussion, it could be classified as an objective-list account insofar as it asserts that pleasures come in qualitatively different types, whose intrinsic value is determined, objectively, by the capacity that enables it. Some objective-list thinkers detach claims of objective, intrinsic prudential value from any tie to hedonism. They can claim that human life typically has a higher quality than animal life because distinctively human capacities enable activities or modes of functioning (as opposed to pleasures) that count highly in an assessment of well-being. For the purposes of this article, I will include Mill and kindred thinkers among the group I refer to as *objective theorists*. They all, in some way, base claims of the superior quality of persons’ lives on assertions of ‘higher’ capacities, activities, or functionings.

We are considering possible grounds for Death Harms Persons More. Objective theorists defend this thesis on the basis of a claim that persons enjoy a higher quality of life than sentient nonpersons. Those who accept mental-statist accounts of prudential value – whether of a classical sort like Bentham’s or a more refined sort such as Sumner’s⁸ – are

⁷ J. S. Mill. 1861. *Utilitarianism*, chap. 2 (first published in *Fraser’s Magazine*)

⁸ See J. Bentham. 1789. *Introduction to Principles of Morals and Legislation*; and L. W. Sumner. 1996. *Welfare, Happiness, and Ethics*. Oxford: Clarendon. For reasons just explained, I am not counting Mill among mental-statist value theorists.

likely to find this claim dubious. There is no reason to believe that the *subjective* quality of life of a dog who is faring well is lower than that of a person who is faring well. Nor would it be to the point to say that persons, on average, live longer than dogs, allowing for a greater *quantity* of good once time of remaining life is factored in, for this factor will not apply in many cases. The judgment that death ordinarily harms a person more than a dog seems plausible even when their life expectancies are equal. Parallel points may be made about desire-satisfaction accounts of well-being. There is no reason to think that the life of a dog who is faring well features less desire-satisfaction – however quantities of desire-satisfaction may be determined – than the life of a person who is faring well. And, again, invoking the longer life-expectancy of persons misses the point.

One might expect, therefore, that theorists who defend Death Harms Persons More and avail themselves of the familiar resources of value theory would frequently invoke objective theories.⁹ I will remain agnostic on whether appealing to an objective theory can vindicate Death Harms Persons More. But here I will emphasize a major source of hesitation: *Even if the best account of well-being for human persons is an objective theory, it hardly follows that persons’ lives typically contain more prudential value than dogs’ lives*. There are at least two grounds for doubting the inference.

First, it would be erroneous to assume that persons’ lives contain all the valuable features of dogs’ lives (e.g., certain sorts of enjoyment) plus some that are especially valuable (e.g., highly intellectual achievements). Dogs’ lives contain many sensory riches that our lives lack.¹⁰ Moreover, while we have certain cognitive capacities that dogs lack, it is hardly obvious that the associated activities, functionings, or experiences deserve special weight in comparison with the greatest experiential riches of

⁹ I have encountered such reasoning more frequently in conversation than in published writing. But see, e.g., R. G. Frey. 1987. *Animal Parts, Human Wholes*. In *Biomedical Ethics Reviews*, J. Humber and R. Almeder, eds. Clifton, NJ: Humana; and J. McMahan, *The Ethics of Killing* 2002, pp. 194–198. Oxford: Oxford University Press. McMahan states that “the amount of good an animal loses by dying is typically much less than the good a person loses,” (p. 194). At the same time, McMahan’s innovative understanding of the harm of death is the source of the solution I endorse in the next subsection. For McMahan, therefore, there are two explanations for Death Harms Persons More. I am challenging the explanation that invokes an objective account of well-being.

¹⁰ A reviewer remarked that such sensory riches might not be very important to the dog’s well-being, adding that the critical matter was whether the experiences were *appreciated* by the animal and had some *meaning* to her. But to assume that such higher-order appreciation and ascription of meaning are critical is to beg the sort of question I am raising here; arguably, it is to over-intellectualize the sources of objective prudential value. Now, it is highly plausible that *enjoying* the sensory riches one experiences adds to one’s well-being, but dogs are clearly capable of enjoyments.

dogs' lives (e.g., auditory and olfactory ones) that our lives lack.

