



SUMMARY. Recent advances in biotechnologies – from regenerative medicine to targeted gene interventions – have made it plausible, at least in principle, that the human lifespan could be significantly extended. This development raises urgent philosophical questions about whether prolonged life would be prudentially desirable and morally permissible. This article provides a critical overview of philosophical themes concerning the badness of death in the context of life extension. Its goal is threefold: (1) to articulate a basic prudential argument for the desirability of life extension grounded in the deprivation account of the badness of death; (2) to respond to several objections to this view, which revolve around the claim that the finitude of life is itself valuable; and (3) to identify the external limitations of the account defended by considering it against the backdrop of more substantive social, technological, and distributive considerations. While deprivationist reasoning generally supports the desirability of extending life for individuals whose lives are, on balance, worth living, broader practical and ethical concerns (e.g., fairness of access, demographic pressures, and technological risks) qualify this conclusion. A complete ethical assessment, therefore, must involve both the intrinsic desirability of life extension and the feasibility of realizing it in a way that is just and sustainable.

KEYWORDS: life extension, badness of death, deprivationism, Epicureanism, bioethics.

INTRODUCTION

Recent advances in biotechnologies – from regenerative medicine to targeted gene interventions – have made it plausible, at least in principle, that the human lifespan could be significantly extended. While numerous formidable scientific and safety barriers remain, the possibility that at some point in the future aging could be slowed, halted, or delayed raises urgent philosophical questions that cannot be settled by empirical developments alone. Whether it would be good for a person to live significantly longer than is currently possible is inherently a normative question. It concerns how we understand the value of continued existence, the meaning of death, and the conditions under which additional years might enhance or diminish

the goods that make one's life worth living. Philosophers and bioethicists have already begun to consider whether life extension would be desirable and morally permissible, and what its broader consequences might be if it were to become a reality.¹

In this essay, I will not take a definitive stance for or against life extension. A straightforward binary conclusion risks distorting what is in fact a multifaceted issue. As Rosa Rantanen observes, one may approve of some forms or implications of life extension but reject or remain neutral about other aspects, depending on how they intersect with personal values and social contexts (Rantanen 2013: 35). Neither will I attempt to provide a comprehensive resolution of the sprawling ethical debates concerning longevity science, for that would not be possible. My aim is therefore more modest: to offer a critical and integrative overview of existing philosophical themes concerning the badness of death in the context of life extension. More specifically, the present paper considers whether life extension is prudentially desirable and what moral constraints might bear on it, given the practical challenges involved. To that end, the paper proceeds in three steps: (1) it articulates a basic prudential argument for the desirability of life extension grounded in the deprivation account of the badness of death; (2) it critically assesses several objections to this view, which revolve around the claim that the finitude of life is itself valuable; and (3) it identifies the external limitations of the account defended by considering it against the backdrop of more substantive social, technological, and distributive considerations.

I begin by clarifying key terms and concepts and then proceed to examine the question of whether prolonging life is, *ceteris paribus*, desirable when considered purely from one's prudential perspective. This issue is closely tied to the question of the badness of death, which I approach through a lens informed by both Epicurean and deprivation-based arguments. In my view, this perspective generally supports the desirability of life extension for individuals whose lives are, on balance, worth living. I then turn to what we may call "the wisdom of mortality" thesis, exemplified by arguments presented by Leon Kass. According to Kass (2003; 2004; 2009), there are prudential reasons against prolonging one's lifespan, including the worries that life extension would yield little additional happiness, erode meaning, aspiration, and love, diminish the motivation to create art, and hinder the development of moral nobility and virtue. I argue that his objections are generally unpersuasive and therefore do not significantly alter the initial judgment in favor of life extension.

¹ For examples of related discussions, see Davis (2018), Haker et al. (2021), Häyry (2011), Post et al. (2004), and Sutton (2009).

Finally, I situate the account defended within a broader set of practical concerns by providing a brief overview of the main social, political, and distributive challenges that life extension would entail. While life extension is often desirable under straightforward deprivation-based considerations, this verdict comes with significant qualifications once social effects and risk trade-offs are taken seriously. The analysis suggests that, in the absence of convincing principled objections to extended life, the central ethical burden lies in determining whether the social and technological conditions under which life extension might be realized would be just and sustainable. Issues such as the fairness of access, demographic pressures, and potential risks associated with emerging biomedical interventions could ultimately outweigh the inherent desirability of extending life in practice, should adequate solutions fail to materialize.

CONCEPTUAL AND TERMINOLOGICAL CLARIFICATIONS

Before turning to the main argument, several conceptual and terminological clarifications are in order. The first concerns the concept of death itself. In this paper, I will treat death as *the first moment at which the subject ceases to exist*. In this sense, death marks the point beyond which one is no longer capable of having experiences or accessing the goods that make existence valuable.

Any such definition of death inevitably presupposes an account of what it means for a subject to exist in the first place – a question complicated by the long-standing philosophical debate over the nature and persistence conditions of personal identity. For example, some philosophers adopt psychological criteria, on which a person's continued existence depends on certain psychological relations, such as the continuity of beliefs, memories, desires, and personality traits (Locke 1689; Hudson 2001). Others defend biological accounts that tie identity to the spatiotemporal continuity of the living organism (Mackie 1999). There are also hybrid views that combine both psychological and physiological elements (most famously, Parfit 1984), as well as dualist theories that ground personal identity in an immaterial soul (Swinburne 1984).

