

Science Should Extend the Human Lifespan Indefinitely

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For most of human history, lifespans were relatively short and most people died from causes unrelated to aging. In today's industrialized world, however, people live much longer—so much so that aging eventually kills around 90 percent of the population. This is because the biological changes associated with aging underlie most diseases. It makes no sense, then, that medical science and public policy focus all of their research efforts and funding on diseases such as cancer and heart disease, rather than seeking a cure for aging. Aging should be seen as a disease in itself. Preventing the suffering and death that are the direct consequences of the aging process is well worth any societal consequences that might arise. The only ethical thing that science can do is pursue a cure for aging so that life can be extended as long as possible.

It has been obvious to me since my earliest days that the eventually fatal physiological decline associated with getting older is both tragic and potentially preventable by medical intervention. It was, therefore, a matter of some consternation

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to me to discover in my late twenties that my view on this matter was not universally shared. In this essay I explode various myths and illogicalities that surround the effort to combat (and especially to defeat) aging, with an emphasis on some that are often perpetrated by currently influential commentators.

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Cancer is undesirable. Heart disease is undesirable. So are type 2 diabetes, Alzheimer's and a thousand other debilitations that predominantly afflict those over the age of 40. Is it not then bizarre that we should have any hesitation in declaring that aging in general, being the molecular and cellular root cause of all these phenomena, is just as deserving of the attention of our medical research efforts?

There is, in fact, a simple psychological explanation. Until very recently, aging has been regarded by all credentialed biogerontologists as far too complex to be substantially postponed within the lifetime of anyone currently alive. Indeed, this remains the majority view, with the present author one of a still rather small (though growing) minority who perceive a way forward. This being so, it makes good psychological sense to find some way to convince oneself that aging is all for the best, and thus to put it out of one's mind, rather than to spend one's life preoccupied with one's grisly and inescapable fate. The fact that such rationalizations are stunningly irrational from a purely objective standpoint is irrelevant.

The Pro-aging Myth

Unfortunately, irrational rationalizations only work for as long as we can suspend our disbelief. As a result, some of the world's finest minds have gained great prominence by articulating excuses for aging that sound convincing to those des-

perate to be convinced. A pro-aging message presented as a moral or sociological *fait accompli* [irreversible fact] is a crutch, allowing its recipients to divert their attention to less unsavory matters.

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But, of course, the authors of these arguments don't see it that way—not least because they believe their own arguments just as sincerely as their followers do. Hence the rest of this essay.

In the Greek myth of Tithonus, the (mortal) eponymous Trojan warrior won the heart of the (immortal) goddess Eos. Being too junior a deity to be able to immortalize her lover, Eos asked Zeus to do this—but “forgot” to ask that Tithonus also be eternally youthful. He thus became ever more frail and decrepit, such that eventually Eos had no choice but to turn him into a grasshopper.

The survival of this myth is a shining example of the pro-aging trance in action. The idea that a postponement of death might occur without a postponement of aging is plainly arbitrary (as well as biomedically absurd—being frail is risky and always will be), yet it is the presumption made unquestioningly in the story—and, as those who have raised such matters with the public know well, equally unquestioningly in the knee-jerk reactions of many when called upon to contemplate radical life extension.

Why Postpone Aging?

Erudite commentators tend to avoid this error in its grossest form, but subtler versions of it abound. The most dangerous one is with regard to the *motivation* for intervening in aging. Let us consider some reasons why one might want to postpone aging:

1. to live longer
2. to let others live longer
3. to avoid debilitation/disease/dependency in later life
4. to let others avoid debilitation/disease/dependency in later life

The only realistic approach to greatly postponing bad deaths is to combat aging itself.