Permit me to venture a speculation about many of the philosophers who defend the sort of move I am rebutting: Those who judge that distinctively human activities, functionings, or experiences deserve special prudential weight are making at least one of two possible mistakes. One possible mistake involves unconsciously overvaluing what *they* are good at – certain intellectual activities – and then projecting their preferences, as values, onto the whole of sentient creation. That would be psychologically understandable – very ‘human’ – and would help to explain why this sort of judgment is so often advanced without any real argument. (It’s interesting and consistent with the present speculation that philosophers rarely cite athletic or other bodily feats as contributing greatly to prudential value. If they did, it would be immediately dubious that human forms of physical functioning are superior to those of animals.) Another possible mistake involves asking the question ‘Would I want to transform into a dog and have a dog’s life?’ and answering negatively as a basis for comparing the prudential value of personal and canine life. Proceeding this way represents a failure to take seriously enough the likelihood of status quo bias and identity-related concerns (as in ‘Being a dog is incompatible with who I am’) that can distort the thought-experiment.¹¹

A second factor casts further doubt on the inference from an objective theory that seems adequate for human persons to the judgment that human life is prudentially more valuable than the lives of dogs and other sentient animals: the possibility of different objective lists for different types of creature. For example, human persons may be well-off to the extent that they have deep personal relationships, live autonomously, understand reality, accomplish things that humans value, experience enjoyments, etc. Dogs, by partial contrast, may be well-off to the extent that they have emotionally close relationships with other dogs or humans, have reasonable liberty of move-

¹¹ A reviewer suggested that she or he could reach the judgment that human-typical goods contribute more than canine-typical goods to well-being without identity-related concerns or status quo bias. The reviewer claimed to have experienced “the main types of good experience that dogs have (eating, playing, giving and receiving affection, lying in the sun, and so on) and don’t think that more of those would come close to compensation for the loss of [other dimensions of human well-being such as humor, philosophical discovery, and artistic creation].” But this philosopher is making the error I warned about earlier: thinking that one’s own life contains the animals’ riches plus much more, and that one can mentally simulate the animal’s sort of life by subtracting the riches that are distinctively human. This thinking reveals an impoverished understanding of animals’ – in this instance, dogs’ – mental lives. No human being has had, for example, the experience of walking through the neighborhood and recognizing the unmistakable scents of dozens of familiar people and dogs. No human being has experienced the magnificent depths of auditory experience that dogs experience every day. See, e.g., A. Horowitz. 2010. *Inside of a Dog*. New York: Simon & Shuster.

ment and opportunities to engage in species-typical functioning, and experience enjoyments. It also seems plausible – if, in general, we accept an objective approach to understanding well-being – that the list for a highly solitary animal would not include any item having to do with social relationships. The well-being of each type of creature is plausibly thought to be determined by the sorts of functioning that are characteristic of the animal.¹² With this in mind, we can more easily see how presumptuous it would be to assert that a sentient animal’s life goes less well for her than a person’s life goes for him just because her life lacks certain items on the list appropriate for persons. A person who lacks close friends may be *ipso facto* less well off, but the same cannot be said for a creature who is solitary by nature.

One might reply that creatures who are solitary by nature are missing out on an important dimension of prudential good, even if they have no awareness of what they are missing, just as a person who is congenitally unable to appreciate music is missing out on a valuable type of experience.¹³ If this reply is correct, then along the same lines one might assert that human beings are missing out on the intrinsic value of seeing beautiful colors in the ultraviolet range and of experiencing beautiful shapes in five dimensions. Intelligent extraterrestrials who can see ultraviolet and perceive images in five dimensions might pity us for our inability to have such experiences.

It is instructive to consider the chief assumption underlying this reasoning: that there is a sort of *objective super-scale of prudential value*, by reference to which one can evaluate the well-being of every actual and possible creature in virtue of its realization of the items enumerated on the massive (infinite?) list. One might find, as I do, the sheer grandiosity of such a conception a reason to doubt it. It seems to require a standpoint of prudential evaluation that is so impartial as to be God-like, or Platonic Form-like. But, even if correct, the super-scale notion creates conceptual space for rebutting the thesis that typical human lives have greater prudential value than typical (nonhuman) animal lives. For, on the basis of this notion, one might reasonably judge that human lives are significantly impoverished because human beings cannot (1) soar through the air as birds can, (2) experience the riches of echolocation as bats and cetaceans can, (3) hear a large range of sound frequencies that dogs can hear, (4) swim rhythmically through waves while half-asleep as dolphins can, and so on. If human life is impoverished in these ways, then we have no business confidently assuming that our lives typically contain greater prudential value than the lives of, say, birds and mammals.