On some of these accounts, biological death (understood as the irreversible cessation of all vital functions of the organism) may not coincide with death in the stronger metaphysical sense defined above. For instance, on certain dualist conceptions, the human soul survives the demise of the body. While it is impossible to do justice to these complexities here, we may, for methodological purposes, assume that (1) human existence is temporally bounded and potentially terminable, and (2) the cessation of human existence corresponds, at least roughly, to biological death – a plausible assumption on most psychological, physiological, and hybrid

accounts of personal identity. This allows the discussion to remain focused on the value of earthly goods and on what makes human life go well in this world without entangling ourselves in metaphysically contentious and, indeed, highly diverse views about post-mortem survival.²

As for the concept of life extension, it too is far from straightforward. As a hypothetical, one could imagine a biomedical intervention that merely prolongs biological survival in a state of severe decline. In a strictly conceptual sense, that too would qualify as life extension. Yet this is not the kind of extension typically envisaged by its proponents. The expectation is rather that future biotechnologies would enable human beings to lengthen their healthspans (years of healthy living) rather than just their lifespans, maintaining a sufficient level of mental and physiological functioning to support a life of good quality – ideally by halting or even reversing senescence. What is at stake, then, is not mere biological prolongation driven by the desire to persist indefinitely, but the prospect of *meaningful* life extension – i.e., extending the period during which a person can continue to access and enjoy the goods that make life worthwhile.³

Finally, “life extension” does not entail immortality. Metaphysical immortality (i.e., the impossibility of death) is not under consideration here. Biological immortality (i.e., the absence of senescence), by contrast, would still leave individuals vulnerable to death from disease or accident, not to mention that it remains far more speculative than the mere prolongation of the human lifespan and healthspan. For present purposes, it may also be helpful to distinguish between modest and radical forms of life extension. Modest extension refers to an increase of up to several decades beyond the current typical lifespan, whereas radical extension would involve lifespans stretching far beyond historically normal limits – conceivably even for centuries. Since most philosophical discussions explicitly or implicitly concern the radical form, I will generally have that concept in mind in what follows. In short, life extension, as discussed here, envisions human lives that are considerably longer and healthier than they currently are, yet still ultimately finite.

² Alternatively, one might be tempted to construe death as radical transformation, in line with the concept of transformative experience (Paul 2014), and then wonder whether it can make sense to desire or avoid a phenomenal state that lies beyond our comprehension. In this article, however, death is treated as a limit concept rather than as an epistemically or experientially open state. Accordingly, the potential badness of death is better framed in terms of loss relative to the counterfactual of continued life, rather than through an attempt to evaluate death as a state from the subject’s perspective.

³ This stance on life extension is sometimes referred to as “prolongetivism” – see Rantanen (2013) and Overall (2003).

ESTABLISHING THE INITIAL POSITION: THE BADNESS OF DEATH

The question of whether life extension would be desirable or morally permissible has gained prominence in bioethical discussions due to advances in fields like biotechnology, regenerative medicine, and computational biology. Some pathways that show promise for considerably longer and healthier human lives include gene editing, pharmacological interventions, and the replacement of organs or tissues,⁴ whereas more speculative approaches involve digital continuation of human consciousness through “mind uploading.”⁵

The shift in attitude toward biological death – from an inevitable fact of life to “possibly just another medical problem” – began in the second half of the twentieth century propelled by discoveries in molecular biology (e.g., the DNA double helix; see Watson and Crick 1953), the rise of organ transplantation, identification of cellular senescence (Hayflick limit, 1961), and other scientific breakthroughs. While the technologies necessary for significant life extension remain under development, the philosophical and ethical questions they raise are already considered pressing. Indeed, this concern was articulated as early as the 1970s by Hans Jonas:

Death no longer appears as a necessity belonging to the nature of life, but as an avoidable, at least in principle tractable and long-delayable, organic malfunction. A perennial yearning of mortal man seems to come nearer fulfillment. And for the first time we have in earnest to ask the question “How desirable is this? How desirable for the individual, and how for the species?” (Jonas 1973: 46).

In responding to Jonas’s invitation to reflect on these matters, the question of death’s badness becomes central. Is death really something we should try to resist for as long as possible? Or, conversely, is the value of life in some way tied to its finitude? And what exactly, if anything, makes death bad from a prudential point of view?

⁴ Genes influence not only physical traits but also susceptibility to various diseases and, importantly, the process of senescence. For this reason, extensive research is being carried out on how human genes could be modified to improve health and delay aging. The promise of this approach is illustrated by experiments in which a single genetic manipulation extended the lifespan of mice by around 50% (Brown-Borg et al., 1996; Ladiges et al. 2009). Life extension through pharmacological interventions is another active avenue. Certain compounds, such as the diabetes drug metformin, exhibit anti-aging effects, while rapamycin has been shown to extend the lifespan of mice by up to 40–45% and to protect them from age-related diseases, including cancer (Selvarani, Mohammed, and Richardson 2021). Regenerative medicine and prosthetic research further expand the possibilities, offering ways to replace failing organs with younger biological tissues – whether produced through cloning, embryonic stem cells, or bioprinting – or with advanced prosthetic devices. Human-animal hybrid research also shows promise, particularly in the creation of chimeric species that could serve as organ sources for transplantation (Cooper and Lanza 2000), though this avenue raises significant ethical challenges.

⁵ Mind uploading, or whole-brain emulation, is a hypothetical procedure in which the structure and functional organization of a human brain are mapped and reproduced in a computational substrate. The goal is to replicate the relevant neurocomputational processes so that the individual’s mental states, memories, and cognitive capacities could, in principle, continue to exist digitally (Bostrom 2014).

Given the methodological assumptions adopted, the relevant question is how death should be assessed from within a broadly naturalistic framework – one in which death is final and irreversible, marking the end of the subject’s persistence as a person. This issue has a long philosophical lineage, with the great ancient Greek philosopher Epicurus’s thesis that “death is nothing to us” serving as the classical point of departure. More specifically, in his “Letter to Menoeceus,” Epicurus claims the following:

Accustom yourself to believe that death is nothing to us, for good and evil imply awareness, and death is the privation of all awareness; therefore a right understanding that death is nothing to us makes the mortality of life enjoyable, not by adding to life an unlimited time, but by taking away the yearning after immortality... Foolish, therefore, is the person who says that he fears death, not because it will pain when it comes, but because it pains in the prospect. Whatever causes no annoyance when it is present, causes only a groundless pain in the expectation. *Death, therefore, the most awful of evils, is nothing to us, seeing that, when we are, death is not come, and, when death is come, we are not.* It is nothing, then, either to the living or to the dead, for with the living it is not and the dead exist no longer (Epicurus 1910: 1; emphasis added).