Even once it is accepted that the postponement of death will probably be achieved only by the corresponding postponement of frailty, apologists for aging are often keen to cast the wish for a longer life as an ignoble, even unmanly desire. The controversial nature of this starting point has an insidiously indirect effect: it distracts attention from the fact that even if this wish *were* ignoble, the conclusion that we should not strive to defeat aging does not follow. The unstated assumption in this form of the Tithonus error is twofold: firstly that those who wish for aging to be defeated wish it for the putatively ignoble first reason, rather than for the more unassailably noble others, and secondly that the merits of such-and-such a future scenario depend on why people strove to bring it about. I myself am much less motivated to combat aging by selfish desire than by humanitarian incentives, not least because I know that I can only alter the life expectancy of a particular individual (myself, say) by a small amount through my actions, whereas on a global scale I may save a phenomenal number of lives. But even if most pro-longevists *were* driven by a personal desire to live for centuries, and even if for the sake of argument we were to agree that this is not a noble motive, so what? Good deeds done for “invalid” reasons are still good deeds.

Biomedical Wishful Thinking

There once was a time when most deaths were from causes unrelated to aging—predation, starvation, hypothermia, etc.

In today's industrialized world, such deaths are in the minority: aging kills around 90% of us. But some deaths from aging are widely held to be worse than others. Particular importance is often attached to the amount of time spent in a frail state before death: dying in one's sleep in the absence of chronic disease and at an age somewhat (but not too much!) in excess of the prevailing average is considered "a good death" with which doctors should perhaps not interfere, whereas the protracted suffering endured by many elderly today (especially with the rise of Alzheimer's disease) is a worthy target of medical intervention. This leads to the refrain that we should prioritize "giving life to years, not just years to life." As with the Tithonus error above, this position is predicated on a miasma [a poisonous atmosphere] of arbitrary assumptions and distractions.

Firstly, it is distinctly unclear whether a sick person's life is any less valuable (hence, worthy of sustaining) than a robust person's. After all, no less an icon of contemporary moral philosophy than President George W. Bush stated in connection with the [Terri] Schiavo case [which involved the legality of removing a feeding tube from someone in a persistent vegetative state] that "it is wise to always err on the side of life." Note again the paradoxical utility of a controversial aspect of a position in distracting attention from aspects that are more unequivocally indefensible.

The question humanity must face up to is clear: is the prevention of the suffering currently associated with most deaths from old age valuable enough to justify the inevitable side effect of radically increased lifespans?

Secondly, the views of the victim of a "good death" tend to be forgotten once that death has occurred. Prevailing quality of life (and perception of near-term future quality) bears heavily on many people's interest in self-preservation—and

why should it not?—so those who have been getting quite a lot out of life right up until last night might, were their opinion sought, hesitate to join the consensus that it wasn't such a bad thing that they didn't wake up this morning.

Thirdly, the Tithonus error is equally erroneous when inverted. Just as being frail is risky, so being robust is not risky: people who are not in the advanced stages of one or another age-related disease will mostly not die until they are, whatever their chronological age. . . . There are, of course, easy ways to change that—discontinue the supply of influenza jabs to the elderly, for example—but such approaches have not found favor with the general public (nor, it might be noted, with geronto-apologists) in the past and show no sign of doing so in the future.

Delaying Death Means Increasing Life Expectancy

The practical fact is that, of the three categories of death enumerated at the beginning of this section (early, “bad” late and “good” late), society seems committed to delaying all three. The only issue is the relative priority that should be given to delaying one versus another—and this must be evaluated in the context of foreseeable biomedical reality, not fantasy. Specifically, those who fear the consequences of a dramatic delay in both types of late death are engaging in profound intellectual dishonesty if they ignore the fact that meaningful compression of morbidity—that is, selective postponement of bad death and consequent increase in good deaths, without much change in life expectancy—is biomedically implausible. Rather, they must accept the fact that the only realistic approach to greatly postponing bad deaths is to combat aging itself, and that this will correspondingly postpone good deaths, thereby—unless we deliberately eschew measures to prevent early deaths, as noted above—greatly raising life expectancy, with all that that entails.

