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The urgency dilemma: is life extension research a temptation or a test?

Aubrey D.N.J. de Grey
Methuselah Foundation, Cambridge, UK
Email: aubrey@sens.org

Abstract

The prospect of greatly postponing, or even reversing, the aging process has in recent years moved emphatically from the realms of science fiction to being science foreseeable. While many differences of opinion between experts remain concerning likely timeframes, an increasing number of specialists in the biology of aging (including the author) now take the view that we (a) know enough about the molecular and cellular basis of aging, and (b) possess versatile enough tools for modifying cells and molecules, that aging may well come within range of effective medical intervention within the lifetimes of many people alive today. In this essay I will explore some of the issues that this raises for people in general and Christians in particular. I will focus especially on what I feel the Christian ethical framework says about the rights and wrongs of developing life-extension medicine and thereby postponing death.

The pro-aging trance

Anti-aging medicine is big business, despite being a blatant misnomer. Why is this and does it matter?

The above questions will not form the basis for the bulk of this essay, but they are key aspects of the background information on which I will build. The fact that so many people choose to spend so much money on products that do not do what they are superficially advertised to do is a sociological phenomenon that we should understand, or at least explore, if we are to do justice to the issues that will be raised in the future by products and therapies that will more accurately be described as anti-aging medicine. Therefore, it is also key to any discussion of what we—Christians and/or non-Christians—should do today to influence the pace of development of those future therapies.

The quest for a “cure” to aging long predates Christianity—and so does our ambivalence concerning that quest. The tale of Gilgamesh is an obvious example. More instructive, perhaps, is the myth of Tithonus, the warrior who won the heart of the goddess Eos. Eos, who was of course immortal already, asked Zeus to make Tithonus immortal, and Zeus obliged - but Eos forgot to ask Zeus to make Tithonus eternally youthful, so he became frailer and frailer as time went on and eventually Eos turned him into a grasshopper. The relevance of this myth to the present discussion is the fact that it was invented at all (and has survived so well, even finding its way into popular culture such as the X-files). The idea that if we extend lifespan we will necessarily do so by keeping frail people alive, rather than by keeping youthful people youthful and thus alive, is of course ridiculous in principle and could never be introduced in rational debate, yet here it is introduced by the back door through a story. The message being surreptitiously conveyed is that postponing aging is tempting but ultimately a bad idea, even though we can’t quite put our finger on what’s bad about it. Evidently this is a message that we subconsciously like to hear, or else the myth would have been forgotten long ago.

The anti-aging industry has many of the same features. The actual, specific claims made for products that form the anti-aging industry are modest—as they must be, given the lack of evidence to support anything more robust. But the slipperier language that is given prominence on packaging and
advertising is another matter entirely, including phrases such as “grow younger”. This is possible mainly because aging is very hard to measure, and vendors know that advertising language is only illegal if it can be proved to be false, rather than if it cannot be proved to be true. But as with the “Tithonus error” (as it has come to be known), this ambiguity seems to be a positive attraction to the general public, who seem to like to suspend disbelief enough to engage in cosmetic efforts to combat aging, possibly comforted by the back-of-the-mind knowledge that they are indeed merely cosmetic. The alternative interpretation that most purchasers of “anti-aging” products truly believe they will live much longer as a result is, I feel, too harsh an estimation of the typical consumer’s acumen.

In summary, my answer to the first question I posed above—why is anti-aging medicine a big business? -- is that society is deeply conflicted concerning aging, on the one hand recognising that it is a curse to be combated, but at the same time shying away from all-out determination to combat it, for reasons that it cannot adequately crystallise. So to my second question: does this matter?

If we take the view that modest postponement of aging is all that humanity will ever achieve by medical means, there is a good case that this incongruous attitude does not matter—indeed, that it is positively rational. Quite apart from the point that adults are entitled to spend their money on whatever they like so long as they are not palpably misled into doing so, and that the anti-aging industry is hardly alone in rose-tinting the efficacy of its wares, we must acknowledge that when faced with a fate that is both ghastly and unavoidable there is a certain logic to putting it out of one’s mind, so as to make the most of what time one has left. Once this is accepted, we can go further and note that since such people are in the business of psychological self-management, it does not actually matter how irrational are the lines of reasoning that they may resort to in order to achieve that objective. In short, humanity’s tendency to cling to the Tithonus error and its friends is a perfectly reasonable, rational response to the inevitability of aging. I have termed it the “pro-aging trance.”