This is an intriguing and provocative line of thought, one that runs counter to one of our most natural and deep-rooted fears: the fear of death. While Epicurus’s conclusion is stark, it continues to influence contemporary debates on end-of-life issues (Taylor 2012). To examine the argument more carefully, we can reconstruct it in the following syllogistic form:

- A. A harm (or good) to a person is only possible if the person is capable of awareness.
- B. But death is the permanent absence of awareness; when death occurs, the person no longer exists.
- C. Therefore, death cannot be a harm (or good); hence, in that sense, it is “nothing” to us.

Let us consider each premise in turn. One initial worry about the first premise is that individuals who lack awareness at some moment – with “awareness” broadly conceptualized as the ability to feel, perceive, or in any way undergo experience – may later regain it, in which case harms or goods could still befall them. But since the argument concerns *death*, the relevant notion of awareness can be specified so as to include cases of temporary loss with no repercussions to the premise.

An additional concern is that death plainly harms the friends and family of the deceased. Nevertheless, this point does not bear on the premise under scrutiny, because the premise is restricted to the *prudential* standpoint of the individual whose death is in question. Such secondary harms may matter for a broader assessment of death’s overall badness, but they do not undermine the claim that for something to be good or bad for a person, that person must be capable of awareness.

With these clarifications in place, we can now move toward a firmer statement of the first premise. The key idea behind it is fairly straightforward: in order for something to count as good or bad *for* a person, there must be some intelligible connection between that state of affairs and the individual whose welfare is at issue. For example, if we treat suffering as intrinsically bad, then anything that brings about my suffering is, other things being equal, bad for me. Conversely, if some occurrence leaves me entirely untouched, both directly and through any indirect causal chain, it becomes difficult to see how it could improve or diminish my well-being. In that situation, to use Epicurus's language, it is quite literally "nothing" to me. Taken in this minimal sense, the premise is difficult to dispute: if something genuinely makes no difference to you, it cannot plausibly count as affecting your welfare.⁶

Having established the first premise, we can now turn to the second. The claim that death is the end of awareness follows directly from the adopted definition. To revisit the conceptual terrain, death and non-existence are not identical, but they are nevertheless closely related. Death is the boundary point at which the subject's existence ceases; non-existence, by contrast, does not inherently presuppose ever having existed in the first place. But what matters for present purposes is that non-existence cannot, strictly speaking, be a state the subject is in, nor one in which the subject could undergo anything. There is no standpoint from which "you" could be affected, benefited, or harmed.

If death is understood as the limit marking the first moment of non-existence, then it cannot, conceptually, include subjective awareness. And without awareness or any subject capable of being in that state, it becomes difficult to see how death⁷ can be intrinsically good or bad for the person who dies. This is precisely the point Epicurus presses: once existence ends, so too does the possibility of being in a condition that could ground prudential evaluation.

⁶ There is, however, a familiar caveat. Some philosophers hold that people can be harmed even in the absence of any experiential impact – for instance, by being betrayed without ever learning about, or even through posthumous events that frustrate their interests or desires (Kamm 1993: ch. 1). One response, consistent with Epicurean commitments, is simply to deny that such cases involve genuine harm. But there is also a more ecumenical response, one that I would favor, which is to argue that these alleged non-experiential harms are not relevant counterexamples in the context of assessing the badness of death. Consider the case of posthumous defamation. Suppose false and degrading claims are spread about a person after they have died. Some would regard this as a harm in a loose, posthumous sense. But now compare it with an otherwise identical case involving a living person who never becomes aware of the defamation and remains entirely unaffected by it. If we judge both cases to involve the same kind of wrong, as I think we should, this suggests that whatever "harm" is present does not depend on the person's being alive or dead. If this is right, the most we may need to concede is that the first premise could be qualified to allow for certain exceptions like posthumous harms. But even on that concession, any harm death itself might be thought to cause does not seem analogous to posthumous harm.

⁷ Death in the relevant sense should not be conflated with the process of dying, which can be – and often is – painful.

Epicurus’s “death as nothingness” thesis is often contrasted with deprivationism – the view that death is bad for the deceased because it deprives them of future goods they would otherwise have enjoyed (Mitchell-Yellin 2024). Carl Tollef Solberg and Espen Gamlund (2016: 3), for instance, note that both Epicureanism and deprivationism acknowledge that death can involve losses for others, but only deprivationism accepts the possibility of loss for those who die, and they ultimately defend deprivationism as the more plausible position. As I see it, however, the two views need not be placed in such a stark opposition as they often are. Epicurus is right that death has no positive features and therefore cannot be intrinsically bad. What remains open is whether death might nonetheless be bad in an instrumental or comparative sense – and this is precisely the space in which deprivationism operates.

The idea behind instrumental badness (or goodness) is that something can be harmful or beneficial not in itself, but in virtue of bringing about or taking away that which is intrinsically bad or good. This is where the distinction between death and non-existence becomes crucial. Unlike non-existence, death necessarily presupposes a loss – namely, the loss of one’s life and everything it contains. The relevant question, then, becomes whether one’s life would have been good had it continued, and the answer to it varies from person to person. Thus, considered instrumentally, death may or may not be bad for you; it depends entirely on the value your continued life would have had.

Since people generally fear death and affirm that they would prefer not to abandon their loved ones, life projects, and sources of meaning, it seems reasonable to conclude that, by default, life extension is desirable for many – not because death is intrinsically bad, but because it deprives people of future goods they reasonably expect to enjoy. Of course, there may be cases in which an extended life would be burdened by severe health conditions, such as intractable suffering, total loss of autonomy, irreversible cognitive decline, and the like. In such circumstances, the question becomes more complicated. But in general, those who are at least moderately content with their lives would plausibly favor life extension, especially if increased lifespan is accompanied by an extended healthspan.

The upshot of this view is that death is bad as a deprivation. On one level, it allows us to agree with Epicurus that death is “nothing to us” intrinsically; on another, it captures the intuitive sense in which death is nevertheless troubling – namely, that it deprives us of a future of value. Because the account articulated accommodates both of these central considerations, it strikes me as a defensible position to adopt. If this outlook is correct, it follows that life extension will often be desirable, given that most people judge their lives to be worth living and can offer reasons in support of that judgment.

