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Chapter 6

OLD PEOPLE are PEOPLE TOO, SO LET'S ACT ACCORDINGLY

by **Aubrey de Grey**

"We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty, and the pursuit of Happiness" - United States ***Declaration of Independence***

Several years ago, I wrote an essay castigating my normally inestimable colleague Art Caplan for opining that the time someone who has already lived plays some part in determining the magnitude of their entitlement to further life. I should stress that I have no great difficulty with the idea that today, while aging remains essentially immutable, and thus while one cannot (with the same amount of effort, money, whatever) give an older sick person the chance of as much more healthy life as one can give a younger sick person, if resource limitations force us to choose then we should preferentially treat the younger person. But Caplan's comment explicitly considered the future situation in which indefinite healthy life extension is potentially available to all, whatever their current age, and indeed at a cost independent of their age. My position on this question is the reverse of Caplan's, and my logic is painfully simple: any such discrimination constitutes ageism in its starkest form. What discrimination can possibly be starker than that concerning how much longer someone will be given the chance to live? We have rejected ageism in other aspects of society – in policy if not always in practice – so comprehensively that any further justification of rejecting it here seems entirely superfluous.

Let's also look at a couple of other, somewhat similar failures to eschew ageism. The first concerns the idea that working today to cure aging is of limited importance because it will certainly not yield results for at least a decade or two. This is a frequently-heard complaint against life extension research: there seems to be a widespread gut feeling that our resources are better directed at more "urgent" concerns, such as saving the lives of children in developing nations where infections that kill very few in the industrialized world remain rife. This logic can be challenged on several grounds, but the one I want to focus on here is, as above, one of discrimination.

I should first point out that people's opinion that curing aging is less urgent than other life-saving endeavors is not, in general, based on pessimism about timeframes. To elaborate: my scientific position is that we are now in possession of sufficiently detailed knowledge about how to cure aging that we can profitably embark on that project with an engineer's, rather than a basic scientist's, frame of mind. Eventual success will follow not only a lot of hard work but also a fair dose of serendipity, as intervening discoveries (both by the researchers involved and by those in hitherto unrelated areas of biology) will be found to inspire easier solutions to various compo-

nents of the plan than those currently envisaged. But it is no longer reasonable, in my view, to claim that serendipity will almost entirely determine how soon we cure aging – say, that a year's delay in embarking on this project in earnest will probably make a difference of only a day in the date at which it succeeds. (This claim would have been at least arguable a decade ago, however.) Someone who disagrees with me on this could quite logically argue that work on curing aging is not urgent, simply because it will not expedite a cure, even though those working on it may think it will. But those who accept my scientific position are often inclined to take that view of the priorities anyway.

My argument that this is a blatant case of discrimination is as follows. As I have discussed in detail elsewhere, the cure of aging will be gradual in terms of the progression of technical advances but essentially instantaneous in terms of lifespan potential, because the beneficiaries of first-generation rejuvenation therapies will be around long enough to benefit from the second-generation ones too, and so on. (I have termed this phenomenon the achievement of "longevity escape velocity".) Thus, if the effect of starting to try really hard to cure aging today, rather than a year from now, is likely to be a substantial difference in how soon such a cure emerges – say, for sake of argument, a month – then by doing so we will confer on roughly three million people the opportunity to live indefinitely rather than to live no more than (say) 150 years, since that is the number who die of age-related causes each month worldwide. (Exactly which people depends on how long the development of a cure takes, of course.) If, instead, we focus those resources on a year's life-saving of children in the developing world, we will at best confer on a few million people the opportunity to live about a century longer than otherwise. It seems utterly unarguable to me that this means the anti-aging effort should take priority, even though its benefits will take longer to be realized.

Consider parallels in other walks of life. Someone who deliberately builds a house poorly, so that it risks collapsing and killing the occupants, is criminally culpable even though his actions may predate by years the fatal outcome; we regard such actions as no less worthy of punishment than those of someone whose actions (say, driving when drunk) cause fatality at once. The only material difference between this pair of cases and those under discussion is that one pair involves death resulting from action and the other involves death resulting from inaction; that distinction cannot affect the question of morality, however important it may be psychologically. Hence, in summary, the popular view that saving lives of children in Africa (for example) is more important than curing aging constitutes discrimination in favor of those whose remaining lives will be very short unless we help them but fairly short even if we do, and against those who will probably live a few decades anyway but could live many centuries if we act now.

