How to live forever: lessons of history

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Living forever is much in the news these days. Scarcely a week goes by without the papers, the television, and the internet holding out new and plausible hopes that the matter is now well in hand, a technical breakthrough away. Maybe you can get your telomere shrinkage reversed. Perhaps it’s just a question of taking control of p21 gene expression. Possibly stem cell transplantation will do the trick. Politicians set their seal of approval on the promises of biomedical expertise. On the day that the decoding of the human genome was officially announced 85% complete, President Clinton declared “Our children’s children may know cancer only as a constellation in the night sky.”

But living forever has always been in the news. The expectations that we are now encouraged to have of biomedical expertise have been experienced many times before.

Biblical longevity

Consider 17th century England. Educated Englishmen then knew for a fact, in the same way that we know for a fact that DNA is the genetic substance, that there were two trees in the centre of the Garden of Eden. The first was the tree of life, and of its fruit Adam and Eve might eat; the second was the tree of knowledge of good and evil, and of that tree they might not eat, “for in the day that thou eatest thereof thou shalt surely die.” Anyone who believed in the literal truth of Genesis, and that included most 17th century physicians, understood that the original human beings were designed for immortality and that death was artificially brought into the world through moral transgression.

Yet even after expulsion from paradise, Adam lived 930 years and his son Seth 912 years. Seth’s son Enos was a peppy nonagenarian when he begat Cainan, and Cainan lived 350 years—no meat, no wine, and, incidentally, no beans—before he died. From Pythagoras to the latest report of the Committee on Medical Aspects of Food and Nutrition Policy (COMA), there is scarcely any expert medical advice that does not point to the necessity of limiting the consumption of food and drink. The stability of this advice is remarkable, although the rationale offered for it varies enormously. For example, the consumption of roasted meats is now bad for you because of the artery clogging effects of cholesterol and the carcinogenic qualities of nitroamines in the charred bits, while in the past it was bad for you because it turned the innate heat up too high, because it obstructed the free flow of juices in the body, or because it imbalanced the humours.

In the early 17th century, Francis Bacon wrote a lot about extending human life. Like many of the great modernisers of the scientific revolution, he considered the life course took you from the warmth of youth to the cold of the grave. Secondly, ageing was the gradual loss of bodily moisture. Dying was drying. That was pretty obvious too: compare the moist and supple flesh of a baby to the wrinkled leathery skin and brittle bones of an old person. Virtually every theory about ageing from the ancient Greeks to the 19th century was a version of cooling or drying or a combination of the two.

To live a long time, you had to find a way of preserving innate heat and moisture. Again, from antiquity to modern times the most popular expert answer was to limit the intake of food. Mortals have to eat to keep up their vital heat, but the clever strategy was to prevent that heat from flaming too high. The fuel for the body’s vital heat wasn’t food and drink itself; rather, food and drink required more of this innate heat to be consumed. A rich diet was a bit like turning up the knob on your camping stove when you have only one canister of propane—you run out of fuel quicker. So the secret of extending human life was an ascetic way of life. Don’t eat very much, and especially don’t eat a lot of rich foods. The so-called Pythagorean diet consisted of fruit, acorns, vegetables, and grains—no meat, no wine, and, incidentally, no beans—and it was to this diet that the longevity of ancient philosophers and hermits was widely attributed.

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that the medicine of the time wasn't much good.' But if
it were refounded on the best factual and philosophical
grounds, Bacon thought that the result ought to be a
vast extension of human life. Bacon's theories about
how and why we died are complex and sometimes
confused, but he put great importance on preserving
bodily moisture. Above all, you should prevent
moisture from escaping through the skin through a
generous dressing of ointments, oils, and pomades.
When an old man who lived to 300 years was asked his
secret, he answered, "Oil without, honey within." Olive
oil was the original antiwrinkle cream. 10 Keeping the
body supple enhanced its softness, and the moisture
theorists also emphasised the benefits of massage and
light exercise to get the juices flowing around. Dancing
and riding on horseback were good, although they
didn't mention jogging.

From biblical times to the 19th century one medi-
cally approved measure for rejuvenating the old and
the cold enjoyed special favour. In case your religious
studies instructor bowdlerised the passage, we refer
you to I Kings 1:1.

Now king David was old and stricken in years; and they
covered him with clothes, but he gat no heat. Wherefore his
servants said unto him, Let there be sought for my lord the king
a young virgin . . . and let her lie in thy bosom, that my lord the king
can get heat.