The question that humanity must face up to is clear: is the prevention of the suffering currently associated with most deaths from old age valuable enough to justify the inevitable side effect of radically increased lifespans? The question is not whether that side effect is good or bad—a question on which opinions will surely remain divided for some time to come. The question, rather, is whether that side effect is *so* bad as to outweigh the benefits of eliminating aging-related suffering. Dodging this question is unacceptable—and thus, for those who profess to dispense wisdom on ethical matters, it is unforgivable.

The Feasibility and Desirability Argument

Suppose we were to devise a feasible anti-aging intervention that, once developed, would postpone both good and bad late deaths by a modest but non-trivial amount—ten or twenty years, say. Suppose, further, that both the development and the provision of this intervention were very expensive. The ethical arguments against such expenditure are far more reasonable than those that I have demolished above. Specifically, one might point to the much more limited improvement in overall quality of life (because, since early deaths would still be in the minority, the average time spent debilitated before death would be unchanged). One might defensibly conclude that the societal drawbacks of such a measure—increasing the rich/poor health divide, in particular—outweighed these much more modest health benefits, and even the very large economic benefits of keeping the population healthy for longer.

This has proven an irresistible temptation to gerontologists, and the following script has been repeated ad nauseam. When presented with the moral unassailability of the quest to defeat aging entirely, they overwhelmingly present arguments against *modest* postponement of aging instead, quietly eliding [leaving out] the distinction and portraying the reality as the worst of both worlds (the downsides of radical

life extension with only the upsides of modest life extension). When confronted with their error, they retort that dramatic postponement (even defeat) of aging is “clearly” infeasible and thus not an appropriate topic for discussion. When it is pointed out that their certitude on this matter belies the fact that they are bioethicists, not biogerontologists, they point to the clear consensus of public statements of biogerontologists, which indeed centers on the feasibility of modest life extension but the infeasibility of defeating aging. When reminded that biogerontologists would say that, wouldn’t they (since they are funded mainly by taxpayers, who suffer from the pro-aging trance that conservative bioethicists work so hard to perpetuate) reply that the existence of bad reasons to say something doesn’t imply the non-existence of valid reasons. When directed to the concerted and spectacularly unsuccessful attempts made by vested-interest-driven prominent biogerontologists to explain to neutral experts why the defeat of aging is infeasible they merely repeat the same reply—for that is all they have.

This tactic can be summed up succinctly. Gerontologists simultaneously hold, and alternately express, the following two positions:

- They refuse to consider seriously whether defeating aging is feasible, because they are sure it would not be desirable;
- They refuse to consider seriously whether defeating aging is desirable, because they are sure it is not feasible.

Like a child hiding in a double-doored wardrobe, they cower behind one door when the other is opened, then dash to the other when it is closed and before the first is opened. Only when both doors are flung open in unison is their hiding place revealed. They are both well and truly open now, and the time when this sleight of hand was effective has passed.

Fearmongering and Implausible Deniability

A venerable rhetorical tactic in the promotion of fragile positions is to raise in the audience's mind the specter of some terrible consequence of the opposing position without actually spelling it out. Unnerving questions are asked—but then, rather than answers offered, the subject is changed, leaving the concern to fester in the subconscious. The author escapes, however, with the knowledge that if challenges are raised to the validity of these concerns he can resort to the claim that he never actually said that.

The fact that efforts to postpone human aging will definitely not bear much fruit for at least a few decades is held as a reason to deprioritize such efforts in favor of combating already preventable problems.

This tactic has been all too evident in prominent analyses of whether we should combat aging. I will use as my illustration the chapter "Ageless Bodies" from the President's Council report *Beyond Therapy*, but readers will notice abundant echoes of other writings. The litany of obfuscation begins by exploiting the terminological ambiguity of the word "ageless" with observations such as "An ageless body is almost a contradiction in terms, since all physical things necessarily decay over time." Many pages are then devoted to detailed discussion of various age-retarding measures that have already been demonstrated in the laboratory, without mention of the fact that no credentialed biogerontologist currently claims that any such technique will ever deliver genuine agelessness.

