A Reproductive Revolution is Coming.

Selection Pressure in a Post-Darwinian World

For four billion years, evolution has been blind and random. Soon, it will be a matter of choice.

Three Predictions for Life in a Thousand Years.

Superhappiness

Suffering will be biologically impossible. Our descendants will live lives of genetically pre-programmed bliss, with a hedonic set-point ratcheted up so that everyday existence feels sublime.

Superlongevity

Our successors won't grow old and and die. They will be effectively immortal, barring accidents, with brains restorable from digital backups.

Superintelligence

Posthumans will possess not just higher IQ, but a more empathetic intelligence. They will be, in a non-scientific term, 'wiser' than us.

These three developments are not separate. They are intimately linked by a fundamental transition: the coming era of designer babies.

We Stand at a Crossroads: Two Competing Views of Human Evolution.

The Bioconservative View.

The End of Evolution?

Evolutionary forces like natural selection and mutation have dramatically weakened. For our species, things have stopped getting better, or worse.

The Biorevolutionary View.

The Acceleration of Evolution.

Evolution is about to accelerate. “Unnatural selection”—driven by intelligent choice—will create intense new selection pressures.

The Bioconservative Case: "If you want to know what Utopia is like, just look around - this is it."

Professor Steve Jones, Geneticist, University College London

1. Natural Selection Has Weakened

In ancient times, half our children died by age 20. In the Western world, 98% survive to 21. The brutal filter of natural selection is largely gone.

2. Mutation Rate is Slowing

One of the most important mutation triggers was advanced paternal age. Today, the mean age of male reproduction has gone down, with most children conceived before 35. Fewer older fathers means fewer mutations.

3. The Dysgenic Hypothesis (A more extreme view)

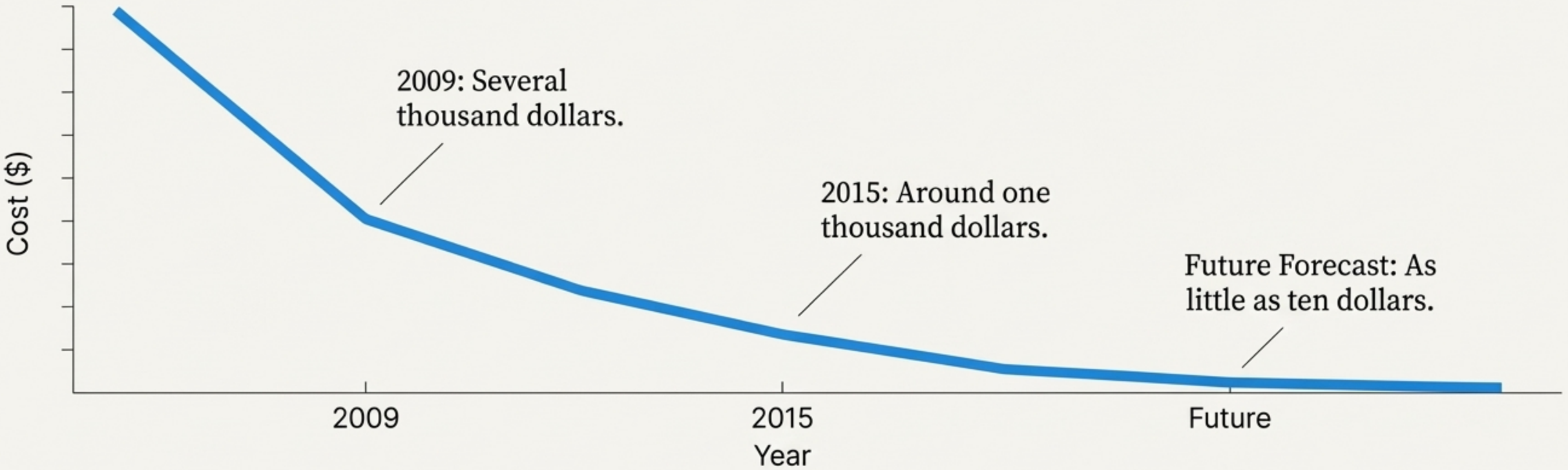
Some argue that since less intelligent people have more children, genotypic IQ is declining, even as environmental factors (schooling, nutrition) cause a short-term rise in phenotypic IQ (the Flynn Effect).