However, as soon as the inevitability of aging begins to look a little less than certain, the above logic of course collapses. Worse, the depth of the pro-aging trance means that what was once a valid psychological strategy is transformed into an immense barrier to reasoned, objective debate concerning the desirability of postponing aging. This is why, as a fairly high-profile member of the life extension research community, I currently spend as much of my time on the social context of this field as on the science. Thus, the answer to my question “does the anti-aging industry matter?” is, in a nutshell: “It used not to matter, but now it matters a great deal.”

Thus far I have discussed the attitudes of society in general and have not addressed issues that might relate specifically to Christians. The latter will be the focus of the remainder of this essay. As will be seen, I feel that Christians face a particularly formidable challenge to reasoning objectively about the merits of life extension. Paradoxically, however, when that challenge is overcome, it can be seen (or so I shall argue) that the imperative to do all one can to postpone aging is even more profound for Christians than for those who do not look forward to the prospect of God-given immortality.

**Indefinite life extension and immortality: an unfortunate confusion**

Aging is a side-effect of living. The immensely complex network of biochemical processes that maintain our bodies in a fully functional state until middle age has side-effects, some of which build up throughout life. This molecular and cellular “damage” is initially harmless because our metabolism is able to work around it, but eventually it becomes abundant enough that metabolism is impaired and physical and mental decline ensue. There are seven main types of damage, encompassing cell loss, mutations, indigestible molecules and stiffening of elastic tissues.

My work focuses on the development of therapies that will repair the various types of damage just mentioned. Others in the life extension research field are focusing on therapies that do not seek to repair pre-existing damage but instead to slow its subsequent accumulation. Repairing damage may sound harder than pre-empting it - after all, prevention is usually better than cure - but in this case it turns out, in my view at least, that while preventative measures are ideal in principle, truly effective
ones are not in sight, simply because our understanding of the immense complexity of metabolism is still so superficial that we have no foreseeable prospect of designing interventions that do not do more harm than good. Additionally, of course, repair therapies can in principle rejuvenate those who are already suffering the effects of aging, whereas retardation therapies cannot. This is not in any way to say that retardation therapies are useless, but it does mean that they should be pursued mainly as potential adjuncts to rejuvenation therapies.

There is another difference between repair and retardation that must be emphasised at this point. Just like all other pioneering technologies, life extension technologies will be highly imperfect when they first arrive and will be progressively improved thereafter. For both repair therapies and retardation therapies, this means that the benefits someone can expect to obtain from access to the latest advances will exceed what they would get from the first therapies they receive. But this disparity is much more pronounced for repair therapies. In fact, it is highly likely that, once repair therapies exist which can confer 30 or so extra years of youthful life on those who are in their 50s or younger when the therapies arrive, the rate of improvement of the therapies will outpace the rate at which the types of damage that are not yet reparable are accumulating. In other words, even though aging will still be happening in the sense that damage is being laid down, and even though the problem of eliminating more damage is getting more difficult (because the easy types of damage have yielded to the already-developed therapies), the overall amount of damage in these people’s bodies will be declining: they will be getting progressively more youthful, and further from the prospect of dying of old age. This therefore constitutes indefinite life extension—indefinite maintenance of the probability of dying in the next year at a level typical of young adults.

I have called this situation “longevity escape velocity.” I think that is quite a pithy, evocative phrase - it captures the idea that there is a threshold rate of progress beyond which a qualitatively different end result occurs, and the use of “escape” (from aging) seems apposite. However, despite my best efforts, the media predictably describe my work as an attempt to engineer “immortality.”