The young virgin's name was Abishag the
Shunammite, and the practice of restoring heat and
moisture to old men by close contact with young
women became known as shunammitism. The contact
was supposed to rejuvenate old people by transferring
to them the warmth and juices of youth—although
what happened to the young person is not usually
described. Shunammitism was prescribed by scientific
physicians, including Thomas Sydenham and Herm-
mann Boerhaave, in the 17th and 18th centuries, and it
remained popular, among old men at least, much
longer than that. 11

Role of philosophical and medical
expertise

No canonical figure of the scientific revolution devoted
more time and energy to the extension of human life
than the great rationalist philosopher, René Descartes.
In 1645 he told an English nobleman that "The preser-
vation of health has always been the principal end of my
studies" And, indeed, Descartes devoted an enormous
amount of attention to the medical prolongation of life,
periodically announcing that he was well on the way to
cracking its secret. Descartes's new science and his
promises of personal longevity were so closely
associated that some of his friends were shocked when
he died aged 54. Descartes enlisted natural philosophy—
what we would now call science—in a search for new and
more powerful medical technologies, and that is a role
for expert knowledge with which we are now familiar.

But even Descartes had his darker moods, sometimes
confessing that there might be limits to his ability to
achieve such a goal. Then he appealed to a conception
of philosophy that drew on stoic and epicurean
traditions of what rational and reflective knowledge was
for. 12 As the proverb has it, what can't be cured must be
endured.

Michel de Montaigne, one of Descartes's immediate
philosophical predecessors, was sceptical about the
promises of philosophical and medical expertise. His
library was stuffed with medical texts that pledged to
cure disease and to extend life if only you would submit
to the dietetic and therapeutic disciplines of medical
expertise. Give up wine; give up meat; avoid chills;
sleep only on your right side; take rhubarb pills three
times a day. Montaigne would have none of it. 13

It wasn't just that he doubted whether such nostrums would deliver the promised effects—
although he did doubt this very much. It was that the
purpose of extending life, even if it could be so extended, was not worth the price asked for. If you put
the conduct of your life under the care of physicians,
Montaigne thought they would make you miserable: "If
they do no other good they do at least this, that they
prepare their patients early for death, undermining
little by little and cutting off their enjoyment of life." By
all means, listen to those who may have authentic
medical expertise, but do not give up your freedom of
action in so doing. Montaigne said that he knew of, and
pitted, "several gentlemen who, by the stupidity of their
doctors, have made prisoners of themselves, though
still young and sound in health . . . . We should conform
to the best rules, but not enslave ourselves to them." As
another proverb has it, to live physically (that is,
according to the dictates of doctors) is to live miserably.
Don't be like those people who, in order to extend life,
never actually live it. Life is not just about avoiding
death; it's about the active use of our powers while we
are alive. To live like a human being, you must do all the
things that human beings are capable of doing and
should do; you must learn to suffer like a human being,
and, finally, to die like a human being: "We must meekly
suffer the laws of our condition. We are born to grow
old, to grow weak, to be sick, in spite of all medicine . . . .
We must learn to endure what we cannot avoid."

Do we want to live forever?

In the early 21st century it is hard to hear voices like
Montaigne's. One reason, perhaps, is that the split
between what used to be called philosophy and what is
now called science has become almost absolute. The
enterprise of finding out how the human body works,
and what to do about it when it doesn't work, has
become quite separate from the enterprise of saying
Three lessons for a better cycling future
Malcolm J Wardlaw

Cyclists were the only group of road users in Britain whose death rate increased sharply during the 1990s, yet cycling was in decline throughout the decade. How could this happen, when attention on casualties was the most intense in the history of the bicycle? Perhaps a vision of the near future will be instructive ...

Safe walking

It began in America, as so many trends do, but for years no one in Europe took any notice. American tourists wearing helmets around the streets of London first drew media attention. And although public response to walking helmets was initially amusement, the appeal of extra safety drew some pioneers to the habit, especially academics and competitive walkers.

The first case-control study of about 2000 injuries to pedestrians in Britain (180 of whom had worn helmets) concluded that the risk of serious head injury was reduced by 75% when a good walking helmet was worn. Safety campaigners used the slogan “walkers need helmets” to encourage parents to send their children to school in helmets. Several high profile accidents focused public attention on the dangers of walking, a well known television presenter was severely head injured by a police van answering an emergency call. Doctors concluded that her injuries would have been "substantially reduced" had she worn a helmet. Walking helmets became widely available. The entire cabinet posed in their helmets outside Number

Summary points

Recent safety campaigns have destroyed faith in the bicycle as a safe means of transport, reducing participation, compromising public health, increasing the risks, and decreasing road skills

Deaths of cyclists have increased since the introduction of helmets

Cyclists fare best when they act and are treated as drivers of vehicles

Promote cycling for a safer road environment