The Revolution's Engine: We Have Deciphered Our Own Source Code

The Catalyst: The Human Genome Project

Completed in 2003, the HGP determined the sequence of our DNA, identifying the ~25,000 genes of the human genome. The full implications are only now unfolding.

The Economic Driver: The Collapse in Cost of Genome Sequencing



This isn't just about personalized medicine. It's the dawn of personalized reproductive medicine.

The End of Genetic Roulette.

Genetic Roulette (The Past)

Sexual reproduction is an untested genetic experiment. We shuffle the genetic deck and hope for the best, passing on a scrambled mix of our genes—including an average of four lethal recessives each.

Responsible Design (The Future)

Prospective parents will choose their children's genetic makeup. Choosing a child's genes may soon become the badge of responsible parenthood. Selection pressure against alleles for conditions like cystic fibrosis or Huntington's disease will become immense.

What responsible parent, if offered the choice, will neglect to check their partner's DNA—and their own—before having children?

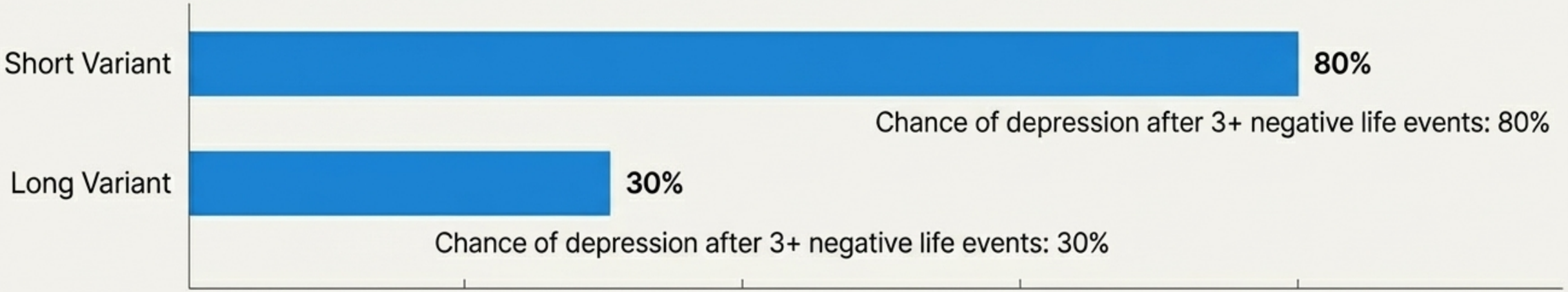
From Physical Health to Psychological Well-being.

The Principle

Julian Savulescu, Oxford Professor of Ethics, argues for the "Principle of Procreative Beneficence": a moral obligation to select children with the greatest chance of leading the best life.

A Real-World Example: The 5-HTTLPR Gene

This serotonin transporter gene variant strongly correlates with resilience to depression after negative life events.



