### The Mind Is Its Own Place

If it was possible to become free of negative emotions by a riskless implementation of an electrode without impairing intelligence and the critical mind - I would be the first patient.

Dalai Lama (Society for Neuroscience Congress, Nov. 2005)

The mind is its own place, and in itself Can make a Heav'n of Hell, a Hell of Heaven

John Milton, Paradise Lost

## The Abolitionist Project

Within a few centuries, it will be technically feasible to abolish suffering of any kind.

The world's last aversive experience may be a precisely dateable event: perhaps a minor pain in an obscure marine invertebrate.



Today

Genetic Engineering



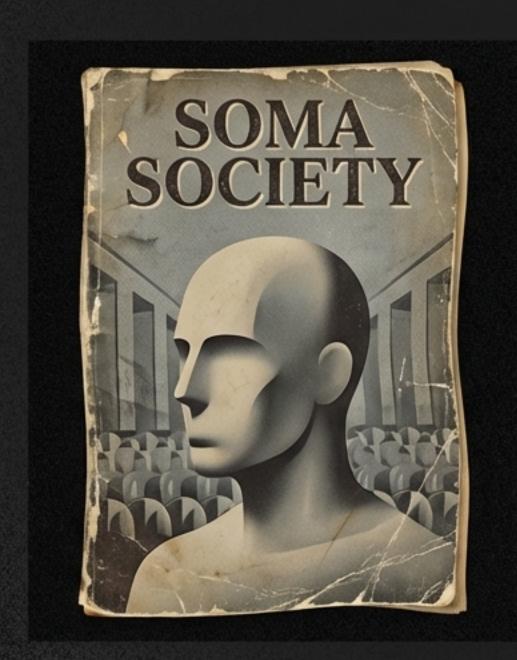
Nanotechnology



Vertebrate Genome Rewritten Centuries Hence

Genetic engineering and nanotechnology can banish unpleasant modes of consciousness from the living world, replacing them with gradients of life-long, genetically pre-programmed well-being.

# The Two Dystopias That Imprison Our Imagination



The ideological obstacles to a happy world are more formidable than the technical ones.

Any blueprint for abolishing suffering is reduced to one of two negative stereotypes.

Both are disturbing, pervasive, and profoundly ill-conceived.

Together, they impoverish our notion of what a Post-Darwinian life of happiness might be.

