

Gebru and Torres's *The TESCREAL bundle: Eugenics and the promise of utopia through artificial general intelligence*

A discussion for *Law and Ethics of AI* at *The University of Pisa*

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Here's the plan:

- “artificial general intelligence” = “AGI”
- “utopia”: teleology, metaphysics, applied ethics
- “eugenics”: an ugly history
- “TESCREAL”: a present-day ugliness
- other, related concerns about this AI hype moment [time permitting]

What is “artificial general intelligence”?

Pennachin and Goertzel, who popularized the term in 2007,¹ define it as
*a software program that can solve a variety of complex problems in a variety of different domains, and that controls itself **autonomously**, with its own **thoughts**, **worries**, **feelings**, **strengths**, **weaknesses** and **predispositions***

specifically in contrast with

*“narrow AI” ... programs that demonstrate **intelligence** in one or another specialized area, such as chess-playing, medical diagnosis, automobile-driving, algebraic calculation or mathematical theorem-proving*

OpenAI defines² AGI as

***highly autonomous** systems that **outperform** humans at most **economically valuable** work”*

[**emphasis added** by JP in all quotes on this page.]

¹ [Artificial General Intelligence](#), Ben Goertzel and Cassio Pennachin, eds., Springer Verlag, 2007

² [OpenAI Charter](#)”, accessed 5 May 2026

Why is the idea of AGI so appealing?

Normalized in popular culture:

Frankenstein's monster, Hephaestus's robots (Talos!), HAL 9000, the Terminator, the Sorcerer's Apprentice, Azimov's *I, Robot*, Heinlein's *The Moon is a Harsh Mistress*, the mechanical Turk, etc.

Particularly tempting to scientists:

Laplace's Demon was a thought-experiment according to which we should be able to compute the future state of any physical system by extrapolating from current knowledge of the position and velocity of all of its component particles, using the fact that physical laws all seem to be second-order differential equations.

If that is possible with celestial bodies, clouds and molecules of air or water, and other complex systems, why not a human brain? And if today it could be simulated, why wouldn't it be twice as fast in two years, and twice again as fast after two more years, etc.?

Eugenics

The term *eugenics* was coined by Francis Galton to refer to
the study of all agencies under human control which can improve or impair the
racial quality of future generations

[emphasis added]

In short, dressing up racism in scientific clothes.

So-called “positive eugenics” involved encouraging people with desired traits to reproduce (more) – e.g., the Nazi’s forbade aryan women to get abortions – while “negative eugenics” involved discouraging the reproduction of those with undesired traits, or even sterilizing them.

A flawed tool, such as a supposed “intelligence test” – which might in fact be nothing more than a proxy for membership in a particular socioeconomic group – could be (and has been) used by eugenicists to simulate an objective basis for discrimination.

More science fiction metaphysics

Astronomer Carl Sagan and physicist Stephen Hawking both spoke repeatedly of how important it was for humans to establish permanent settlements off of Earth – look at what happened to the dinosaurs, who didn't diversify their living quarters in that way!

US President John F. Kennedy said we should go to the moon simply because it was hard and the effort would enlarge the human spirit.

If getting off Earth physically is very expensive, perhaps we can move just our minds: following the Laplace's Demon argument and trusting in Moore's Law, we might expect that it will be possible to *upload* minds to sufficiently advanced computers, where they would have full autonomy and agency – and even far greater intelligence than baseline humans do now!

Setting these virtual worlds filled with uploaded minds as our goal, the practical process might involve turning more and more matter in the universe into computer hardware – sometimes called “computronium” in this context – on which potentially trillions of “minds” could “run.”

If you don't want to upload, biological enhancement – merging humans with machines – might be a way to become superhuman or *transhuman*, with the superintelligence of machines while still enjoying the pleasures of the flesh.

Some metaphysics/teleology carries with it its own ethics:

- “it is the nature of humanity to explore the universe” ... so we must build superintelligent AGI to solve the technical problems of such exploration
- ...or maybe we must build strong AI so we can upload minds and not have to move bodies across the vast distances of space
- if exponential growth curves of technology (really: business) convince you that uploading minds is inevitable, there is a **utilitarian** argument in favor of doing whatever damage is required in the short term to get more quickly to the future with trillions of virtual minds running on computronium

This is actually a rather simplistic utilitarianism, since it assumes that these trillions of minds will be empty vessels into which joy, or at least utility, will be poured, so that all that matters in this calculus is to get to the largest number of such minds as soon as possible, no thoughtful nuance required.