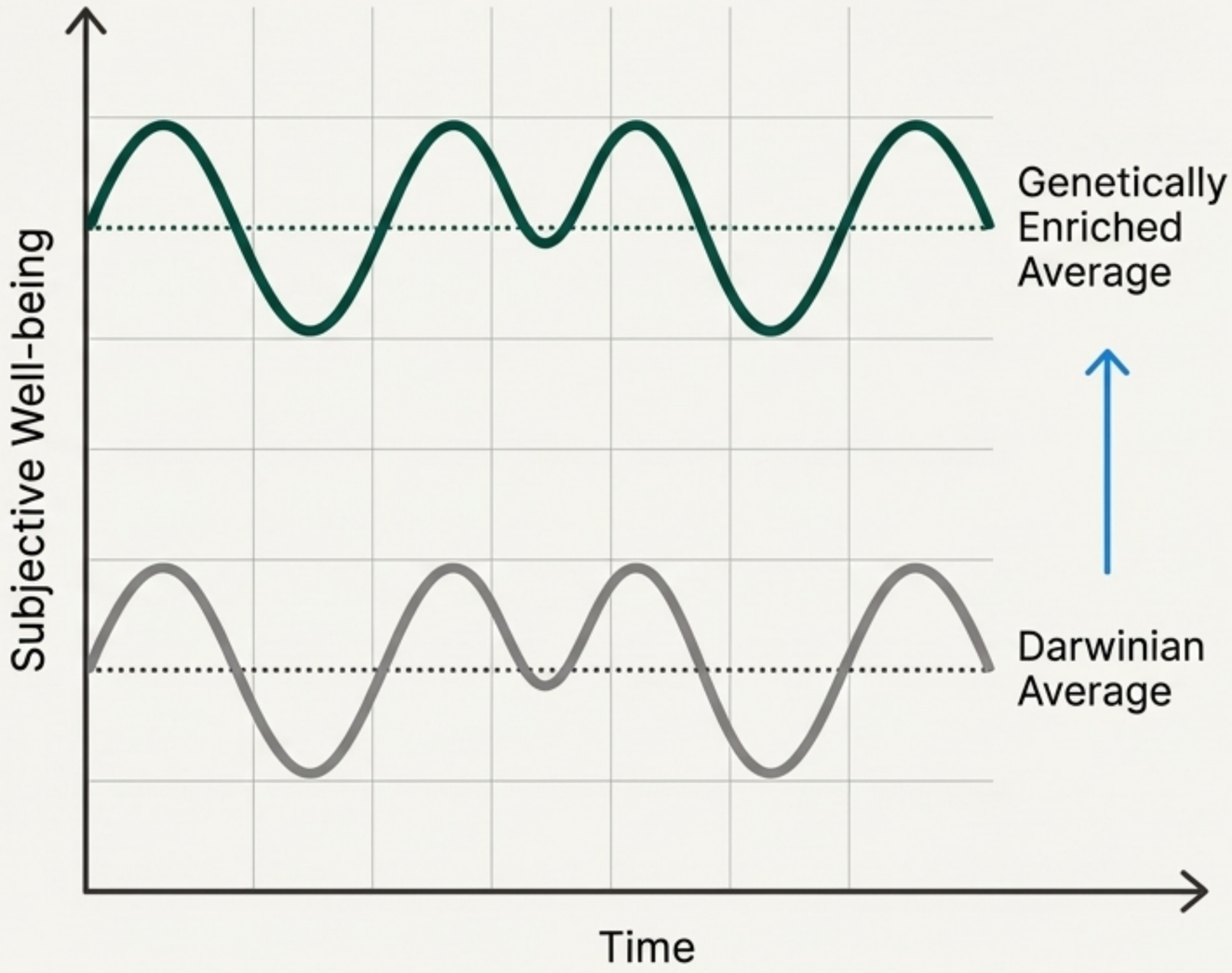
If you could choose via preimplantation diagnosis, which version would you select for your child? Or would you decline to choose, putting your faith in chance?

Recalibrating the Hedonic Treadmill

Concept Explanation
We all have a partly heritable "hedonic set-point"—a baseline level of well-being around which our mood fluctuates. After good or bad events, we tend to revert to this mean.

The Driver of Change
This isn't a top-down project. It's the collective result of billions of individual choices. Most parents want happy children. A surprising number, when polled, say they would choose a hedonic setting of "10 out of 10" for their offspring.

Key Insight
Tomorrow's enhancement becomes the next generation's remedial therapy. The depressive realism of one century becomes the affective psychosis of the next.



Beyond Happiness: The Redesign of Intelligence, Empathy, and Pain.

