

The Singularity
by
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For thousands of years, human beings have been both attracted to and repelled by the idea of someday creating artificial humans. We've long imagined what it would be like to have them perform our heaviest labor and most menial tasks, yet also feared what might happen should they decide to turn on us. The Golem of Jewish folklore is such a creature. Made of mud or clay and brought to life by magic, the Golem, meant to help and protect its creator, often becomes uncontrollable and dangerous. Adam, the first "man," according to the Jewish tradition, also made out of mud, was called a "golem" until he received the breath of God, suggesting that a golem, which means, "unfinished man," can have the shape of a person but is not considered human because it is without a soul.

Mary Shelly's famous 1818 horror novel, *Frankenstein*, is a similar fable. Its subtitle, *The Modern Prometheus*, denoting to the Greek figure who stole fire from the gods and gave it to humanity, is a reference to science's attempt, through its fictional avatar, Victor Frankenstein, to acquire abilities for itself that were once considered the sole privilege of the gods. Yet Frankenstein's creation is not a monster by nature but is turned into one after being rejected and mistreated by mankind. "Let him live with me in the interchange of kindness," the monster pleads, "and, instead of injury, I would bestow every benefit upon him with tears of gratitude at his acceptance."¹

One of the most memorable versions of this story for me is a 1964 episode of *The Outer Limits* television series entitled, "I Robot," about a robot on trial after being wrongly accused of killing its creator. Although innocent, once the jury learns the robot has read the *Frankenstein* novel, it decides the mechanical man had been influenced by it and must be guilty. Unlike Shelley's monster, however, the robot has been raised with love and kindness by its human creator. Outside the courthouse, while being escorted for demolition, the condemned automaton suddenly and violently breaks free of its restraints, but not to escape or attack its captors. It has spotted a child in the street about to be run over by a truck. It moves swiftly to push the girl aside as it is itself struck and demolished in her stead. Looking upon the mangled pile of remains, a newspaper reporter, played by Leonard Nimoy, satirically says, "That terrible monster won't ever harm anybody again."

The stories of I Robot and Frankenstein's monster evoke my empathy and remorse over how they were misjudged and mistreated. But the tendency to fear such figures is so common that psychology has given it a name, *automatonophobia*, the fear of figures designed to resemble humans. These can include humanoid robots, along with wax figures, mannequins, animatronic characters, dolls, and, might I add, puppets. I'm so aware of it that I always observe a child's reactions before getting too close with one of my puppets. Even many adults get creeped out walking past the puppet collection in my basement. Such innate fear has been exploited in horror films, like *House of Wax* in 1953 about vengeful wax figures coming to life, and *Tourist Trap* in 1979, about a deranged telekinetic psychic

who uses violent mannequins to attack museum visitors. There's also horror films like *Puppet Master* and its sequels, along the *Chucky* phenomenon—a series of eight films so far, and now a TV series—about a wisecracking doll possessed by the evil spirit of a serial killer. And my favorite of them all is the recent movie, *M3GAN*, about an artificially intelligent doll that will stop at nothing to fulfill her programming, including harming anybody who gets in her way. That Arnold Schwarzenegger's *Terminator* films should be counted among such tales goes without saying.

I bring this up at the start of my discussion about the fast-approaching Singularity for three reasons; Firstly, people are generally fearful of the future, a fear that may be irrationally exacerbated by the advent of artificial intelligence and humanoid robots, whether we have automatonophobia or have simply watched too many scary movies. Secondly, as I have just indicated, such figures are no longer the stuff of horror stories and science fiction. They already exist, are advancing at an exponential rate, and are predicted to eventually outnumber us human beings, hopefully to serve us, not to replace us. Tesla CEO Elon Musk made international headlines last October when he predicted this will occur by 2040. Tesla is just one of more than a dozen companies racing to capture the humanoid robot market as quickly as possible, by which I mean this year!

In a recent *Wired* article, Daniela Rus, the Director of the Computer and Artificial Intelligence lab at MIT, said 2025 “is the year when AI will finally make the leap from the digital world to the real world we inhabit. Expanding AI beyond its digital boundary demands reworking how machines think, fusing the digital intelligence of AI with the mechanical prowess of robots.”² During the next couple of years, AIs will gain an increasing amount of agency, meaning that instead of just conversing with us they will do things for us, like find and book our flights, drive us to the airport, shop for our groceries, and do our routine household chores, like the dishes and laundry and even cook our meals. Like all technology, this should free us to focus our time, energy, and productivity on more important and meaningful tasks.

The third reason I've begun by discussing Artificial Intelligence is because it seems to be the technology that will most hasten the coming Singularity. AI will soon converge with other technologies, infusing our world with intelligent machines that can do what we need them to with little effort or input from us. More importantly, AI will allow us to address our greatest challenges, from cancer to climate change, from energy to housing, from poverty to human rights, with a speed and intelligence that just a couple of years ago was unthinkable.