By contrast, no space whatever is given to the work being done on bona fide regenerative medicine, which is the only approach that truly does have such potential. This confusion is amplified when ethical matters are turned to, e.g. with the stage set by declaring that the idea is to extend the working lifetime of all bodily functions by the same *finite* amount

(thus allowing the fear to be raised that some would be extended longer than others). Then the fearmongering can begin in earnest. Preposterous propositions such as that “Our dedication to our activities, our engagement with life’s callings and our continued interest in our projects all rely to some degree upon a sense that we are giving of ourselves, in a process destined to result in our complete expenditure” are articulated; but then, rather than being quixotically defended (and their absurdity thus exposed), they are sidestepped—“This is not to say that [a life lived devoid of that sense] will be worse—but it will very likely be quite different”—and a new topic hastily begun. The same tactic is repeated over and over again: boredom, childlessness, meaning, families, creativity and more are introduced and then left hanging, with no explicit conclusions asserted, thus distracting the reader from the text’s naked bias of emphasis of the risks of radical life extension over the benefits. . . .

Urgency, Reflective Equilibrium, and Repugnance

When thoroughly cornered on the question of whether the defeat of aging would be a good thing, geronto-apologists generally turn as a last resort to the cry “Okay, but first things first!” The fact that efforts to postpone human aging will definitely not bear much fruit for at least a few decades is held as a reason to deprioritize such efforts in favor of combating already preventable problems.

It is trivial to expose the ethical bankruptcy of this position. We lock people up for the same amount of time if they kill people with a gun or with a booby-trap bomb, even though the interval between the murderer’s action and the victim’s death differs by several orders of magnitude in the two cases. The same irrelevance of that interval applies to the saving of lives, since action and inaction are morally indistinguishable. We are close enough today to defeating aging that

serendipity does not define the timeframe: the sooner and harder we try to do it, the sooner we'll succeed. Thus, our inaction today costs lives—lots of lives.

Old people are people too, so aging must be seen for what it is: a scourge that deprives far more people of far more healthy years than any other.

Time was when we didn't lock people up for either such crime: we executed them. That tradition has been roundly rejected across almost the entire developed world, as have slavery, sexism, racism, faithism, homophobia—and, with the notable exception of this essay's subject, ageism. Our view of what is and is not repugnant evolves by a process best described by [American philosopher John] Rawls, with the name "reflective equilibrium," in which logical contradictions between simultaneously held values are progressively highlighted and resolved by the abandonment of the less central one.

Old People Are People Too

[Bioethicist Leon] Kass has courageously defended an academically unfashionable position that I personally share, which ethicists call "non-cognitivism" and he called "the wisdom of repugnance." In this view, one's gut feeling regarding the ethical status of an action is not something to be meekly subordinated to logic, because the very existence of that feeling constitutes evidence of its ethical correctness. However, the beauty of reflective equilibrium is that it works for cognitivists and non-cognitivists alike: one needs no belief in the existence of objective morality to appreciate that one's moral stance on all matters should be logically consistent.

Thus, it is the duty of opinion-formers on ethical matters to work to accelerate the reflective equilibrium process: to identify and highlight internal contradictions in conventional moral wisdom so that the competing views can battle it out.

In the case of radical life extension, since the equivalences noted above (action/inaction, ageism/discrimination, saving/extending lives) are so fundamental, the odds are rather heavily stacked against the pro-aging position's survival of this process. The title of this essay really says it all: discrimination of any sort is passé. Old people are people too, so aging must be seen for what it is: a scourge that deprives far more people of far more healthy years than any other. Aging, in a word, is repugnant, and we would be wiser to follow Kass's general maxim than his specific conclusion. To persist in defending aging is psychologically excusable—fear of the unknown is a reasonable emotion, in particular—but it is ethically inexcusable.