Empathetic Superintelligence

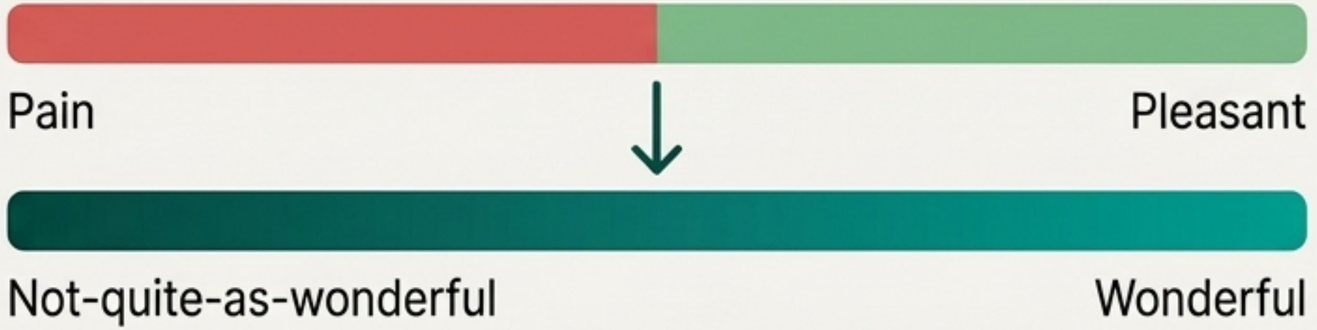
Parents can select for genes associated with empathy, via functionally amplified mirror neurons and an enriched oxytocin system, leading to greater trust and pro-social behaviour.

The End of Physical Pain

Raw physical pain can be replaced. The function of nociception (detecting harm) can be separated from the subjective experience of pain.

Two Paths Forward:

- **The Cyborg Solution:** Offload nasty sensory information to non-conscious prosthetic devices.
- **Radical Recalibration:** Retain informational sensitivity through gradients of bliss. The scale is shifted from 'painful vs. pleasant' to 'wonderful vs. not-quite-as-wonderful'.



Navigating the Ethical Minefield.

The Spectre of the 20th Century

The history of eugenics—coercive sterilization, racial hygiene, genocide—is a stark warning. The fundamental difference lies in intent.

> **Authoritarian eugenics serves the state, class, or race. Liberal eugenics, or "procreative beneficence," serves the well-being of the *individual*.**

A More Subtle Trap: Positional vs. Intrinsic Goods

Positional Goods

Enhancements that offer a relative advantage (e.g., height). If everyone gets taller, no one benefits, and we may suffer health problems.

Intrinsic Goods

Enhancements that are beneficial regardless of others (e.g., temperamentally happy). These technologies can benefit *everyone*.

Complex Choices: What Might Be Lost?

1. The Future of Homosexuality:

If parents know a gay child may face social prejudice, what percentage will choose ‘gay genes’? Could alleles predisposing to homosexuality be selected against and die out?

2. The Future of Bipolar Disorder:

Unipolar depression may be an unmitigated evil. But many creative high-achievers in art, science, and politics have been bipolar. Will we lose something valuable by weeding out the associated alleles?

3. The Future of Autism Spectrum Disorders:

Some of the greatest scientists, like Newton and Einstein, fit the diagnostic criteria for Asperger’s syndrome. To what extent is their scientific acumen separable from their pathologies of mind?