¹² Cf. M. Nussbaum. 2006. *Frontiers of Justice*, chap. 6. Cambridge, MA: Harvard University Press.

¹³ A reviewer suggested this reply.

Despite lacking a decisive argument against the idea of an objective super-scale of prudential value, I suspect that this idea is misguided. It seems to me more plausible that assessments of prudential value must be relativized to the sort of creature in question and, in particular, to the native capacities of such creatures. This picture avoids the Platonic grandiosity of the super-scale approach. On the basis of the more modest account, we may judge that the human being who lacks close personal relationships is missing out on something that is objectively, intrinsically valuable whereas the animal who is solitary by nature is not missing out for lacking such close relationships. We might also say that a dog who has several emotionally close relationships to other dogs or human companions is flourishing in the relationship dimension relevant to him even though, as a nonperson, he lacks close *personal* relationships. On this metaphysically modest picture, different objective lists are appropriate for different sorts of creature.

In this section, I have raised some doubts about the appeal to objective theories as a strategy for vindicating Death Harms Persons More. So far, we have considered the latter thesis by way of comparisons between the harm of death in the case of human persons and in the case of sentient nonhuman animals. But we may also compare the harms of death of human beings of different ages. We might think at first glance that death harms newborns more than it harms older human beings because it robs newborns of a greater quantity of (presumably comparable-quality) life. But the exact opposite seems correct. It is more plausible to judge that, while a newborn loses a great deal from dying, a person who is relatively young – say, five or ten or even twenty years old – suffers a greater loss if she dies. The young person's death is more tragic, not only to loved ones but also prudentially, than the death of a newborn.

Here I am reporting my intuitions, not citing opinion poll results. Not everyone shares these intuitions, but many people – including many philosophers and philosophy students – do share them. For any readers who do not share these intuitions, and will not even after I sketch their theoretical basis, we must simply disagree on whether death generally harms a child or young adult more than a newborn. But, if these readers believe that death harms a person more than a dog, then they bear the burden of explaining that judgment cogently – which is to say, much more satisfactorily than has been done to date. I submit that the approach that best explains why death harms persons more than dogs implies that death harms newborns *less* than some older human persons.

A solution

Hereafter I assume that death typically harms a 5-, 10-, or 20-year-old person more than a newborn. The general

approach that can account for this judgment has been called 'gradualism.'¹⁴ The more specific account that I defend is called *the time-relative interest account*, which was introduced by Jeff McMahan, who borrowed some general ideas from Derek Parfit.¹⁵ Here I will not defend the time-relative interest account (TRIA) beyond noting that it supports certain judgments that I have claimed to be plausible. The TRIA has been subjected to serious challenges, but I am assuming here that some variant of it is correct.¹⁶

The basic idea of the TRIA, applied to the harm of death, is that in determining how harmful a particular death is to the individual who dies, we must take into account not only (1) the value of the life that the individual would have had, had he not died at that point – what I've here called the net good of the life – but also (2) the extent to which the subject is psychologically related to his possible future life at the time he dies.

The TRIA discounts the harm of death to the subject, at the time of death, for any weakness in the psychological relations that would have connected the subject at that time with herself in the future. In effect, it denies that numerical identity – being one and the same individual over time – is the only prudentially important relation that one bears to oneself over time. According to the TRIA, psychological unity over time also matters. The degree of psychological unity over a stretch of time, or a whole life, is a function of (1) the proportion of the subject's mental life (e.g., persisting desires, beliefs, and personality traits) that is sustained over the relevant stretch of time and (2) the amount of internal reference between earlier and later mental states (e.g., memories of past experiences, anticipations of future experiences, the forming of intentions and later acting on them).¹⁷ The upshot is that when the psychological unity that would have bound an individual at the time of death to himself in the future, had he lived, is weak, death is less harmful to that individual than it would be in the case of a psychologically unified subject with a life of comparable net good in store.

The TRIA easily explains why the newborn's death, while constituting a great loss to her, is not as prudentially disastrous as the death of a young child who is old

¹⁴ For a resourceful defense of gradualism without commitment to a specific gradualist theory, see J. Millum. *Age and Death: A Defence of Gradualism*. *Utilitas* 2015 (published online first, March 2015: <http://dx.doi.org/10.1017/S0953820815000047>).