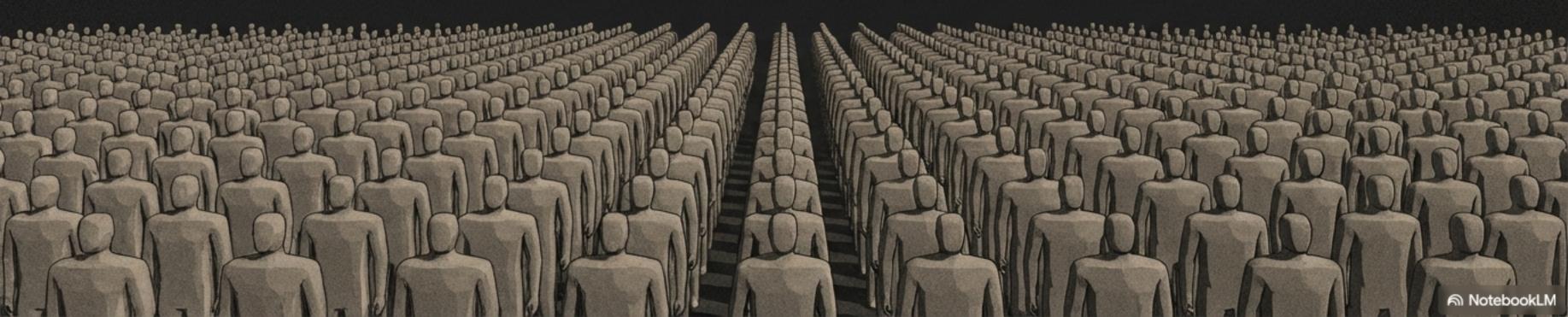


## Myth 1: The Soma Society

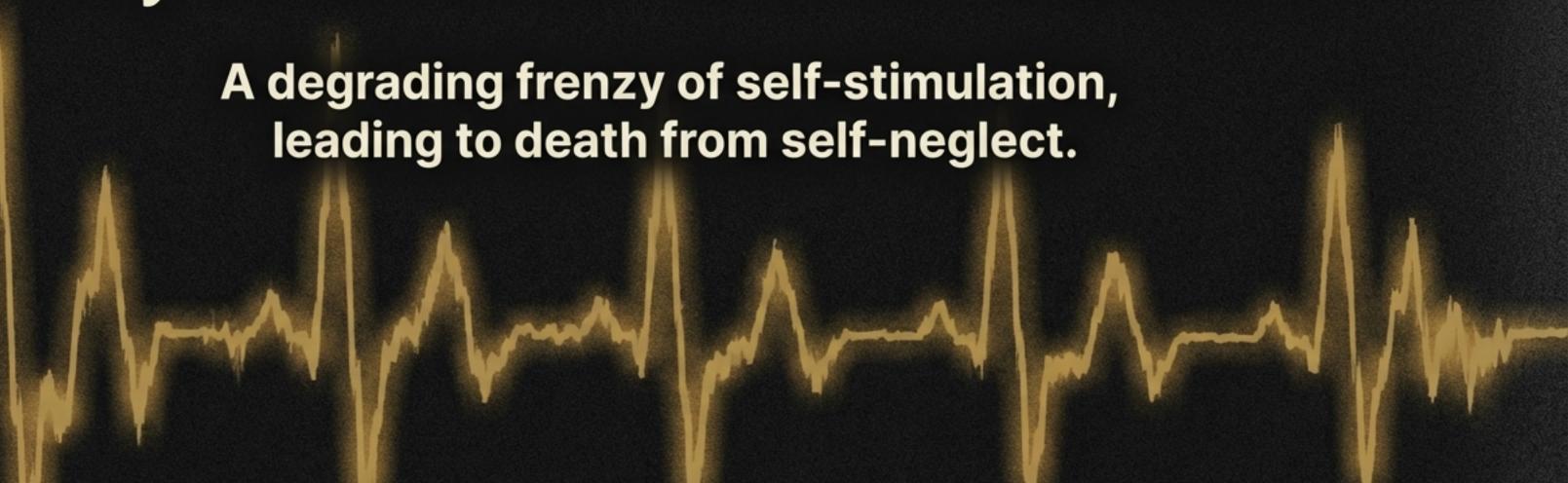
## A world of imbecilic, drug-induced bliss offsetting empty consumerist lives.

"The perfect drug. Euphoric, narcotic, pleasantly hallucinant. All the advantages of Christianity and alcohol; none of their defects." - Aldous Huxley, Brave New World

- Taken by brainwashed dupes of a ruling caste.
- \* A cross between a hangoverless tranquilliser and a non-addictive opiate.
- \* Underwrites a static, philistine, loveless society where intellectual progress is abolished.



## Myth 2: The Wirehead Rat



An intra-cranially self-stimulating rat, pressing a lever in enraptured frenzy, becomes the symbolic expression of wirehead hedonism and the pitfalls of "unnatural" pleasure.

The sight of a "blissed-out, manically self-stimulating rat" does not inspire happiness in us; it inspires recoil and distaste.