Deprivationism can be divided into the typical version and Nagel's version (Mitchell-Yellin 2024). On the typical version, the badness of death is contingent and can be measured in terms of the loss of particular goods, such as discrete experiential states that are deemed valuable (e.g., Luper 2021; Egerstrom 2021: 93). Nagel's version is associated with deprivationism as articulated by Thomas Nagel in his seminal paper "Death" (1970). Proponents of Nagel's version, like Benjamin Mitchell-Yellin (2024), hold that the loss of experience itself is bad in addition to – but also wholly apart from – the positive content of the experience. This makes death necessarily bad in a pro tanto sense. In what follows, I will generally assume the typical version.⁸ However, since Nagel's version does not deny that future value resides in the contents of positive experiential states, but merely adds the further claim that the capacity for experience is valuable in itself, prudential arguments that appeal to the value of experiential contents apply to it no less. Indeed, insofar as Nagel's view treats the loss of experience itself as a further deprivation, the overall prudential case for life extension is, if anything, even more substantial on his account.

Are there any solid objections to deprivationism? While the view relies on assumptions that can be challenged, I have anticipated some potential concerns in the way the discussion has been framed, whereas certain other possible objections amount more to practical complications that do not refute deprivationism in principle.⁹ A more philosophically substantive challenge comes from Shelly Kagan in his influential book *Death* (2012). Kagan examines the deprivation account in light of what he calls the existence requirement, which holds that prudential harms

⁸ Contrary to Nagel, I find the claim that death is bad in part because experience is good in itself to be insufficiently motivated. A life entirely devoid of value and disvalue, or one in which the overall balance of valuable experiential states fails to outweigh negative ones, strikes me as prudentially no more preferable than non-existence. As I see it, the goodness or badness of death depends solely on whether the individual would, if they had survived, have undergone experiences of positive value rather than experiences marked predominantly by suffering (see also Feldman 1991 for a related position).

⁹ To give some examples, deprivationism is often contrasted with Epicureanism, though, as noted previously, the respective assumptions underlying the two approaches could be deployed to address different aspects of the problem of death's badness (intrinsic vs. instrumental). There is also the well-known symmetry argument by Lucretius (2001), which roughly states that the time after we die is nothing to fear because it is analogous to the time before we were born, which was nothing to us. While Lucretius approaches the issue from a slightly different angle than Epicurus, his argument similarly emphasizes death as nothingness and therefore would only pertain to its intrinsic dimension in my analysis. Regarding the possibility that deprivationism could render death good in some cases, this is unproblematic. Indeed, the literature on the ethics of assisted suicide is legion, with many philosophers affirming not only that death can be potentially good but that it is actually good in certain extreme cases (see MacKinnon and Fiala: ch. 10). Finally, a practical complication that does not challenge deprivationism in principle is the point raised by Walter Glannon (2001: 163), who argues that the human brain may be unable to sustain psychological connectedness indefinitely. Once enough time passes, specific connections like memories, personality traits, and intentions that tie one moment of consciousness to another could break down, possibly undermining the persistence of personal identity over time. If this were true, it would arguably reduce the quantity of future goods that death deprives us of, making the deprivation not as bad as it would have been otherwise. However, it does nothing to undermine the core implication of deprivationism, which is that the goods a person would have experienced had they continued living would have benefited them.

and benefits necessarily presuppose the existence of the subject (Kagan 2012: 216). He distinguishes between two versions of this requirement: the modest and the bold. The modest version states that “something can be bad for you only if you exist at some time or the other,” whereas the bold version states “something can be bad for you only if you exist at the *same* time as that thing” (Kagan 2012: 222). Since my account of the badness of death relies on the deprivation of goods that a person would have experienced only after they cease to exist, it presupposes the modest version. However, this incompatibility alone does not provide a decisive reason to reject the bold version of the existence requirement.

So what, then, is the problem with it? According to Kagan, the conclusion it entails – namely, that death is not bad for us – seems unacceptable, which prompts him to consider the modest version instead (Kagan 2012: 222, 223). While I agree with Kagan that the bold version should be rejected, I think the objection against it can be sharpened by highlighting its counterintuitive implications. For instance, under the bold version, it may not be rational to prefer a longer, happier life over a shorter one, despite the clear prudential appeal of more life and experiences. Similarly, it implies that the timing of death is irrelevant: dying at twenty would be no worse than dying at seventy. By insisting on simultaneity between existence and harm, the bold version effectively denies that future goods – the experiences, achievements, and relationships a person might have – bear on the badness of death. This approach clashes sharply with ordinary intuitions: we typically regard the premature death of a young person as a greater tragedy than the death of someone who has lived a long, fulfilling life.

But does the modest version fare any better? Kagan is skeptical. He claims that both options available to the deprivationist are implausible (Kagan 2012: 224). Why does he think the modest version suffers from comparable difficulties? He invites us to consider the following thought experiment:

Now imagine that instead of living 50 years, the person lives only 10 or 20 years and then dies. That’s clearly worse still. Think of all the extra goods he would have gotten if only he hadn’t died so young. And if I caused him to die after 20 years instead of 50 or 90 years, I’ve made things worse. Next, imagine that I caused him to die after one year. That’s worse still. All of this is perfectly intuitive. The shorter his life, the worse it is for him, the more he’s deprived of the good things in life. In short: Ninety year life, not bad. Fifty year life, worse. Ten year life, worse still. One year life, worse still. One month life, worse still. One day life, worse still. One minute life, worse still. One second life, worse still. Finally, imagine that I bring it about that the person never comes into existence at all. Oh, that’s fine. *What?* How can that be fine? But that’s the implication of accepting the modest existence requirement (Kagan 2012: 224).

Kagan's thought experiment vividly illustrates how deprivationism tracks increasing losses of future goods, while also capturing a potentially problematic implication concerning the continuity of harm relative to future goods deprived. But is this consequence really detrimental to the modest existence requirement?¹⁰

The seeming paradox appears to be as follows: as we progressively truncate a life, the deprivation gets worse and worse; yet, according to the modest requirement, the ultimate truncation – the failure to instantiate the person at all – suddenly becomes neutral. What I see as misleading here is treating the transition from “a shorter life” to “no life at all” as merely a further quantitative decrease as opposed to a structural one.