Let me, therefore, be quite clear: that description is erroneous. Immortality is not what I’m engineering. Aging is one cause of death—a very common one, to be sure, killing roughly twice as many people worldwide as all other causes of death combined, but still just one cause. If aging were eliminated, we would in many ways be restoring our lives to the state they were in a few thousand years ago, when death from infections, starvation and violence were each considerably more common than death from aging: death would still occur, but the likelihood that you will die in the coming year would not be strongly influenced by how old you are.

The above answers the first key question that arises whenever the concept of indefinite life extension is discussed: that such work constitutes “playing God,” depriving God of His right to decide when we should die. It quite clearly does nothing of the kind. Whether you die of aging at age 80 or of being hit by a truck at age 800, God’s influence over that event is the same. So when you see my work and similar efforts being described as engineering immortality, I hope you will count to ten, remind yourself that that is simple journalistic hype, and read on in the knowledge that what I actually seek to engineer is the elimination of one major cause of death.

**Aging doesn’t just kill people, it kills them horribly**

Having disposed of an issue that is terminologically problematic but logically (and thus ethically and theologically) simple, I now turn to issues that are of more substance. In this short section I will discuss the pros and cons of various causes of death from the point of view of the suffering associated with them, and in the next section I will discuss some aspects of life extension research that I feel are wrongly thought by some to be relevant to the ethical (whether Christian or otherwise) status of that endeavour. That will conclude the groundwork for my discussion in the final section of the “urgency dilemma” to which the title of this essay refers—a dilemma that applies specifically to those who believe in an afterlife.
Death before the age of 60 is now relatively rare in the developed world: rare enough that when a friend dies that young we typically consider it a great loss (whether to us, to their family or to the world in general). Conversely, when someone dies in their 80s, people tend to take the view that he or she had a “good innings”—there is a sense that the loss is somehow less. Is this rational?

I would like to suggest that it is not rational, because it neglects the fact that death at an advanced age invariably follows an extended period of physical decline, and usually mental decline too. That decline varies greatly in its severity and duration, to be sure, and the stated aspirations of many biogerontologists are centred on minimising both those variables. But as compared to the severity and duration of the decline associated with death from age-independent causes, it is immense in almost everybody. And decline means suffering - for the individual concerned, for their loved ones, and even (in a more low-grade way) for society in general, which allocates resources to modestly alleviating that suffering and thus increases suffering of others through lack of those resources. The suffering caused by the shock of losing a loved one in a fatal accident is meaningful, certainly, but it cannot and must not be considered to outweigh the aging-derived suffering just described - it does not compare.

A hasty perusal of the preceding paragraph might lead you to believe that I favour the banning of seat belts and crash helmets and, more generally, the compulsory adoption of highly risky lifestyles in order to minimise aging-related suffering. Of course I favour no such thing. I favour the bringing about of a shift in the causes of death, so that fewer people die of old age and more die of accidents, but I favour doing this by enabling people to stay biologically young and thereby avoid dying of old age, not by raising the risk of having a fatal accident in any given year. In this way, the suffering of aging will be eliminated. There will be a modest side-effect, however... we can expect to live at least ten times as long as we do today.

**Action, inaction and urgency**

I hope by this point to have reminded you that aging is rather a pity. What I will discuss next is where it objectively ranks in the canon of things that are undesirable and against which we have reason to expend our effort. As noted, I will not yet move to arguments that apply specifically to Christians.

One aspect of this issue that is often raised is whether action and inaction are morally equivalent. The logical position here is blindingly clear: if you’re not doing something, you’re doing something else, so there’s no such thing as inaction, only choices between actions. Hence, if it’s wrong to cause suffering by an action that directly inflicts it, it’s also (and equally) wrong to cause that same suffering by an action that you do instead of an action that alleviates it. But there is a good reason why this question comes up so much: however clear it may be that action and inaction are *logically* identical, they are very far from identical *psychologically*. It’s emotionally easier to pass by on the other side and put someone’s suffering out of your mind than it is to cause the same result by actually doing something. Or conversely, it’s easier to find the strength to refuse to do something that causes suffering (but which has some upside for you) than to find the strength to “act” to alleviate the suffering when “doing nothing” would have that upside. But being easier doesn’t change the ethics of the situation.

