

## Methuselah and Us

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**B***eyond Therapy* is the second report of the President's Council on Bioethics. While similar to the first in its spirit of inquiry and moral seriousness, it differs in that it does not offer any policy prescriptions. It is more purely speculative and educational. The report's subtitle, *Biotechnology and the Pursuit of Happiness*, reminds us that Americans believe it to be self-evidently true that each individual has a right to the pursuit of happiness. The report does not challenge that right or even its prevailing libertarian, subjectivist interpretation, according to which it is not only the pursuit that is left up to the individual but the definition of happiness as well. What the report does do is aim to make us more

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thoughtful in the exercise of our right to the pursuit of happiness by getting us to reflect on the question “what is happiness?” In the course of deepening our understanding of our own desires and of the goods we seek, the report leads us to doubt whether the sorts of biotechnologies that are likely to be developed will really satisfy us, despite the fact that they are being offered to us as answering certain deeply-felt and widely-shared human desires and aspirations.

The four main divisions of the inquiry take up four dreams of human improvement or perfection: the quest for “better children,” the quest for “superior performance,” the quest for “ageless bodies,” and the quest for “happy souls.” My focus here is on the desire for “ageless bodies”—which is, I think, the most difficult subject, particularly if one wants to follow the report in arguing that these quests are questionable. One can reject performance enhancing drugs and devices in the name of true human excellence; one can decline feel good pills in the name of true human happiness; one can refuse to select and design—or deselect and redesign—one’s children in the name of true human love. To make the case against ageless bodies, however—to say “no thanks” to the prolongation of one’s life—one has to make an argument for human mortality. Love, excellence, and happiness all sound a whole lot better, and more likely to be part of a persuasive argument, than does death. One could try to make the Grim Reaper sound less grim by speaking of the natural human lifespan or employing poetic language like “three-score and ten,” but one still comes up pretty hard against our desire for self-preservation, our love of life, our dread of decline, and our fear of death.

In Shakespeare’s *As You Like It*, the melancholic Jacques recounts the following speech of the motley fool Touchstone:

‘It is ten o’clock.  
Thus we may see’, quoth he, ‘how the world wags:  
‘Tis but an hour ago since it was nine,  
And after one hour more ‘twill be eleven;  
And so from hour to hour, we ripe, and ripe,  
And then from hour to hour, we rot, and rot,  
And thereby hangs a tale.’

Shakespeare tells us that the human story is one of inexorable ripening and rotting. But what if biotechnology allowed us to alter the effects of time, to suspend aging, or to disentangle the desired effects of aging from the undesired? What if we could ripen without rotting? What if we could arrest, not the maturation of our minds and spirits, but the senescence of our bodies? How would the human tale change and would it change for the better? The authors acknowledge that this “may be the most radical of the subjects” addressed in the report. The desire for a deathless existence challenges the most fundamental of human limits. Even if the most that might be attained is a doubling of the maximum human life-span, the quest for more life is in principle indistinguishable from the quest for immortality.

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Now, by no means does the report set itself altogether against the notion of longer and more vigorous human lives. It admits that the “moral case for living longer is very strong” and of the three possible avenues for extending life, it heartily approves of two of them. The past century saw tremendous gains in average life expectancy as a result of reductions in infant mortality and premature death in the young and middle-aged. In the United States, average life expectancy has gone from 48 to 78 years since 1900. The same gains in nutrition, health, and safety are surely to be sought and welcomed in less developed nations.

Attention is also being directed toward improved prospects for the elderly, with treatments for specific illnesses and causes of death. Again, much of this is welcome. However, the gains to be expected from this approach are modest. The report notes that even “if diabetes, all cardiovascular diseases, and all forms of cancer were eliminated today, life expectancy at birth in the United States would rise to about 90 years, from the present 78.” That would be significant, but it would not “fundamentally alter the shape of the human life cycle.” There is also the possibility that such increases would not be an unalloyed improvement, since cures for a handful of diseases would just leave one subject to others, and to the more general ravages of time. Moving into our eighth and ninth decades, we might face the prospect of a much prolonged dotage and second childishness—debilitated and dependent but still lingering on.

Accordingly, it is only the third avenue, “direct and general age-retardation,” that holds out the truly radical promise of combating senescence and extending the maximum human lifespan. According to the report, it is only this last approach that raises “the most significant physical, social, and moral consequences.” The whole business is not as science fiction-like as it sounds. Age retardation is already being pursued with quite remarkable results in animals. Through genetic manipulations, researchers have achieved a six-fold increase in the lifespan of worms; genetic manipulations coupled with caloric restriction have produced a 75 percent increase in the lifespan of mice.

Now would be the time, before a dramatically extended human lifespan is on the horizon, to conduct some thought experiments aimed at ascertaining whether longer life holds promise or peril for us. The report does this by speculating about possible transformations in our outlook on life and death, our level of commitment and aspiration, and our familial and societal relations. It struck me while reading the report that science fiction has always been a good source of such thought experiments and perhaps also that science fiction could help in forming the sort of public opinion that will be necessary to stave off some of these developments.