Deprivation is fundamentally a comparative relation: it compares the life a person actually has with the life that same person would have had under some relevant counterfactual. When I say that X's death at fifty deprived X of thirty years of goods, my claim presupposes a person who exists and whose life could have been longer. By contrast, “never existing” does not merely refer to a shorter life – it is the absence of any subject to whom a counterfactual continuation could be attributed in the first place. In other words, the truncation or removal of successive spans of a life presupposes a persisting subject that is being made worse off, whereas non-existence removes the subject altogether. These appear to be different kinds of cases, and it is their conflation that produces the oddity Kagan wants to emphasize. Our ability to imagine “someone who never existed” and to treat that imagined individual as though they could have been deprived merely reflects what our imagination can do – it does not constitute a genuine prudential comparison.

To be sure, I do not deny that impersonal or population-level evaluative claims are meaningful – for example, we can coherently compare possible worlds by reference to numbers and distributions of lives, as we have done in population ethics (e.g., consider Parfit 1984 and the famous “repugnant conclusion”). But those impersonal comparisons operate with a different evaluative logic and do not seem to constitute counterexamples to the deprivationist claim about what it is for death to be bad *for someone*. Statements about having “to feel sorry for the unborn billion billion billions” (Kagan 2012: 221) are linguistically coherent but risk distorting our moral intuitions, because terms such as “non-existent people,” “potential people,” or, in this case, “the unborn” do not in fact refer to any individuals who could, in a strict logical sense, have suffered a loss of any kind. Once we come to this realization, the alleged implausibility of the deprivation view dissolves.

¹⁰ As a side note, it is not clear that a human organism only a second or a minute old can meaningfully be said to be deprived of anything, given its lack of psychological life. Indeed, some philosophers argue that psychologically meaningful life begins only with the onset of self-consciousness, which does not occur until well after birth (see Singer 1993; Tooley 1974). Nevertheless, the crux of Kagan's argument could still apply to cases in which only a second or a minute has passed after the conditions necessary for personal identity (whatever exactly those may be) have been met.

What lessons does this analysis offer for the ethics of life extension? I believe that on a deprivationist view, we have strong reason to desire longer lives: extending our lifespans allows us to realize additional goods, such as time with family and friends, as well as various projects, pleasures, and pursuits that we cherish. Of course, there might be circumstances in which a person's future prospects are so bleak that continued existence would bring only suffering. In such cases, death may be instrumentally good insofar as it prevents further misery. But for those who have no strong reason to anticipate an imminent and irreversible slide into a life not worth having, it is entirely reasonable to want to continue living.¹¹

LEON KASS AND THE *WISDOM OF MORTALITY* THESIS

Although deprivationism offers a strong prudential rationale for welcoming life extension, it does not by itself show that extending one's life is always prudentially desirable whenever the added years would, on balance, be good. One might wonder whether there are valuable features of our finitude that, in some cases, could outweigh the badness of death. Among those who argue that foregoing life extension may be the wiser course, few have pressed the point more forcefully than Leon Kass, who warns against "man playing God" (Kass 2003: 10), claims that life extension threatens our humanity (Kass 2004: 305), and characterizes the desire to prolong youthfulness as childish and narcissistic (Kass 2003: 24).

Kass's arguments are especially relevant here for two reasons. First, they do not rely on controversial metaphysical theses about death – rather, they operate within broadly naturalistic assumptions consistent with those in this paper. Second, they bear directly on the implications of deprivationism: the considerations identified by Kass could, in theory, counterbalance the loss of prudential goods that make death bad. In his essay "L'Chaim and Its Limits: Why Not Immortality?" (2004), Kass presents four such arguments, each intended to show that life extension is largely undesirable and that, in some sense, there is wisdom in human mortality. Let us examine them in turn.

Kass's first objection to life extension concerns interest and engagement. He argues that additional years would be unlikely to yield much additional happiness, suggesting that familiar pleasures would eventually sour through repetition. As he puts it:

If the human life span were increased even by only twenty years, would the pleasures of life increase proportionately? Would professional tennis players really enjoy playing 25

¹¹ Accordingly, all else being equal, it makes prudential sense to prefer modest life extension to none, and radical life extension to modest extension.

percent more games of tennis? Would the Don Juans of our world feel better for having seduced 1,250 women rather than 1,000? Having experienced the joys and tribulations of raising a family until the last had left for college, how many parents would like to extend the experience by another ten years?" (Kass 2004: 312).

Even if this line of thought feels relatable, it faces at least two serious problems. First, it rests on a mistaken standard for assessing the desirability of life extension. Even if the pleasures of life did become somewhat less vivid or exciting over a longer lifespan, it simply does not follow that extending life would cease to be worthwhile. On the deprivation view, life extension is desirable only if the additional years would, on balance, contain more good than bad – not because the extended period would need to match the intensity or freshness of earlier life. I would argue that a modest or even moderate decline in the joys of life would not undermine the prudential rationale for continuing to live.

Second, Kass's empirical assumption about diminishing joy seems doubtful. It is entirely plausible that many of the activities we find meaningful or fulfilling would continue to enrich our lives over an extended lifespan as well. Kass's examples rely on an image of monotonous repetition, as though a longer life merely extends the same handful of experiences into a tedious loop. But, as Adrian Bunn aptly observes,

Kass is perhaps overlooking the fact that we don't normally live our life by mindlessly repeating a single activity until it has been done to death, if it is something that we truly enjoy and appreciate then we rationally spread out the activity so that it is repeatable and the pleasure we get out of it renewed every time (Bunn 2014: 51).

Of course, even cherished activities may eventually lose their appeal, and Kass may be right about this; however, his arguments hardly support his conclusion. If one pursuit becomes stale, we can replace it with new ones – take up new hobbies, explore new places, cultivate new relationships, etc. In that respect, life extension may actually enhance personal development by affording more time for reinvention and growth. Additionally, it is unclear how Kass's worry is supposed to guide real-world decisions. I would maintain that even if the long-term joys of life were uncertain, the sensible course would nonetheless be to extend our lives and find out rather than accept death – an irreversible option – based on speculative predictions about future boredom.

Kass's second argument concerns the alleged loss of seriousness and aspiration. He writes:

Could life be serious or meaningful without the limit of mortality? Is not the limit on our time the ground of our taking life seriously and living it passionately? To know and to feel that one goes around only once, and that the deadline is not out of sight, is for many people the necessary spur to the pursuit of something worthwhile (Kass 2004: 313).