¹⁵ See McMahan, *op. cit.* note 9, esp. pp. 165-74, 232-40; and D. Parfit. 1984. *Reasons and Persons*, Part III. Oxford: Clarendon.

¹⁶ For challenges, see B. Bradley. *The Worst Time to Die*. *Ethics* 2008; 118: 291-314; J. Broome. 2014. *Weighing Lives*, chap. 17. Oxford: Oxford University Press, 2004. For a reply to these challenges, see Millum, *op. cit.* note 14.

¹⁷ McMahan also includes, as a third factor, the richness of mental life (*op. cit.*, note 9, pp. 74-74). I omit this factor because I am unsure that it can be relevant without reducing to the other two factors.

enough to have substantial psychological unity or of an adult young enough to have a long lifespan ahead of her. If we suppose the life expectancy for a human being is 80 years, the newborn loses virtually all of this life. But he has little or nothing in the way of memories, no plans for the future, and just a bit of mental life – such as persisting desires – carried from day to day. This observation justifies a substantial discount of the harm of death in her case. By comparison, a 5-year-old loses less human life, 75 years as compared with 80, but has much greater psychological unity than the newborn has. Indeed, the 5-year-old is clearly a person, so no discounting of the loss of these 75 years seems appropriate to me. A 20-year-old loses just 60 years, as compared with the 80 that the newborn loses, but is deeply psychologically unified so that the harm of his death should not be discounted. Although I do not know how to quantify appropriate discount rates, the basic idea I have sketched adequately accounts for the judgments that (1) the newborn is significantly harmed by death while (2) the 5-, 10-, or 20-year-old is more extensively harmed by death.

A few diagrams may help to convey the theoretical picture offered by the TRIA. Our discussion assumes that the harm of death involves deprivation. The subject who dies is harmed by the loss of good life that he would have had if he had lived. So the harm of death is a function of the value of the life of which the individual is deprived. With that starting point, everyone agrees that the value of the life that's lost is a function of the quality and the quantity of life in question. Quantity of life is measured in time. As for quality of life, everyone agrees that it is at least *partly* a function of the subjective quality of the life as it is experienced. That is, on any reasonable account of well-being, pain, distress, and suffering tend to make one worse off while enjoyment, satisfaction, and happiness tend to make one better off (even if other, non-subjective factors in a life also make its subject worse off or better off, respectively).

Those who hold a mental-statist view of well-being believe that the harm of death (HoD) is a function of two factors regarding the portion of life of which the subject is deprived:

$$(1) \text{ HoD} = (\text{Subjective } q. \text{ of life} \times \text{Time}) \text{ of life lost.}$$

Proponents of an objective theory, by contrast, embrace the above two factors, but add the factor of the objective quality of experiences, activities, or functionings, yielding this diagram:

$$(2) \text{ HoD} = (\text{Objective } q. \text{ of experiences, etc.} \times \text{Subjective } q. \text{ of life} \times \text{Time}) \text{ of life lost.}$$

Someone who accepts the TRIA should agree that one of the above two formulas captures *the value of the*

portion of life lost, from a whole-lifetime perspective. That is, had one not died when one did, one would have lived longer and would have gained the value expressed through the parenthetical portion of one of the two formulas (depending on which account of well-being is preferable). The TRIA's distinctive claim is that this value of a portion of a life, considered from a whole-lifetime perspective, must be multiplied by another factor – that of psychological connectedness between the subject at the time of death and the subject in the possible future (which, in fact, is lost) – to determine the harm of death. The acknowledgment of this additional factor explains our intuitions about the comparative harm of death without requiring an objective theory of prudential value. So the following formula might prove adequate:

$$(3) \text{ HoD} = [(\text{Subjective } q. \text{ of life} \times \text{Time}) \text{ of life lost}] \times \text{Psychological unity.}$$

Let's return to our comparisons of canine and personal death. To set aside the theoretically uninteresting factor of different lifespans between dogs and human beings, let's compare Bowser, who dies five years before he otherwise would have, and Gramma, who also dies five years before she otherwise would have. With the same quantity (time) of life lost, we may focus on just two factors: subjective quality of life and psychological unity as understood by the TRIA. The subjective quality of life that Bowser would have enjoyed and the subjective quality of life that Gramma would have enjoyed might be the same: They could have comparable degrees of enjoyment, contentment, and the like. Each loses five years of life of this subjective quality. Do we have to judge that Bowser and Gramma are harmed equally by their premature deaths?