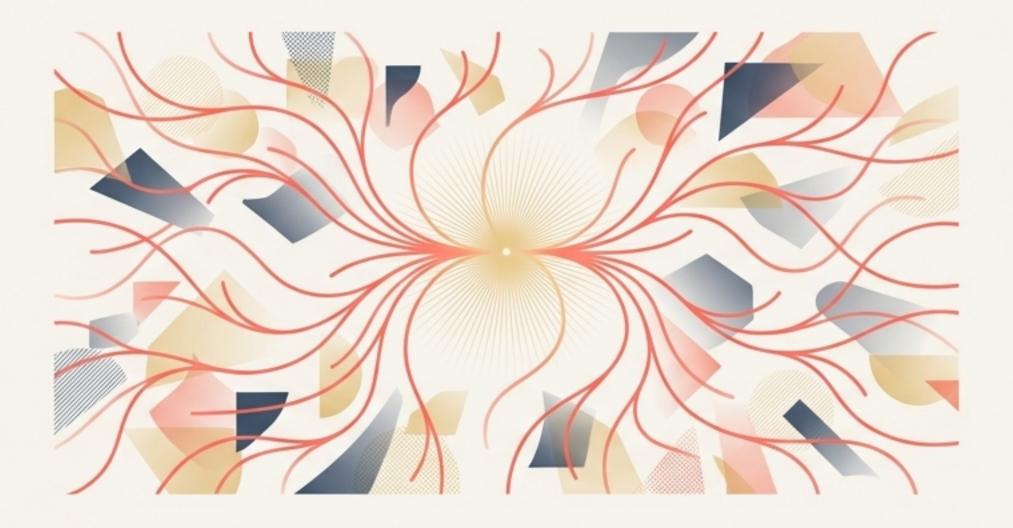
## This Is a Morally Catastrophic Misconception

The images of the soma-dupe and the wirehead rat embody a morally catastrophic misconception of the landscape of options for paradise-engineering.

Our future modes of well-being are not squalid, empty, or amoral. They can be sublime, cerebral, and empathetic.

## Reality: Engineered Bliss Enhances Motivation and Exploration

'Hedonic enrichment needn't entail getting stuck in a wirehead rut.'



'Dopaminergics aren't just euphoriants: they also enhance 'incentive-motivation'. On this basis, our future is likely to be more diverse, not less.'

'Even crude dopaminergic drugs tend to increase exploratory behaviour, will-power and the *range* of stimuli an organism finds rewarding. Novelty-seeking is normally heightened.'

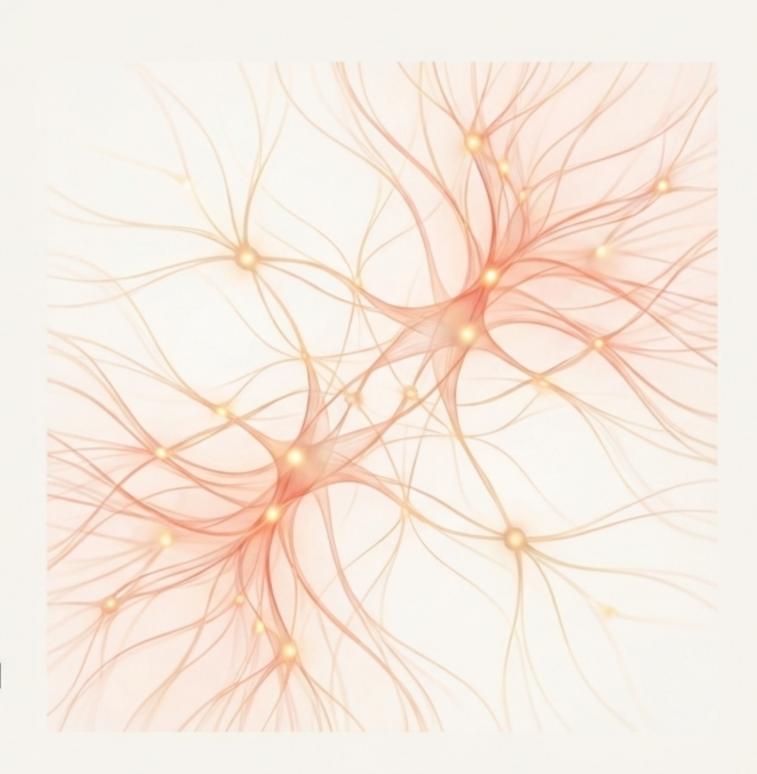
## Reality: Well-being Can Be Empathetic and Intelligent

#### Not Selfish

"Non-neurotoxic and \*sustainable\* analogues of empathogen drugs like MDMA may potentially induce extraordinary serenity, empathy and love for others."