To anyone interested in these issues, I strongly recommend *Star Trek*—the original series of course, not any of the second-rate sequels. Given the scientific mission of the U.S.S. *Enterprise* (“to explore strange new worlds, to seek

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out new life and new civilizations—to boldly go where no man has gone before”), you might expect that the show would be gung-ho for the conquest of nature, including pushing the envelope of our human nature. In fact, however, episodes of *Star Trek* repeatedly confirm the needfulness of human limitations and, indeed, revel in the self-imposed acceptance of those limitations. Interestingly, this attitude is embodied most in the ship’s Chief Medical Officer, Doctor McCoy, whose nickname is “Bones,” a nickname that forcibly reminds us of the limitations of the medical art—the bodies doctors attend upon will die.

Many episodes of the show dealt with issues of mortality and immortality. Let me mention just two, an episode entitled “Miri” (a name intentionally reminiscent of Shakespeare’s Miranda, who delivers the famous line “O brave new world that has such people in’t!”), and an episode entitled “Requiem for Methuselah” (Methuselah being the longest-lived of the Biblical figures; the Bible says he lived 969 years). In the first episode, the *Enterprise* answers a centuries-old distress call from a parallel planet Earth. There, the crew happens upon the results of a Life Prolongation Project that went disastrously awry in the 1960s. All the adults on the planet are dead, victims of a man-made virus that afflicts individuals at the onset of puberty. The planet is populated entirely by children, who are hundreds of years old, living a *Lord of the Flies*-type existence. As a result of the Life Prolongation Project, they age one month for every one hundred years of real time, until reaching puberty at which point the virus causes them to age rapidly and horribly. We see before us the dystopia of an almost eternal childhood.

The show raises some important considerations: in any project to lengthen life, what stage of life do we want to lengthen, all of them equally, or some more than others? Perhaps most fascinatingly, the episode is premised on the connection between mortality and fertility—a connection highlighted by the Council’s report. Apparently, in the research conducted thus far, the most common (though not universal) side effect of age retardation is sterility or reduced fertility. It seems as if, in pursuing an ageless body, the balance between the individual and the species is altered. When we choose vastly longer life for the individual, the propagation of the species is sacrificed. The society in the *Star Trek* episode is a drastic rendition of the trade-off. In pursuing immortality for themselves, the residents of the planet made clear their hostility to the succession of the generations. They sought to make themselves irreplaceable. In a sense, the virus is the internal truth of their project, for the virus makes impossible the succession of the generations. Fertility brings with it an immediate sentence of death, so immediate that fertility cannot achieve its purpose. Without any power of regeneration, this society of perennial youngsters is slowly dying. “Miri,” for whom the episode is named, is a girl on the cusp of adolescence, fearful of growing up, but also drawn to the adult world and especially Captain Kirk with whom she

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falls in love. Fittingly, it is her love for him that eventually allows the crew to intervene and reverse the effects of the Life Prolongation Project.

The other episode, “Requiem for Methuselah,” examines another sort of immortality, lest we think that perpetual maturity would be better than perpetual youth. The *Enterprise* encounters Flint, a 6000 year old man, who has retreated from the human world to his own private planet. He was born in 3834 B.C., inexplicably endowed with the capacity for instant tissue regeneration. He has lived a thousand different lives, many of them notable. He was, for instance, Leonardo da Vinci and Brahms. Over the centuries, he has amassed wealth and knowledge. And yet, he is now as cold and unyielding as his name, Flint. He is quite prepared to kill the whole crew of the *Enterprise* in order to protect his privacy. Doctor McCoy is astonished at his cruelty: “You have been such men, you have known such beauty ...” But as Flint explains: “I have seen a 100 billion fall.” His longevity has rendered him misanthropic.

He is not, however, a misogynist. He is at work manufacturing the perfect female android, an immortal mate for himself and a remedy for his solitude and boredom. *Star Trek* almost always portrayed those beings who go beyond the normal limits of an embodied existence to be cruel, controlling, and intolerably lonely. Often they feel their longevity to be a curse. Of course, Captain Kirk and company manage to escape Flint’s clutches, and again it is love that provides the corrective, in this case the android’s rebellious love for the Captain. When Flint’s creation self-destructs, he relents. In the end, Flint learns that in leaving Earth’s atmosphere, his immortality has been compromised. From now on he will live out a natural lifespan. This knowledge of his mortality immediately improves his character, as he resolves to devote the remainder of his now precious days to helping his fellow man.

My years watching *Star Trek* have left me receptive to the view that mortality is, if not precisely a good thing, then at least the necessary foundation of other very good things, and that there is something misguided about the attempt to overcome mortality. Still, one can’t help but wonder “what if ... ?” We are told in Genesis that the earliest generations of men, through Noah, had lifespans closer to a millennium than a century. We also know that things ended rather badly for them. While *Star Trek’s* “Methuselah” reforms, the Biblical Methuselah was done away with in the Flood. Would greater longevity for modern man result in the same incorrigibility? Or do we have more resources now—psychological, political, religious—for dealing with the consequences of longer life? Antediluvian man was unfamiliar with death. Perhaps our sense of mortality is sufficiently well-established to allow us to delay the actual blow. So long as we still die, and we know we still die, no matter how far in the future that date is, won’t we still have the experience the poet speaks of: “But at my back I always hear / Time’s

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winged chariot hurrying near”? And if so, if time still presses us, won’t the salutary human responses to death endure? Wouldn’t even long-lived men walk the now well-worn paths of transcendence: procreation and poetry, philosophy and faith? Since the quest for immortality will never be satisfied through an ageless body, won’t human beings still seek participation in the eternal?

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