Not if we embrace the TRIA. For Gramma – let's assume she is not demented and is psychologically unified in the way that is characteristic of persons – has much more psychological unity over time than Bowser has. She has a vast network of episodic memories and detailed plans for the upcoming years and, more generally, a rich self-narrative. Bowser probably has a richer mental life than some scientists and philosophers realize – a mental life featuring some episodic memories, some short-term intentions, and social self-awareness in relation to human family members and dogs in the neighborhood – but this degree of psychological unity over time is quite modest in comparison with Gramma's. Because Bowser is a nonperson, a reasonable estimation of his loss in dying prematurely must *discount* the loss of quality-times-quantity of life as it would be understood from a whole-lifetime perspective. (When there is the degree of psychological unity characteristic of persons, we treat the unity portion of the above formula as having a value of 1; when there is decreased psychological unity,

Table 1. *The Harm of Death for Different Sorts of Beings*

	<i>Is death a harm?</i>	<i>Why or why not?</i>	<i>If so, is the harm to be discounted by TRIA?</i>
Persons	Yes	Loss of good + deep psychological unity	No
Sentient nonpersons w/some psychological unity	Yes	Loss of good + some psychological unity	Yes
Sentient nonpersons w/no psychological unity (?)	Uncertain (if there are such beings)	Loss of good, but no psychological unity	Yes, if applicable
Potentially sentient beings	Uncertain	Uncertain loss of good + no psychological unity	Yes, if applicable
Never-sentient beings	No	No loss of good	N.a.

as with sentient nonpersons, the value is less than 1.) With this discounting, death harms Bowser less than Gramma. This verdict is plausible. And it does not depend on an objective account of well-being or dubious claims about the superior quality of human-typical experiences, activities, or functionings.

AN IMPORTANT IMPLICATION FOR ANIMAL RESEARCH ETHICS

I have defended two theses. First, on the strength of the deprivation account of the harm of death, I have argued that death ordinarily harms sentient nonpersons, including many animals. More precisely, death harms a sentient nonperson in those circumstances in which her continued life would have been worth living. (In a moment, I will consider a possible exception.) Second, on the strength of the time-relative interest account, I have defended Death Harms Persons More. In this section, I will extract two implications of these theses for animal research ethics.

One implication is the opposite of revolutionary. This is the implication of the second thesis that, insofar as the wrongness of killing is a matter of nonmaleficence, killing persons tends to be worse than killing animals – whether in the research context or in other settings.¹⁸ This is consistent with what most people already believe. Indeed, few animal advocates would disagree. On the other hand, the way in which I have justified this commonsense judgment – by invoking the TRIA – is significant.

A second implication is less obvious and has substantial practical importance. This is the implication of the first thesis that death harms any sentient animal whose continued life would have been worth living. Before exploring this implication, let us consider a possible exception: sentient animals who have no psychological unity over time at all. Maybe death does not harm them. But are there such creatures? Perhaps since sentience brings with it the capacity to feel pain, which is unpleasant, it also brings with it a desire not to be in pain – and such a desire would persist over time, conferring on any being who had it some nonzero psychological unity. That

strikes me as a plausible way to think about the matter. But, if I am mistaken and there are some sentient beings with no psychological unity whatsoever, then I remain agnostic about whether death harms them. Death does not harm them if the discounting justified by the TRIA (or some similar account) gives them a grade of 0 for psychological unity and then multiplies the value of life lost by 0. Another possibility is that sentience ‘gets one in the game’ as it were – so that the discounting due to lack of psychological unity does not entirely wipe out the loss entailed by death. I’m not sure what to say about such creatures, if there are any, and leave the topic for another time. (My uncertainty in the matter is reflected in Table 1: The Harm of Death for Different Sorts of Creatures.)

Importantly, the sorts of animals I’m discussing – such as most of our pets, farm animals, and most animals in laboratories and zoos – are sentient nonpersons who have some degree of psychological unity. So the puzzle I just introduced does not apply to them. The ethical upshot about the animals I’m discussing is that killing them is *pro tanto* wrong. If this implication were taken seriously in the context of animal research, it would have far-reaching practical significance.