To reinforce the point, Kass appeals to the contrast between mortals and the Greek gods: eternally youthful, beautiful, and effortlessly secure, the gods nevertheless drift through existence as shallow spectators of mortals, whereas human finitude, Kass claims, provides the spur that drives us forward. As he puts it, “mortality makes life matter” (Kass 2004: 313).

Nevertheless, this argument fares no better than the first. In responding to Kass, both Bunn (2014: 51–52) and Andrea Sauchelli (2014: 4) appeal – albeit in slightly different ways – to Bernard Williams’s distinction between conditional and categorical desires (Williams 1973). Conditional desires are the kind of desires whose significance depends on one’s continued existence. They include survival-driven needs such as eating and drinking, as well as various short-term pleasures. Such desires can be satisfied by attaining their objects, but they can also simply evaporate – for instance, when one learns that death is imminent and recognizes that the objects of these desires no longer matter (e.g., food, comfort, sensory pleasures, and the like). Categorical desires are fundamentally different in that they presuppose survival rather than being contingent on it. They usually take the form of future-oriented projects and commitments that structure a person’s life and identity: raising a family, completing a book, advancing in one’s career, helping others, and so on. These are the desires that give us reasons to continue living, and they are not easily extinguished by the mere awareness that death is approaching. This distinction already undercuts Kass’s central claim: from the standpoint of how individuals actually find meaning, it is categorical desires that do the real explanatory work, not mere finitude.

Does life extension in any way conflict with the presence of categorical desires? It does not. While it is uncertain whether an indefinite chain of such desires is possible, it is plausible that at least some categorical desires are renewable (i.e., they might re-emerge as circumstances change; Bunn 2014: 67) and that the range of meaningful activities available to humans is rich and open-ended enough to sustain enough categorical desires for more than a single lifetime. Sauchelli (2014: 4) invites us to consider possibilities such as space travel or the discovery of new galaxies, and he is right to note that the future is replete with other valuable and inspiring pursuits.

More importantly, Kass’s argument does not apply to any realistic scenario of life extension. Even if our lifespans were radically prolonged – or even if we achieved biological immortality – we would still fall short of metaphysical immortality, remaining susceptible to disease, accidents, violence, and other forms of misfortune. Ultimately, we would remain finite and vulnerable, and that is not going to change just because of life extension. It is therefore doubtful that longer lifespans

would ever induce the kind of existential complacency that Kass attributes to the fictional Greek gods.

The third argument given by Kass concerns beauty and love. Concerning beauty, he wonders:

Perhaps only a mortal being aware of his mortality and transience and vulnerability of all natural things, is moved to make beautiful artifacts, objects that will last, objects whose order will be immune to decay as their maker is not, beautiful objects that will bespeak and beautify a world that needs beautification, beautiful objects for other mortal beings who can appreciate what they cannot themselves make because of a taste for the beautiful, a taste perhaps connected to awareness of the ugliness of decay (Kass 2004: 313–314).

He then extends the point to love, asking rhetorically: “How deeply could one deathless ‘human’ being love each other?” (Kass 2004: 314).

As with his second argument, Kass treats biological immortality as though it entailed genuine, metaphysical immortality – a conceptual conflation with significant consequences already noted above. Setting that aside, one could reasonably maintain in response to Kass that aesthetic appreciation and artistic creation are rooted in human nature, not in our mortality (for example, see Arnhart 1998: 35–36).¹² If so, living longer would not extinguish our engagement with art; if anything, it would provide more time to pursue artistic undertakings. Furthermore, it is doubtful that our appreciation of art is grounded primarily in reflections on our finitude rather than in the work of art itself – its perceptual, conceptual, and expressive qualities, along with the enriching experience it offers. With respect to love, Sauchelli rightly observes that many religious believers hold that they will enjoy an eternal afterlife, and yet it would be absurd to infer that they are therefore incapable of profound love (Sauchelli 2014: 3). This makes it highly implausible that mere knowledge of extended lifespans would diminish the depth or capacity of love.

In the passage about beauty and love, Kass poses a series of rhetorically charged questions in evocative, almost literary prose, but this comes at the expense of rigorous argumentation. He never explains what it is about love that makes it possible only among finite beings. Instead, he appears to rely on the fact that life extension would change certain conditions and then treats that difference as sufficient to

¹² One might respond by arguing that life extension itself constitutes an alteration of human nature. However, this response faces two problems. First, it is unclear how a mere increase in longevity would so radically transform the qualitative features of human nature as to render it no longer human. Second, it provides no clear explanation for how life extension would eliminate the desire for aesthetic pleasure from the resulting “new” human nature. While transhumanist philosophy often envisions radical human modifications – such as cognitive or physical enhancements, artificial body parts, or expanded sensory capacities alongside life extension (More and Vita-More 2013) – the extension of life by itself does not inherently entail such changes.

reach conclusions about specific issues, such as love, without demonstrating a clear connection. In my view, the end result is an argument that feels underdeveloped, largely impressionistic, and therefore unconvincing.

Kass's fourth and final argument focuses on virtue and moral excellence. He frames it as follows:

To be mortal means that it is possible to give one's life, not only in one moment, say, on the field of battle, but also in the many other ways in which we are able in action to rise above attachment to survival ... We free ourselves from fear, from bodily pleasures, or from attachments to wealth – all largely connected with survival – and in doing virtuous deeds overcome the weight of our neediness; yet for this nobility, vulnerability and mortality are the necessary conditions (Kass 2004: 314).

Once again, the argument follows a now-familiar pattern, and my response remains the same: life extension through biotechnologies will not eliminate our vulnerability and mortality. Even with substantially longer lifespans, we would still face real risks. We could still make genuine sacrifices – risking our lives to save another (indeed, the stakes might even be higher), giving significant portions of our wealth to worthy causes, preserving the natural environment, etc. As John Harris notes, life extension might even enable us to perform such virtuous deeds in greater quantity (Harris 2002: 89).

