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Michael Gurven reframes aging as evolutionary success

In our modern society, aging tends to be something we ignore, and then try to avoid. Mainstream culture is geared toward the young, using the youth to gauge trends and styles, and targeting their spending power. Meanwhile, the anti-aging industry is booming, with billions of dollars trading hands in the form of creams, pills and nip/tuck treatments to stave off the look and feel of getting old.

And yet, aging is undeniable. We're living longer now than ever before. And, with more than half of the world's countries at fertility rates below the replacement level, the global population is getting older. This "global graying" carries with it alarming implications for the labor force and the healthcare system.

"That potential to live seven decades is part of our species-typical design," said UC Santa Barbara anthropology professor Michael Gurven, whose new book takes a deep, long-view approach to aging. In "Seven Decades: How We Evolved to Live Longer," (Princeton University Press, 2025), he examines both the physiological and societal aspects of the latter part of the human lifespan, asserting that evolution has in fact designed humans to live to at least seven decades.

According to Gurven, the gains in life expectancy we've seen over the past century didn't extend our maximal longevity as much as it helped ensure that many of us get to live to older age in the first place. Rather, the human ability to live well past menopause, a time when soon after most other species hit the proverbial Wall of Death, evolved millennia ago when we were all hunter-gatherers. While seven

decades is longer than many would have thought possible in our distant past, we've seen improvements on the original mold. In most high-income countries, he added, the typical adult lifespan is now eight or nine decades.

What is aging, anyway?

In his writing, Gurven sets the stage with an evolutionary perspective, and a whirlwind trip around the globe and through human history. While many books on aging concentrate on recent discoveries in the West or cover what we've learned in the last half century, he wanted to explore the phenomenon of aging beyond the number of years one has lived.

"I wanted to tell a story that goes farther back in time, to the origins of our species and all the traits that make us who we are," he said. "Aging is not a recent phenomenon, but what it looked like and how it was experienced by our ancestors is still a mystery."

There are clues, however. Gurven drew upon his work as an anthropologist studying contemporary non-industrial societies, whose hunting and foraging practices mark the vast majority of our evolutionary history. Throughout his career he has lived with and studied several groups, including Tsimané forager-farmers of the Bolivian Amazon, his research garnering insights on the links between their environment, lifestyle and physiology. Gurven emphasized that such groups should not be viewed as living fossils. Instead, their lifeways offer rare glimpses into what life in nonindustrial settings can be like.

Though life expectancy is short among hunter-gatherers, it's important to remember that its calculation is an average of all lifespans in a population. For most of human history, lives were cut short in childhood, he said. However, once an individual runs the gauntlet of early childhood, they could live into their 70s and 80s.

But life is still rough. Until recently, food insecurity, minimal healthcare services and a rugged lifestyle were part of the hunter-gatherer existence. That, and senescence, the cellular process of deterioration with age, would seem to conspire to make an early demise a logical outcome.

"Most species quickly age and die when no longer able to reproduce," Gurven said. "That makes sense from the harsh, gene-centered perspective of natural selection.

Our ability to live decades beyond menopause therefore is a rare feature of our species.”

How did our ancestors manage to escape the pull of natural selection in their later years? It’s not just sheer luck, Gurven points out. The key, he says in his book, is multigenerational cooperation. Sharing food, and passing down knowledge and skills from elders to younger generations are key for survival and reproduction, increasing biological fitness in a way that led to the evolution of a post-reproductive life stage.

“At some point in our evolutionary history, it became a better strategy to help the kids and grandkids you already have than to keep having new ones,” Gurven explained.

With the “pervasive sharing” of food and other resources that is typical of hunter-gatherers, even those who could not completely forage for themselves — the young and the old — still could fulfill other duties. While the able-bodied adults spend much of their time procuring food for themselves and for the group, the elders are politicians, ritual experts, conflict mediators, healers and, of course, babysitters. They also make and fix tools, baskets and target foods whose acquisition requires wits more than vigor. These diverse strategies oriented to help family and community, Gurven asserts, were what led to the success of our ancestors and our long lives.

The meaning of ‘old’

What does it mean to be “old” for hunter-gatherers and farmers? Being “old” has less to do with age than it does with the ability to fend for one’s self and one’s community.

“It’s a fun party question to ask people how old they might feel if they never knew their age. But that’s precisely the situation for many groups whose languages don’t include words for numbers beyond 10,” Gurven said. “For those folks, you’re ‘old’ when you can’t work anymore, and you have limited mobility.” Continued participation in community life, through knowledge and skills transfer and lifelong learning keep the elders vital and the younger people flourishing.

“There’s no such thing as retirement in subsistence-oriented populations,” said Gurven, noting there could be lessons in this for those of us in industrialized

societies, where old age tends to signal a withdrawal from mainstream life, when in fact there is still a lot of “untapped potential” in our elders that could go toward improving everyone’s quality of life.

“The implications of global aging on society are scary to think about,” Gurven added. “But we should recognize that one of the reasons for our species’ evolutionary success was the wide range of contributions that middle-aged and older adults made to their families, communities and to society.

“For many of us, ‘old’ is a mindset, a winding down. If we keep learning and doing new things, and meeting new people, we avoid feeling ‘old.’”

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