Current animal research practice – at least in the United States, which conducts more animal research than any other nation – is consistent with the judgment that killing animals is not even *pro tanto* wrong. Naturally, euthanasia – mercy killing – is widely accepted to end otherwise inescapable suffering. This practice is compatible with the judgment that killing animals is *pro tanto* wrong because the *pro tanto* wrongness is overridden by the importance of relieving suffering. What seems incompatible with the judgment is the *routine* killing of animals at the termination of experiments. Leading documents for the care and use of laboratory animals underscore the importance of minimizing animal’s pain and distress, at least insofar as doing so is compatible with scientific objectives.¹⁹ This emphasis on experiential welfare supports the call for euthanasia where it is

¹⁸ If any nonhuman animals are persons, this generalization would not apply to them.

¹⁹ See, e.g. U.S. Department of Health and Human Services. 2015. *Public Health Service Policy for the Humane Care and Use of Laboratory Animals* (revised; accessible at <http://grants.nih.gov/grants/olaw/references/PHSPolicyLabAnimals.pdf>).

needed to minimize suffering. But nothing, or nearly nothing, in these documents speaks to the value of allowing those animals whose lives are worth continuing (making them inappropriate candidates for mercy killing) to continue living.²⁰ Animal sacrifice following experiments is routine. Its widespread practice and acceptance may reflect an assumption that animals, in general, lack any prudential stake in remaining alive. This assumption, stated differently, is that death *per se* does not harm an animal.

Another possibility, however, is that routine sacrifice of laboratory animals following experiments reflects not a judgment about death's (un)harmfulness but rather an extremely low estimation of animals' moral status. The idea would be that, because animals' interests – including their interest in living – don't matter much, it is permissible to kill them whenever keeping them alive would be expensive and inconvenient, as it surely would be if research animals were routinely kept alive and cared for until they died of natural causes. This is possible, but I doubt it fully explains the lack of attention to the issue of killing animals who are inappropriate candidates for euthanasia. After all, *if animals don't matter much, why place so much emphasis on minimizing their pain and distress?*

Animals are harmed by death whenever their lives are worth continuing. Moreover, on any reasonable view of moral status, animals matter in some nontrivial way and are not to be regarded as mere tools or resources for human advantage. If these two insights were taken to heart, I submit, we would no longer routinely sacrifice animals at the end of experiments.

One might counter my case against routine sacrifice of laboratory animals, however, with an argument that is compatible with the assumption that animals have some nontrivial moral status:

Argument for Routine Sacrifice. Following animal experiments, the only options are to release the animals into the wild, maintain them, or sacrifice them. Releasing them into the wild would expose these animals to various dangers (e.g. predators, disease, slow starvation) such that they would be better off humanely sacrificed. If they are instead maintained, they should be maintained only in conditions in which their lives are worth continuing; otherwise, they would be better off being humanely sacrificed. The problem is that *maintaining them in such condi-*

tions would be extremely expensive. Dogs, for example, have natural lifespans of twelve to fifteen years. They need regular exercise, stimulation, at least some companionship, and of course healthful food and, from time to time, veterinary care. It is plausible to expect that the additional expense of maintaining these research subjects would make the experiments involving them prohibitively expensive. However, because these animals are sentient nonpersons, death harms them less than it harms persons – as suggested by the TRIA. The lesser harm in their case in combination with the consideration of expense justifies a practice of routinely, but humanely, sacrificing animal subjects, following the termination of experiments.

This argument identifies several factors that deserve careful consideration: the realistically available options, the costs of maintaining animals, and the relevance of Death Harms Persons More. Nevertheless, I believe the Argument for Routine Sacrifice is unsound. Although I cannot here provide a comprehensive reply, I will advance a few considerations that should cast doubt on the argument's success. Before doing so, it bears emphasis that I am not trying to undermine the modest thesis that humanely sacrificing animal subjects, even when their lives would be worth continuing, is *sometimes* justified. My target is the defense of *routine* sacrifice.

One possible soft spot in the Argument for Routine Sacrifice (ARS) is the tacit assumption that the only important victim-centered consideration in the ethics of humanely killing sentient nonpersons is the degree to which they are harmed by death. That is not self-evident. Note that one who accepts Death Harms Persons More must acknowledge that, generally speaking (as discussed earlier), death harms human newborns less than persons. But it hardly follows – and I do not believe – that it is permissible to kill newborns when their lives are worth continuing, even if the costs of caring for them are very high. For one thing, the infant may be owed significant protection on account of being brought into the world in a state of utter vulnerability. Moreover, the infant is arguably owed a type of moral respect that precludes being sacrificed on consequentialist grounds. One or both of these considerations may apply to research animals, who, like human infants, are sentient beings brought into existence in a state of utter vulnerability. A third possible ground for protecting research animals, one that doesn't apply to human infants, is that the former have served – involuntarily – as research subjects for the common good.