Another way in which some influences on suffering might appear to differ importantly from others is the time that elapses between the action (or “inaction”) that alters the suffering and the actual outcome (the occurrence or otherwise of the suffering). Intuitively, one may feel that priority should be given to alleviation of more imminent suffering, because there will be time to work on the more delayed potential suffering afterwards. But this is only correct if the opportunity to alleviate the more delayed suffering will still exist at that later time, and it may not: events may be beyond one’s control unless one acts now, even if those events will take time to unfold. In many real-world situations this is not a particularly important argument, because events that are a long way in the future almost always *can* still be influenced even if one attends to more urgent matters first. But there are exceptions.
The exception I’m thinking of—one to which my action/inaction point also sharply applies—is, of course, postponement of aging. On both counts, even once we appreciate that aging is the cause of immense suffering and thus should be combated, we are in danger of deprioritising the postponement of aging in favour of other good deeds, either because those good deeds are not deeds so much as the avoidance of bad deeds, or because the suffering that we can alleviate in other ways is imminent whereas any attempt (however concerted) to postpone aging will certainly not achieve its objective for at least a decade or two and probably longer. It is thus imperative to understand that, as I have just explained, these apparent justifications for leaving aging unchallenged are not ethically sound.

The urgency dilemma

The urgency that I discussed in the last section, i.e. the importance (or not) of prioritising the alleviation of imminent suffering, is not the urgency to which I refer in the title of this essay. The urgency in the title concerns the afterlife.

For all those who believe in heaven, or that the soul survives after the body is gone, or that God will in due course make his chosen people immortal, or any other variant on this theme, death is the beginning of a new life that is incomparably more, well, heavenly than this life ever was. Thus, from a selfish point of view, the sooner death comes, the better. The fact that it’s from a selfish point of view is the stumbling block, of course: selfishness is a sin, so engineering one’s own premature death might not have the desired effect.

But what does a belief in a better life to come mean for one’s desire to postpone aging? I am afraid that, for some devout Christians with whom I have discussed this issue, it means rather a lot—and for very poor reasons. Specifically, it causes them to view the postponement of aging as a double-edged sword: they accept that it would alleviate suffering, but they note that it would also postpone bliss, so they see it even less as a priority than others do. Added to this is that the action/inaction argument often features in these discussions, despite the clear relevance of the parable of the Good Samaritan.

So I come, at the end of this essay, to the question in its title. Is life extension research a temptation for those of faith—something that would be sinful, taking control of a matter that should be God’s prerogative—or is it a test, something that we should energetically embrace even though it will postpone our entry into the kingdom of heaven? It seems incontrovertible to me that the latter is the case: that by treating the prospect of the afterlife as a reason not to strive to combat aging, we are taking a decision ethically no different from the person who simply commits suicide in order to reach God sooner. In some ways it is a more problematic decision even than that, because by committing suicide one turns down the opportunity to continue doing good in the world, but by not participating in the “war on aging” one is not only acquiescing in others’ possibly avoidable suffering but also helping to deprive them of a longer life of doing good. These do not seem to me to be outcomes of which we are taught that God would approve.

Conclusion

In this essay I have attempted to show that the popular belief that working to postpone aging would be “playing God” and thus sinful is in fact the exact opposite of the correct interpretation of Christian doctrine: in fact, it is a sin not to work to postpone aging. I have dwelt at length on issues that are not specific to Christians, such as the relationship between lack of aging and immortality or between action and inaction, for two reasons. First, without these underpinnings the argument that life extension research is imperative is weakened, whether or not one believes in the afterlife. Second, Christians are just as susceptible as others to the psychological traps that can make sinning easy; as such, it is vital to remind Christians that they are indeed traps, in order to give the inevitable conclusion that we have a duty to combat aging its full force. By this essay I hope to have opened a few eyes to the horror of a phenomenon that humanity has always been so determined to ignore, and to the duty that I feel we all have to consider what we can contribute to the war on aging.