**Cheating death**

[1] Have you ever pictured ***yourself growing older***? Unwilling to ***disclose your age*** after about 40; afraid to be referred to as "***over the hill," "an old codger***," and many other ***similar*** phrases — in a word, having a sense of shame about the normal human experience of aging. Well, this may not be necessary ***in the near future***.

[2] Imagine a world in which ***getting fitted with a new heart,*** liver or other organs, all grown from your own body cells, was as ***commonplace*** as ***knee replacements*** are now. Or one in which you celebrated your 94th birthday by ***running a marathon*** with your school friends. Imagine, in other words, a world in which ***aging had been abolished***.

[3] That world is ***not yet on offer*** but something like it ***might be on the way***. The process of aging is something doctors and scientists are increasingly studying. ***Suspending it is not yet on the cards.*** But slowing it probably is. ***Average lifespans*** have risen a lot over the past century, but that was thanks to better food, housing, public health and some medicines. ***The new increase would be brought about by specific anti-aging drugs,*** some of which may already exist.

[4] This, optimists claim, will ***extend life*** for many people to today's ***ceiling*** of 120 or so. But it may be just the beginning. In the next phase not just average lifespans but maximum lifespans will rise. If ***a body part wears out,*** it will be repaired or ***replaced altogether***. ***DNA will be optimized for long life.*** Add in ***anti-aging drugs***, and it will be common for people to live over 100.

[5] ***To this end,*** many hopeful repairmen are now ***setting up shop.*** Some of them want to ***upgrade worn-out tissues using stem cells.*** The business of ***growing organs from scratch*** is also ***proceeding***. At the moment, these organs are small, imperfect and used mainly for drug testing. But that will surely change. ***Longevity is known to run in families, which suggests that particular varieties of genes prolong life***. Some are investigating this, with the thought that modern ***gene-editing techniques*** might one day be used to make crucial, ***life-extending*** changes to the DNA of those who need them.

[6] ***From an individual's viewpoint, this all sounds very desirable***. For society as a whole, though, it will have ***profound*** effects. Most of them will be good, but not all.

[7] ***One concern is that*** long life will make ***existing social and economic problems*** worse. ***The most immediate challenge will be access to anti-aging treatment.*** If longer life is expensive, who gets it first? Already, income is one of the best ***predictors of lifespan***. ***Widening the gap with treatments inaccessible to the poor might deepen divisions.***

[8] Will older workers ***be discriminated against,*** or ***will numbers give them the whip hand over the young?*** Will older people ***hold onto their jobs for longer,*** or will they grow bored, quit and do something else entirely? And will all those old people ***keep youthfully vigorous mentally as well as physically*** or instead make society more ***conservative*** (because old people tend to be)?

[9] A reason for hoping that the elderly would ***turn out less hidebound*** is that life itself would be more ***a series of new beginnings*** than one single story. ***Middle-aged crises*** might ***be not so much about recapturing lost youth as wondering how to make the most of the next half-century.***

[10] Retirement would become a more distant option for most, since ***pension pots would have to be enormous to support their extended lifespans***. To this end, ***the portfolio career would become the rule*** and education would have to ***change accordingly***. People might go back to school in their 50s to learn how to do something completely different. ***The physical laborer*** would surely need a rest. The accountant might become a doctor. The lawyer, a charity worker. Perhaps some will ***take long breaks*** between careers and ***party wildly***, ***in the knowledge that medicine can offer them running repairs.***

[11] ***Such speculation is fun, and mostly optimistic.*** ***The promise of a longer life, well lived, would round a person out.*** But this vision of the future depends on one thing — that a long existence is also a healthy one. ***Humanity must avoid the trap fallen into by Tithonus,*** a character in Greek legend, who ***was granted eternal life*** but not eternal youth. ***Eventually, he withered into a cicada.***

[12] ***This trap should be cautioned against.*** Living longer is terrific, but ***living pain-free and independently*** is what most people really want. Many health problems, specifically those connected to the heart and the bones, ***are guarded against in youth, but crammed into old age***. This must be taken into consideration if a long and healthy life is to ***become routine***. Moreover, even a healthy brain may ***age badly***. ***An organ evolved to keep 70 or 80 years of memories may be unable to cope when asked to store 150 years' worth.***

[13] Yet ***biological understanding is advancing quickly***. ***Greater longevity is within reach*** — even if actual ***immortality*** may not be as close (or as interesting) as some fantasists would like to believe. Be sure to ***draw up a very long bucket list***.