TESCREAL summary table

Table 1: "TESCREAL bundle" of ideologies.³

Ideology	Definition	Influential figures	Organizations
Transhumanism	An ideology centered around the idea of humanity "transcending itself". Modern transhumanists affirm the feasibility and desirability of radically "enhancing" the human organism, thus enabling us to become immortal, superintelligent, more rational, and so on.	Julian Huxley, Nick Bostrom, David Pearce, Max More.	Extropy Institute, Alcor, World Transhumanist Association, Future of Humanity Institute.
Extropianism	A broadly libertarian variant of transhumanism that emphasizes rationality, self-transformation, scientific and technological progress, and economic growth.	Max More, Nick Bostrom (1990s), Eliezer Yudkowsky (1990s).	Extropy Institute.
Singularitarianism	A variant of transhumanism that emphasizes the merging of humans and machines, and anticipates a future event called the "Singularity."	Ray Kurzweil, Eliezer Yudkowsky,	Singularity Institute (defunct), Singularity University, Machine Intelligence Research Institute.
Cosmism	A vision of the future that anticipates humans and machines merging, the development of "sentient AI" and mind uploading, space colonization, and "scientific 'future magic' much beyond our current understanding and imagination."	Ben Goertzel.	
Rationalism	An ideology that emerged from the LessWrong website, founded by Eliezer Yudkowsky in 2009. Rationalists focus on "improving human reasoning and decision making," and many members believe that advanced AI is "a very big deal for the future of humanity."	Eliezer Yudkowsky, Jaan Tallinn, Peter Thiel, Nick Bostrom, Scott Alexander, Vitalik Buterin.	LessWrong community blogging website, Machine Intelligence Research Institute.
Effective Altruism	A movement that could be seen as the twin sibling of Rationalism. Whereas Rationalists aim to maximize their rationality, Effective Altruists strive to maximize their "positive impact" on the world.	William MacAskill, Toby Ord, Nick Bostrom, Dustin Moskovitz, Sam Bankman-Fried.	Centre for Effective Altruism, Open Philanthropy, Future of Humanity Institute.
Longtermism	An "ethic" that combines many central features of the other TESCREAL ideologies. It emphasizes the moral importance of becoming a new posthuman species, colonizing space, controlling nature, maximizing economic productivity and creating as much value within the accessible universe as possible.	Nick Bostrom, William MacAskill, Toby Ord, Nick Beckstead, Hilary Greaves, Elon Musk, Jaan Tallinn, Sam Bankman-Fried.	Future of Humanity Institute, Future of Life Institute, Centre for the Study of Existential Risk, Machine Intelligence Research Institute.

³ lightly adapted, by removing citation references, from Gebru, T., & Torres, Émile P. (2024). **The TESCREAL bundle: Eugenics and the promise of utopia through artificial general intelligence.** *First Monday*, 29(4). <https://doi.org/10.5210/fm.v29i4.13636>

Related dangers

Some things I worry about, related to this article:

- Giving huge sums of money to some of the worst people in the world ... who support eugenics and autocracy!
- Endangering the global economy: one third of the value of the US stock market is in AI-related stocks, so when this bubble bursts it will cause enormous, real harm.
- The opportunity cost of spending this money in this way.
- Excusing horrific damage to the environment, to society, to democracy, to real, living people today because it supposedly benefits some future trillions of uploaded minds.
- Fear of a malevolent future AGI, concern about “AI Safety,” discussion of “alignment” of the postulated AGI’s values and goals with humanity’s makes all this science fiction seem real, all the while justifying giving more power and wealth to these tech broligarchs who claim to have the dragon by the tail.

Further reading

- Timnit Gebru and Emile Torres's paper: [The TESCREAL bundle: Eugenics and the promise of utopia through artificial general intelligence](#)
- Some journalism: an interview with Torres about the contents of their paper: [Tech Capitalists Don't Care About Humans. Literally.](#)
- More journalism: [Peter Thiel's Apocalyptic Worldview Is a Dangerous Fantasy](#)
- Very insightful journalism: the great podcast [Mystery AI Hype Theater 3000](#) by Emily Bender and Alex Hanna; they also wrote a book [The AI Con: How to Fight Big Tech's Hype and Create the Future We Want](#)
- Science fiction that influenced the TESCREAL worldview: Isaac Azimov's [The Last Question, 1956](#), [Profession, 1957](#), and, of course, his [I, Robot](#)
- More science fiction: Robert Heinlein's [The Moon is a Harsh Mistress](#)
- More science fiction: Vernor Vinge's [The Zones of Thought Series](#)
- More science fiction: Charles Stross's [We're sorry we created the Torment Nexus](#)
- Excellent related science and technology studies: Joy Buolamwini's [Unmasking AI](#)
- More STS: Jathan Sadowski's [Mechanic and the Luddite: A Ruthless Criticism of Technology and Capitalism](#)
- More STS: Brian Merchant's [Blood in the Machine: The Origins of the Rebellion Against Big Tech](#)
- More STS: Ruha Benjamin's [Race After Technology: Abolitionist Tools for the New Jim Code](#)
- My own: [AI hype TRacking Project](#) with (as of today) 8890 articles in many areas around AI.

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