Kass's claim that mortality and vulnerability are necessary for moral excellence also seems questionable. Indeed, they are not jointly necessary: a mortal but otherwise invulnerable person could still risk their life in the ways Kass describes, while a genuinely immortal yet vulnerable individual (e.g., still capable of suffering or sustaining bodily harm) could still act altruistically at the expense of their own welfare. One might argue that being both immortal and invulnerable could limit the range of moral actions available (though it remains an open question whether it would diminish the moral virtues one already possesses), especially if everyone else were similarly superhuman. Yet such scenarios drift far into the realm of fantasy, ignoring the very promise of real-world biotechnologies that Kass explicitly intended to address in his essay.

In sum, none of Kass's four arguments offers compelling support for the claim that life extension is undesirable for the individual. His first two arguments, which concern an alleged erosion of hedonic motivation, meaning, and aspiration, may serve as cautionary reflections. However, their assumptions are doubtful and ultimately too speculative to guide any serious practical deliberation, especially regarding something as irrevocable as forgoing additional years of life. The remaining two arguments fare no better: the appeal to beauty and love is thinly developed and largely unsupported, while the argument from moral excellence draws heavily on an unrealistic picture of immortality. In fact, a persistent conflation of extended

or even biologically indefinite lifespans with genuine, metaphysical immortality undermines virtually all of Kass's claims. Theoretically, it might be possible to take arguments designed for the latter case and adapt them to the former, but only with careful attention to the categorical differences involved. Without such distinctions, the arguments read less like rigorous analysis and more like rhetorical cover for a predetermined conclusion.

LIFE EXTENSION IN PRACTICE: COLLECTIVE COSTS AND RISKS

In the preceding sections, I have argued directly and by responding to objections that life extension is generally desirable. That is to say, for individuals who have good reason to expect additional years of life to remain worthwhile, extending life is prudentially sensible as it enables them to secure more goods that make life valuable and meaningful. Here, one could go a step further and add that individuals are thought to possess the moral freedom to make decisions about their own bodies, health, and futures, and choosing to undergo life-extending interventions would naturally fall within that sphere of personal authority.

Yet individuals do not live in isolation. We inhabit social systems in which personal choices can have extensive and sometimes unintended consequences for others. A familiar liberal constraint applies here: one's freedom to pursue a desired course of action is limited by the rights and legitimate interests of others. In the same way, what is prudentially sensible at the individual level may be subject to significant moral constraints once situated within real social contexts that involve finite resources, institutional pressures, and large-scale effects. To bring this into focus, I will first sketch some of the major practical challenges that widespread life extension would likely confront if the relevant biotechnologies became feasible.¹³

One key challenge concerns the biological risks associated with gene editing. As Glannon notes, "there are biological and moral reasons to carefully consider the implications of exploiting this technology on a broad scale to extend the lives of people in the present and future" (Glannon 2002: 339). His central worry is that the kinds of genetic interventions required for significant life extension, such as inserting modified telomerase genes into the germline or reconstituting embryonic stem cells to slow senescence, could disrupt evolutionary filtering mechanisms and increase the prevalence of deleterious mutations early in life (Glannon 2002: 339).

This concern is amplified by the unresolved regulatory and safety challenges surrounding contemporary gene-editing tools (Li et al. 2025). Even when the intended modification is benign, current methods may introduce unintended changes

¹³ For a comprehensive discussion of each of these challenges, see Davis (2018).

(e.g., off-target edits, mosaicism, or subtle developmental disruptions) that manifest only much later. Germline interventions aimed at altering fundamental traits, such as aging, engage with exceedingly complex biological systems and propagate their effects across generations. As commentators have stressed, the long-term risks may remain undetectable for decades or even centuries (Lanphier et al. 2015). In such a scenario, future generations – who cannot consent – may bear the costs of present-day ambitions, potentially facing increased risks of disease, impairment, or premature death as the downstream consequence of our attempts to engineer longevity. The moral stakes of gene-editing-based life extension are therefore high.

A second major challenge is the specter of overpopulation. This concern has been repeatedly emphasized in bioethics literature. Glannon argues that substantial increases in longevity would likely intensify demographic imbalances and strain resource distribution, leading to increased competition for food, water, and energy while placing an unsustainable burden on younger cohorts to support an increasingly long-lived population (Glannon 2001: 153). John Davis similarly discusses what he calls the “Malthusian objection,” according to which large-scale adoption of life-extending biotechnologies could yield population growth of such magnitude that the resulting ecological and economic pressures would be severe (Davis 2005: 29; 2018: ch. 6).

Although Davis stops short of concluding that individuals should be prohibited from choosing life extension, he concedes that the demographic effects may become profoundly problematic. Peter Singer echoes this point, observing that if we were to develop a drug that dramatically slows aging, “since people are living twice as long, there will soon be more people than the world can support” (Singer 1991: 138–139). Given that unchecked population growth can trigger cascading harms – including freshwater scarcity, depletion of natural resources, intensified climate change, habitat collapse, and elevated risks of epidemics – any pathway to widespread life extension would require careful planning and safeguards.

A further set of concerns centers on the broader social and economic pressures that large-scale life extension could generate. As noted earlier, Glannon argues that a dramatic shift in age distributions may make it increasingly difficult for younger generations to bear the financial and caregiving burdens associated with a much larger elderly population. Daniel Callahan voices similar concerns, arguing that it would be unfair for the very old to impose disproportionate economic demands on the young, who would be responsible for supporting expanded social security and healthcare systems (Callahan 2004). Callahan also highlights several additional structural effects: extended lifespans would likely reshape patterns of employment and career mobility; they would complicate the design of equitable healthcare systems in which citizens hold different expectations about longevity;

and, in his view, redirecting medical research toward sustaining the lives of the old would divert limited resources away from more pressing public health needs (Callahan 2004: 556–559).

Distributive justice and fairness of access constitute yet another major challenge. Life-extension technologies, particularly in their early stages, are likely to be both scarce and expensive, making them accessible only to a privileged minority. Given existing global inequalities, uneven access to such transformative interventions – arguably candidates for being classified as basic goods – would generate profound social and political disruptions. Some of the consequences identified in the literature include the emergence of “longevity castes” distinguished by biological advantage (Harris 2002: 71), widening gaps between wealthy and poor nations with life extension exacerbating already stark global inequalities (Wareham 2016), reduced opportunities for younger cohorts in professional, cultural, and political spheres where long-lived incumbents could entrench their positions (Fukuyama 2002), and others.

