

# THE NEW AGELESS

By Barbara McMahon

HUMANS LIVING TO 150?  
IT'S NOT AS CRAZY AS  
YOU MIGHT THINK

**P**ark Avenue, New York. I pass a striking couple on the sidewalk. They are clearly wealthy, well-groomed, expensively yet tastefully dressed. But there is something else about them, too. Something that goes beyond money or good taste or a clever hairdresser. Something indefinable. It's impossible to tell whether they are 50, 60, 70, or even older. They are ageless.

I'm standing at the centre of what is euphemistically known as "the age-management industry". This is where the city's most distinguished aesthetic surgeons run their discreet clinics. But, crucially, this couple don't have the



inflated, overstretched look of people who have had “work” done. I can’t keep my eyes off them, trying to work out why they look so... alive.

Age defiance is a staggeringly lucrative industry. Last year the global anti-ageing market generated more than \$280 billion. By 2018 it will hit \$400 billion. A new tribe is taking advantage of sophisticated scientific breakthroughs. They have learnt from the mistakes of the generation before them who ended up with wind-tunnel facelifts and over-lasered skin. The “forever youngs” are still having work done, make no mistake about that, but they are using cutting-edge techniques and harnessing new research into everything from exercise to diet to neuroscience.

And this appears to be only the beginning of the new age of ageing. It’s little wonder that the latest venture from Google, the most successful innovator on the planet, is ageing-related. Mere cosmetic enhancements are child’s play to Google, which is on an altogether more ambitious trajectory. In September 2013 its CEO, Larry Page, announced Calico (California Life Company). This is Google’s mission to extend human life-span. According to Page, scientists will be able to harness advanced technologies that slow the ageing process and eliminate age-related diseases such as Alzheimer’s and cancer. Plans are in place to build a \$1.5 billion life-extension research centre in San Francisco, run by Art Levinson, Steve Jobs’ successor as chairman of Apple and the former CEO of the biotechnology giant Genentech.

Google is not the only one to spot the potential of such a wildly growing market. (By 2025, there will be 1.2 billion people over the age of 60. That’s more than double the number in 1995). The Age Reversal Fund is a venture-capital fund that links life scientists and researchers with wealthy investors. The world’s billionaires have a new obsession that goes beyond the merely material: they want what was previously tantalisingly out of reach – the ability to live longer. Much longer. Thus Larry Ellison, CEO of the computer tech company Oracle and the fifth wealthiest man in the world, according to *Forbes* magazine, is the money behind the Ellison Medical Foundation, an anti-ageing biomedical research centre. The Californian venture capitalist Paul F. Glenn has endowed hundreds of millions to life-expansion research at Ivy League institutions such as Harvard, Princeton, MIT and Stanford. Peter Thiel, co-founder of PayPal and a Facebook board member, is a supporter of

SENS, a research foundation specialising in rejuvenation treatments.

SENS is run by Aubrey de Grey, a British gerontologist who believes that the first person to live to 150 is already alive today – a view shared by federal treasurer Joe Hockey, who was ridiculed recently for making this exact claim while arguing the case for budget cuts.

“Rejuvenation biotechnologies are, very simply, medicines that restore the structure of the body to how it was in early adulthood, and thereby restore it to maximum physical and mental performance,” explains de Grey, who also co-founded the Methuselah – a foundation whose aim, through tissue engineering and regenerative medicine, is to create a world by 2030 in which 90-year-olds can be as healthy as 50-year-olds. “By restoring the molecular and cellular structure of the body to that of a young adult, we will necessarily restore its function, too, which constitutes reversing ageing. Thus, people will remain truly healthy for longer, postponing the ill health that inescapably accompanies old age today.”

This notion that, like the painting in Dorian Gray’s attic, we can reverse ageing, has become an obsession for scientists. So much so that Dr David Sinclair, a professor of genetics at

Harvard Medical School, has taken matters into his own hands. Every day he swallows capsules that he believes can trick cells into thinking they are young again. “We’re talking not just slowing down ageing, but reversing it,” he says.

In research published last year in the journal *Cell*, Sinclair described how mice were given a naturally occurring molecule called nicotinamide adenine dinucleotide, or NAD, which reduces in the body as we age and makes cells less efficient. By increasing the amount of NAD, in just one week of treatment, two-year-old mice tissue resembled that of six-month-old mice. In human years, that is akin to a 60-year-old’s cells becoming more like a 20-year-old’s.

“We’re doing animal studies now to make sure that is it safe and to understand what the doses are, but I don’t see any barriers to starting human studies next year,” says Sinclair, who has teamed up with colleagues at the University of NSW in Sydney. “Right now, I’m taking the molecule in capsules as a little experiment on myself, and so far I’ve seen nothing negative. I wouldn’t like to say I look younger; I don’t expect that. But I certainly find that I am able to do more work and that I have more energy.”

What about the future? “In 10 years, there will be medicines available that you will start taking when you’re 30 and will prevent diseases of ageing,” he predicts. He wields terms such as “reprogramming” as though reading a sci-fi film script. He even talks about body-part replacement – the idea that we will be able to grow our own skin, even our own livers.

“We will be able to live not just a little bit longer, but a lot longer, and to look younger as well. We are on the verge of a number of separate medical breakthroughs that together will allow us to live to 150. These technologies will definitely be available.”

Time, surely, for a reality check. Would he honestly *want* to live to 150? “Absolutely,” he replies swiftly. “The world will be a place where we don’t have to worry about getting cancer in our 50s and 60s or getting Alzheimer’s in our 70s and 80s. We’ll be able to play tennis with our great-grandkids. People won’t spend the last years of their lives in nursing homes; they’ll be able to be productive members of society right up to the very end.”

Sinclair isn’t alone in his fascination with a life span almost twice what we expect now. He receives 20 emails a day from people asking to join the forthcoming human trials on his age-delaying drug. ●

Support: Joe Hockey’s views on ageing are backed by scientists and venture capitalists