#### Mechanism:

Release of extra serotonin, dopamine, and the pro-social hormone oxytocin.



#### Not Stupid

"An arsenal of cognitive enhancers will allow us to be smarter too."

Crucial distinction:
"Feeling blissful isn't the same as being 'blissed-out'."

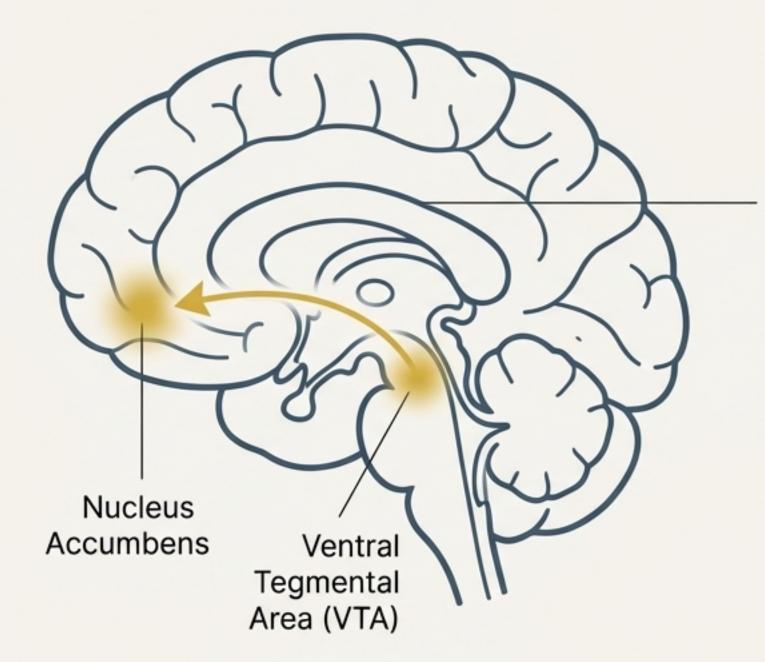
#### The "Final Common Pathway" of Reward

#### Origin

In the 1950s, James Olds' experiments with intracranial self-stimulation (ICSS) mapped the brain's pleasure centers. The most rewarding region is the medial forebrain bundle.

#### The Hypothesis

Most rewarding experiences critically depend on the mesolimbic dopamine pathway.



#### Mechanism

VTA neurons produce dopamine and project to the Nucleus Accumbens. This pathway is the foundation of reward, motivation, and pleasure.

### Distinguishing 'Wanting' from 'Liking'

WANTING (Motivation)



Associated with: Dopamine

Primarily encodes 'wanting' or incentivemotivation. It promotes urgency and engagement with the world. LIKING (Pleasure)



Associated with: Opioids (endorphins)

The mu and delta opioid receptors are more directly implicated in the sensation of pleasure itself, inducing emotionally self-sufficient bliss.

#### A Tale of Two Drugs

Heroin (Opioid Agonist): Rats self-administer but still find time to eat and sleep.

Cocaine (Dopamine Overdrive): Rats will self-administer until they lose up to 40% of their body weight and die within a month.

## Our Evolutionary Inheritance: The Hedonic Treadmill

A web of negative feedback mechanisms in the CNS conspires to prevent well-being from persisting for very long.



#### **Evolutionary Logic**

A capacity for unhappiness was adaptive in the ancestral environment.