Of course, all of these concerns come with important caveats. The biological risks highlighted above primarily arise from germline modification and certain high-risk somatic interventions. Yet, life extension may turn out to be technologically plural (e.g., purely somatic or pharmacological approaches that avoid heritable genetic changes may prove safer and more tractable). The concern about overpopulation, while serious in principle, presupposes fertility rates high enough to generate explosive demographic growth and the absence of effective mechanisms to control such growth. However, fertility rates have fallen below replacement level in much of the world (Davis 2018: 112), and population growth could be further managed by limiting reproduction, especially among individuals who choose to extend their life spans (Davis 2018: 130).

Arguments grounded in social and economic pressures often rely on a picture of overly static institutions confronted by dynamic technologies. Even so, societies do routinely adapt pension systems, labor-market structures, and healthcare financing in response to shifting demographics. Life extension would undoubtedly intensify these pressure points, but it is far from clear that they would be unmanageable. Glannon’s and Callahan’s fears about disproportionate burdens on younger cohorts assume that added years will largely be years of frailty. This assumption becomes questionable if life-extension interventions also delay or mitigate age-related decline.

Similarly, concerns about distributive justice, while morally troubling, may not justify denying or severely restricting access to life-extension technologies merely because they cannot be made available to everyone at the outset. Additionally, a range of redistributive mechanisms and access-regulating policies – approaches that

are commonly used in healthcare – might be available to mitigate or prevent the most severe inequities.

While the caveats acknowledged temper the force of individual objections in different ways, the practical challenges remain significant, far-reaching, and ethically heterogeneous, forcing us to weigh and balance different values. Precise solutions remain difficult to anticipate due to both deep scientific uncertainty and the moral complexity of the trade-offs involved. What does seem clear is that these issues demand careful anticipatory reflection well before any such technologies become widely available.

CLOSING REFLECTIONS: THE ETHICAL LIMITS OF DEPRIVATIONISM

How do the practical challenges discussed impinge on deprivationism as defended in this essay? On the one hand, the implications of deprivationism, along with the normative assumptions it defends, support the view that life extension will often be prudentially desirable and therefore worth pursuing. A significantly increased lifespan would be a radical transformation in the human condition, providing new opportunities for valuable experiences and goods. Similarly, considerations of bodily autonomy reinforce the view that individuals should, other things being equal, be free to pursue life extension.

On the other hand, practical concerns expose the external ethical limits of deprivationism. Allowing individuals to extend their lifespans could have profound, far-reaching consequences. This does not render deprivationism irrelevant, but it requires weighing the goodness of life extension and the freedom to pursue it against significant risks: the potential harms of specific biotechnologies, ecological and demographic pressures from population growth, and the novel economic, socio-political, and distributive challenges that may arise. Moreover, the practical risks do not merely threaten to override the expected future goods but also modify them: for instance, overpopulation, decrease in social stability, and reduced ecological quality could themselves lower the value of future goods. In such cases, the prudential advantage that deprivationism ascribes to extended life narrows – not because it falters as a theory, but because the world it evaluates itself becomes less conducive to generating valuable future goods. Thus, while these practical challenges do not undermine deprivationism as a theoretical model, they do shape the ethical implications that follow from it in practice.

The outcome of this ethical balancing between prudential benefits and practical risks is uncertain and likely to remain contested; it may depend on our ability to mitigate the attendant risks once these technologies are within our reach. Broader considerations of collective welfare will inevitably enter the calculus, as they do in

cases where individual rights are suspended to prevent grave collective harm, such as in wars or pandemics. While the overall ethical picture remains complex, some contours are emerging. Prudentially, life extension is desirable, and deprivationism yields a pro tanto reason to continue research toward the requisite technologies. The moral permissibility of their deployment, however, hinges on our capacity to manage the risks involved and devise adequate safeguards. Whether such solutions are achievable in practice remains an open and pressing question.

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GYVENIMO TRUKMĖS PRAILGINIMAS IR MIRTIES BLOGUMAS: DEPRIVACIONISTINIS
POŽIŪRIS IR JO RIBOS

SANTRAUKA. Nauji laimėjimai biotechnologijų srityje – nuo regeneracinės medicinos iki tikslingų genetinių intervencijų – suteikia teorinių prielaidų manyti, kad žmogaus gyvenimo trukmė ateityje galėtų būti ženkliai prailginta. Ši galimybė verčia atsisukti į skubius filosofinius klausimus apie tai, ar ilgesnis gyvenimas būtų išmintingas ir moraliai priimtinas pasirinkimas. Šiame straipsnyje yra pateikiama jau esamų filosofinių temų, susijusių su mirties blogumu gyvenimo trukmės pratęsimo kontekste, kritinė apžvalga. Straipsnio tikslas yra trilypis: (1) pateikti pirminį prudencinio pobūdžio argumentą už gyvenimo trukmės prailginimą, grindžiamą deprivacijos koncepcija paremta mirties blogumo teorija; (2) atsakyti į kelias prieštaras šiai pirminei pozicijai, grįstas nuostata, kad gyvenimo baigtinumas yra savaime vertingas; (3) identifikuoti straipsnyje ginamos teorijos išorines ribas analizuojant ją platesniame socialinių, technologinių ir distribucinių aspektų kontekste. Nors deprivacijos teorija paremtomis prielaidomis galima grįsti poziciją, kad gyvenimo trukmės prailginimas yra naudingas tiems, kurių gyvenimo kokybė yra santykinai gera, platesnio pobūdžio praktiniai ir etiniai klausimai (pavyzdžiui, teisingo prieinamumo galimybės, demografinis spaudimas ir technologiniai rizikos veiksniai) šią išvadą apriboja. Tad išsamus problemos etinis vertinimas turėtų apimti tiek gyvenimo trukmės prailginimo savaiminį geidžiamumą, tiek jo teisingo ir tvaraus įgyvendinimo galimybes.

RAKTAŽODŽIAI: gyvenimo trukmės prailginimas, mirties blogumas, deprivacionizmas, Epikūro filosofija, bioetika.