This challenge to the ARS is more likely to resonate with those whose moral thinking is at least partly deontological (accepting obligations on the basis of special relationships, respect, or gratitude) than with those

²⁰ In the United States, the only exception of which I am aware concerns chimpanzees, who are generally permitted to live out their lives following experiments (see National Research Council. 1997. *Chimpanzees in Research*. Washington, DC: National Academy Press). For a more substantial exception involving at least cats, dogs, and primates, but not rodents, who constitute the vast majority of animal research subjects, see (European) Directive 2010/63/EU on the Protection of Animals Used for Scientific Purposes; accessible at <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32010L0063>.

whose thinking, at least about animals, is purely consequentialist (engaging considerations of harms, costs, and benefits, and accepting trade-offs among individuals). Two further challenges should give pause to deontologists and consequentialists alike.

First, the ARS neglects an option: *not doing the experiment*. If doing right by the animal subjects requires not killing them because their lives are worth continuing, and not releasing them into the wild because doing so would probably be worse for them than a humane death, then the costs of doing right by the animals may be very high, as the ARS claims. Then perhaps, all things considered, the experiment in question is not worth carrying out. Another possibility, of course, is that the experiment is so important that the high costs are worth bearing. For many years, the American biomedical community decided that research on chimpanzees was worth the cost *despite a commitment to maintain them in sanctuaries, rather than sacrifice them, following experiments* – a commitment that, not surprisingly, proved very expensive. More recently, it was decided that invasive experiments on chimpanzees were (with rare possible exceptions) not worth conducting, all things considered.²¹ The option of not conducting particular animal experiments, or experiments on certain types of animals, must not be overlooked.

An additional weakness of the ARS is that, in asserting very high costs to maintaining animal subjects following experiments, it uses the atypical example of dogs. The animals used most commonly in research, by far, are mice and rats. The lifespans of these animals are much shorter than those of dogs. Moreover, their psychosocial needs are not as complex as dogs' psychosocial needs. These comparisons are relevant to an assessment of the costs of maintaining rodents in conditions in which their lives are worth continuing. They suggest lower costs than in the case of dogs, weakening any cost-based argument for routine sacrifice.

My counterarguments to the ARS raise significant doubts about its soundness. They do not, however, refute the argument. Therefore, my defense of the thesis that we should discontinue the routine sacrifice of laboratory animals following experiments should be regarded as suggestive and partial rather than comprehensive and decisive.

CONCLUDING REFLECTIONS

In this article, I have defended two theses: (1) that death ordinarily harms a sentient nonperson by depriving the subject of the goods her life would otherwise have contained; and (2) that death typically harms a sentient non-

person less than it harms a person, as suggested by the TRIA.

Thesis (1) implies that death ordinarily harms sentient animals, contrary to an assumption that seems – at least at first glance – to underlie the routine sacrifice of laboratory animals at the termination of experiments. It also implies that infants are harmed by death despite not being deeply psychologically unified and not having any understanding of, and desires about, life and death. The same point applies to someone in the late stages of progressive dementia, if the subjective quality of life is positive. Or, more precisely and cautiously, in all cases in which human beings at either end of life have any psychological unity at all, then death harms them whenever their continued life would have contained net prudential good. It need not be the case that such a human being has a desire to continue living or the psychological unity characteristic of persons.

Thesis (2) vindicates the judgment that death harms human persons more than it harms nonhuman animals (with the possible rare exception of animals, if any, who are persons). What is unique about the present approach to this issue is not the verdict but its basis: the TRIA. This is important because, without the TRIA (or perhaps some other gradualist theory), it seems impossible for either mental-statist or desire-satisfaction accounts of prudential value to explain the comparative thesis and it is unclear, at best, whether objective accounts can do any better.

In addition to its theoretical explorations, this article has yielded one far-reaching practical implication (albeit one whose defense is only partial): that we should no longer routinely kill sentient animal subjects following the termination of experiments. Other practical implications will have to await other occasions.

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²¹ For a report that proved critically influential in this process, see Institute of Medicine. 2011. *Chimpanzees in Biomedical and Behavioral Research*. Washington, DC: National Academies Press.