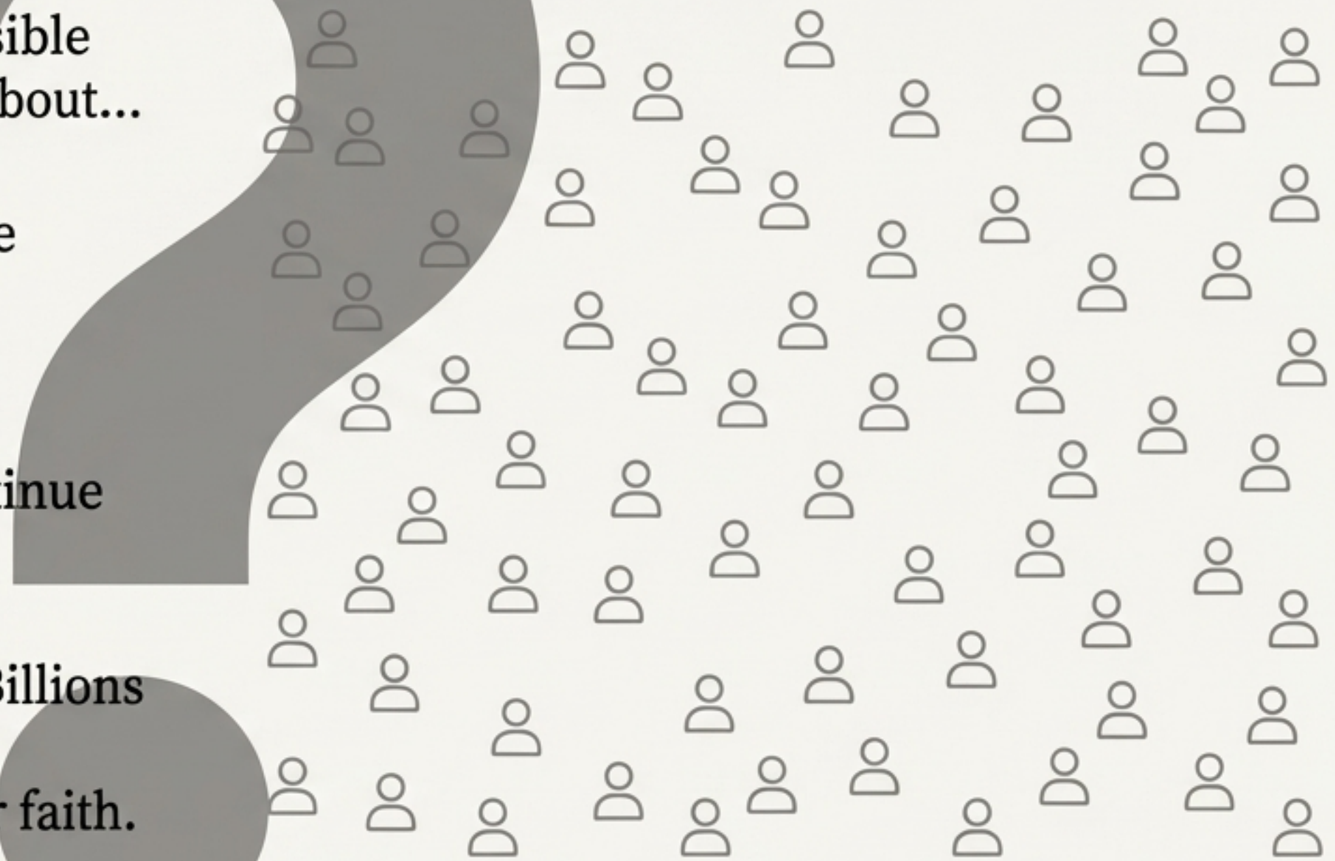
The Strongest Objection: Won't Most People Just Continue to Have Sex?

This is a powerful counter-argument. Responsible parents may use these technologies, but what about...

- **Unplanned Pregnancies:** These are common even with widespread contraception.

- **Feckless Teenagers:** They will continue to have unplanned babies.

- **Traditional/Religious Objections:** Billions may be reluctant to embrace these technologies out of custom, habit, or faith.



The Implication: If most babies are conceived conventionally, our Darwinian tendencies toward suffering seem destined to continue indefinitely.

The Unifying Factor: The Anti-Aging Revolution Changes Everything

The Premise: The pursuit of radical life-extension is moving from quackery to science. When rejuvenation technologies become available, the overwhelming majority of people will use them. (cf. Aubrey de Grey's *Ending Aging*)

The Link: A planet of quasi-immortals creates a demographic challenge that forces a radical rethinking of reproduction itself.

The Inevitable Consequence: If post-genomic medicine dramatically extends lifespan and people stop dying of old age, our planet will rapidly reach its carrying capacity.

Selection Pressure in an Age of Quasi-Immortality

The New Reality

On an Earth at its carrying capacity, reproduction must become rare, momentous, and tightly controlled. Unlimited procreation becomes physically impossible.