Anger, fear, and anxiety played distinct information-theoretic roles, enhancing reproductive success.

"Selfish DNA makes its throwaway survival-machines feel discontented a lot of the time. A restless discontent is typically good for promoting its 'inclusive fitness', even if it's bad news for us.

### The Post-Darwinian Transition



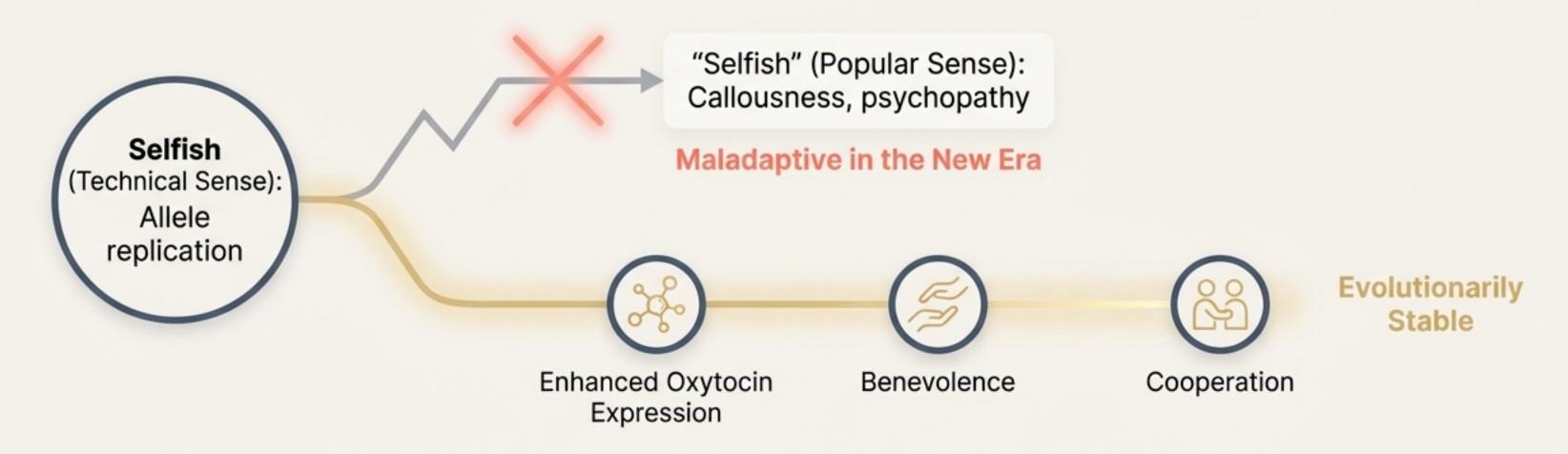
Phase Two: Reality

Natural selection is "blind." Genetic mutations are quasi-random with respect to what is adaptive. Nature has no foresight.

Alleles will be societally chosen and actively designed by quasi-rational agents in anticipation of their likely effects.

The character of fitness-enhancing traits will be radically different.

## Engineering Niceness: When "Selfish" DNA Promotes Unselfishness



In the new reproductive era, traits like a quasi-psychopathic callousness are potentially maladaptive.

An allele coding for enhanced oxytocin expression or a subtype of serotonin receptor predisposing to unselfishness will carry a higher payoff.

Genetic selfishness—in the technical sense—ensures that benevolence will not just triumph; it will also be evolutionarily stable.

## The Moral Imperative of Optional Suffering



As molecular neuroscience advances, pain, terror, disgust, anxiety, depression, and malaise are destined destined to become truly optional.

Our complicity in their persistence is destined to increase as the new reproductive technologies mature.

Is it permissible to compel others to suffer when any form of distress becomes purely optional?

Should the metabolic pathways of our evolutionary past be *forced* on anyone who prefers an odyssey of life-long happiness instead?

# Or is paradise-engineering the only morally serious option?

...And much more fun.