The third self-evident truth that I want to highlight here is also a case whose oversight is causing discrimination in access to healthy life extension – and, interestingly, here it is discrimination against the young rather than the old. The funds spent by the West on saving children's lives in Africa are dwarfed by how much we spend on treatments for age-related diseases, but resources that go into curing aging are a tiny fraction of the latter and are in fact even smaller than the former. The reason for this is pretty obvious: not only is the need of our elderly compatriots urgent, it is also in our faces more starkly than that of those in far-off lands. But, even more than for the African children, the amount of extra healthy life that we can give someone already too elderly

to have a chance of living long enough to see real rejuvenation therapies is far less than what we might give someone currently young by curing aging in time for them. Thus, to prioritize expenditure on treating diseases of old age (and on research to develop better such treatments) and to deprioritize expenditure on curing aging constitutes discrimination against those just young enough to benefit from a cure for aging if we threw more resources now at developing it.

There we have it – three truths that are every bit as self-evident as the truth that all men are created equal. In sum, not only are we all equal at birth, we also remain equal until death. It is defensible (though so is the reverse) to benefit one person over another in terms of life extension if the quality of that future life is not the same for the two people, but it is not defensible to set priorities based on current age, on expected length of future life before the benefit one confers today is experienced, or on a combination of the two (which, respectively, are what the first, third and second biases discussed above constitute). What matters is the potential number of extra healthy years afforded to people. And since by curing aging we will give everyone on the planet an indefinite number of further healthy years, there isn't much contest, really, is there? It's time to wake up to our responsibilities to humanity.

In concluding, I must address a further issue – one that is of central importance to counselors and others who seek to enhance not only the physiological health of the elderly but also their satisfaction with life. It is that the elderly are, in respect of the above issues and others, their own worst enemy: they are overwhelmingly inclined to argue in favor of the ageist position, i.e. for the preferential allocation of medical resources and research funds to benefit the young. Why is this, and should we respect that attitude or resist it? I say we should resist it – I say we should help the elderly even if they do not ask us to. And that is not only because those of us who are not elderly will be in due course: it is for a much more direct reason, namely that we already take the same approach to those who refuse medical care, or even who are actively inclined to self-harm. We know that such people are basing their decisions on what we view as a distorted understanding of their opportunities – of what their life truly has to offer. I submit that that is exactly what most people do today when they view aging as inevitable. In an ideal world we would simply reason with those who think the attempt to cure aging is a fool's errand, educating them sufficiently on the scientific realities that they acquire an appropriate degree of hope. But reason and education are simply not always effective in the real world, and sometimes we must help people despite themselves. This is one such instance – I would say, the most important such instance there is.

About the author

Aubrey de Grey, PhD, is a biomedical gerontologist based in Cambridge, UK, and Mountain View, California, U. S., and is the Chief Science Officer of SENS Research Foundation, a California-based 501(c)(3) charity dedicated to combating the aging process. He is also Editor-in-Chief of ***Rejuvenation Research,*** the world's highest-impact peer-reviewed journal focused on intervention in aging. He earned the BA in computer science at Cambridge University in 1985. He earned the PhD in biology at Cambridge University in 2000. He is author of ***The Mitochondrial Free Radical Theory of Aging*** (1999) and co-author of ***Ending Aging*** (2007). He is known for his view that medical technology may enable human beings alive today to live to lifespans far in excess of any existing authenticated cases. De Grey's research focuses on whether regenerative medicine can thwart the aging process. He works on the development of what he calls ***Strategies for Engineered Negligible Senescence*** (SENS), a collection of proposed techniques to rejuvenate the human body and stop aging. To this end, he has identified seven types of molecular and cellular damage caused by essential metabolic processes. SENS is a proposed panel of therapies designed to repair this damage. His research interests encompass the characterization of all the accumulating and eventually pathogenic molecular and cellular side-effects of metabolism ("damage") that constitute mammalian aging and the design of interventions to repair and/or obviate that damage. He is a Fellow of the Gerontological Society of America and the American Aging Association. He sits on the editorial and scientific advisory boards of numerous journals and organizations. Contact him as follows:
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