The Ethical Dilemma and Solution

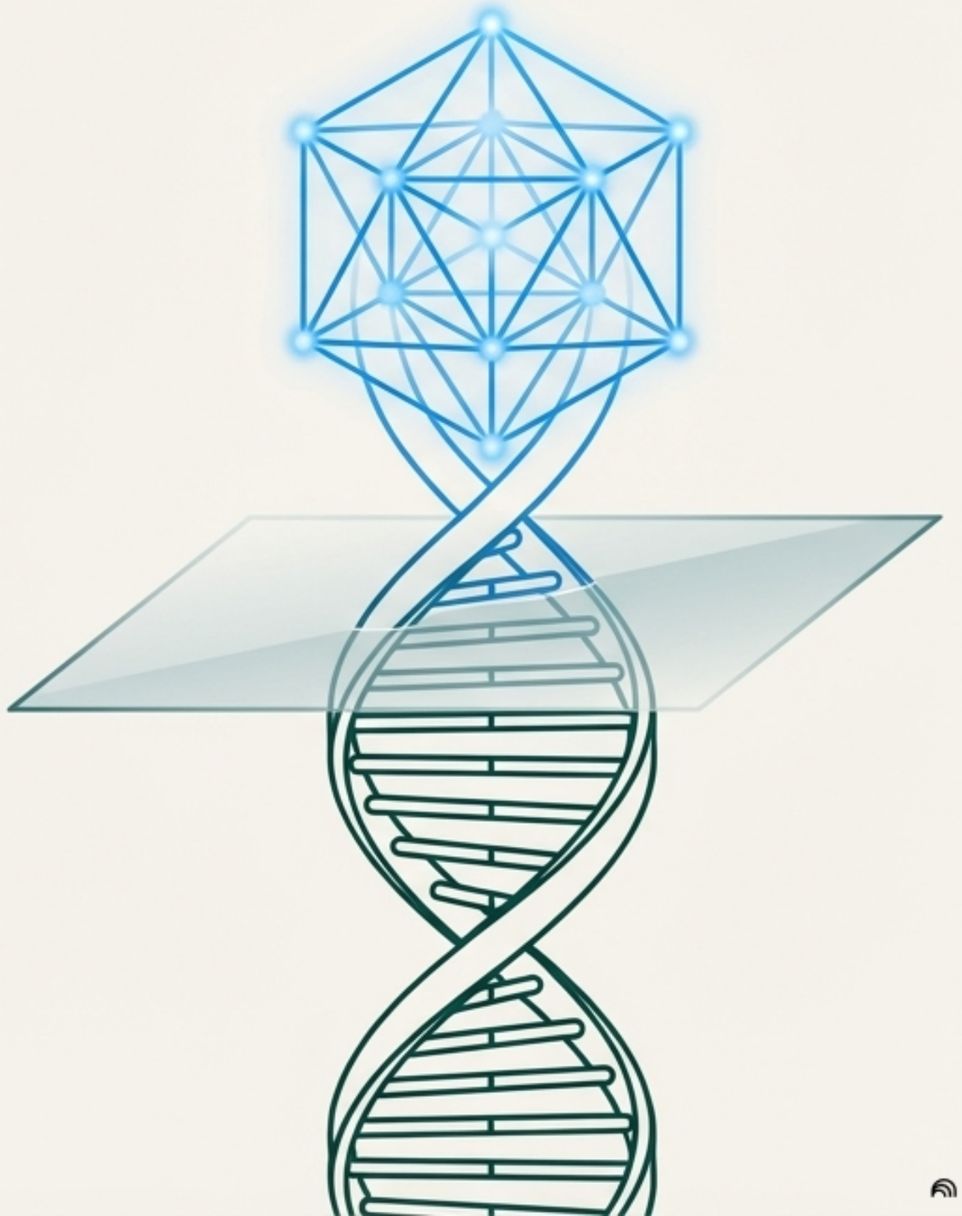
This implies greater collective control of reproductive decisions—a troubling thought. However, the urge to reproduce is also under genetic control and can be modulated. Every new life becomes a profound societal investment.

The Final Question

On the historic occasion of creating a new being, is it likely that superhappy, superintelligent quasi-immortals would choose to create genetic malware for unpleasant, senile consciousness—i.e., archaic Homo sapiens?

The Conclusion

No. They are more likely to create fellow "smart angels." The triumph of the Reproductive Revolution reshapes the fitness landscape beyond recognition.



From Darwinian Roulette to Intelligent Design.

The Core Transition: "We are witnessing the end of four billion years of blind, random evolution. The abolitionist project—the eradication of the biological substrates of suffering—need not be a top-down, utopian scheme."

The Final Insight: "Instead, it may be the collective, unintended consequence of billions of personal reproductive decisions made by parents who want the best for their children, locked into place by our shared, inescapable desire to conquer aging and death."