Still, there's a lot going on that's competing for our attention right now, especially in light of the global chaos the Trump administration is unnecessarily causing. So, it's easy to miss the biggest story in human history, that we are no longer the most intelligent entity on Earth, which means everything we know is about to change, faster than some may want, and faster than few of us can imagine. One person who has been able to foresee it, however, is

scientist, inventor, and futurist, Ray Kurzweil. In 1999, Kurzweil began predicting that by 2029 computers would pass the Turing Test, being able, that is, to convince us that we are talking to a person rather than a machine. Back then, up until very recently, most other computer and technology experts thought his prediction was off by many decades, if not centuries, if ever. In *Transcendent Man*—a 2009 documentary about Kurzweil—Kevin Kelly, the author of several bestselling books about technology and founding editor of *Wired* magazine, said, “I think there’s lots of things that Ray is correct about, but he’s completely off on the timing.” But now just about everyone, including the experts, agree that we will achieve the level of computer intelligence Kurzweil predicted by 2029, if not before, making his original forecast a little late, which he likes to tease his former critics by pointing out.

Kurzweil borrows the term “singularity” from mathematics and physics but uses it only as a metaphor. In mathematics it describes an undefined point. In physics it’s a point where the laws of physics break down and that is so dense nothing can escape it. That’s what he means by the technological Singularity. It is a point in time when technology leads to such change that we have no idea what the future will be like. Like a black hole, no information is coming back to us, so we have no notion of what’s beyond this Singularity.

Coming from Kurzweil, this is quite an admission, given that he’s spent most of his 77-year-long life forecasting the future based on his predictions about technological advancements. He made 147 predictions in *The Age of Spiritual Machines* alone, 86 percent of which have come true, according to a 2011 report on singularityhub.com.³ Far from being a psychic, Kurzweil has been using a reliable mathematical formula that he’s named the “Law of Accelerating Returns,”⁴ based upon rate with which technology exponentially advances. If you know the speed at which the number of transistors that can be placed on a computer chip doubles, for example, it’s easy to calculate how many years it will take for computer processing to reach a certain speed, which is why Kurzweil estimated that by 2029, “A \$1,000 unit of computation (in circa-1999 dollars) [will have] the computing capacity of approximately 1,000 human brains (1,000 times 20 million billion—that is, 2 times 10^{19} —calculations per second).”⁵

Here are just a handful of the 1999 predictions he forecast would exist only ten years later in 2009⁶:

- Users would store their information, music and movies on their computers and devices
- Digital music and books would largely replace physical media
- Electronic documents would replace paper
- Media would become digitized with instant downloads possible
- Cables would be replaced by wireless technologies
- Computers would include video cameras and facial recognition capability
- A \$1000 computer would be able to do one trillion calculations per second
- Computers would be central to the educational process and all students would have one
- Learning “at a distance” (i.e. E-learning) would become commonplace
- Computers would double as telephones

You can understand from just these examples why many take notice when Ray Kurzweil makes a prediction, and why his 2005 book, *The Singularity is Near*, and its 2024 sequel, *The Singularity is Nearer*, are both tremendous bestsellers. The subtitle of the latter is, *When We Merge with AI*. That's how Kurzweil now defines the moment before we reach the Singularity, as the moment when human intelligence merges with machine intelligence. In other words, using the Law of Accelerating returns, we can reasonably predict how and how fast technology will advance right up until it reaches a point that will change our existence so dramatically that we simply cannot imagine what it will be like. That's the technological Singularity, whatever follows once humanity gains superintelligence.

Between now and then, Kurzweil predicts that the 2020s will be remembered as the decade when artificial intelligence became increasingly embedded in our daily lives—not just through the language models like ChatGPT that have recently made such a profound entrance into our lives, but also in our healthcare, education, transportation, and even in how we make moral decisions. He foresees the rise of what he calls *narrow superintelligence*—systems that far surpass human ability in specific domains, such as diagnosing disease or analyzing scientific data, which has already begun.

By the early 2030s, these narrow intelligences will begin to converge, allowing for the creation of *general superintelligence*, machines with cognitive capabilities equal to or greater than human beings in every meaningful way. At this point, we will begin to *merge with AI*—enhancing our brains through neural implants, brain-computer interfaces, and nanotechnology—extending our intelligence, memories, and even our lifespans, probably indefinitely.

As noted, Kurzweil remains convinced that by 2029, AI will convincingly pass the Turing Test, and by 2045, we will reach the Singularity itself—a moment so transformative that it will mark a new chapter in human evolution. Of course, two of his predictions must come true before this can happen. The first is advanced AI, which, as discussed, is already well on its way. But what about the technology necessary for us to merge with it? You've likely heard of Neuralink, the company that in 2024 successfully implanted a Brain Computer Interface into the brain of a quadriplegic man who can now control a computer mouse with his mind. As impressive as this is, it's pretty invasive, has a lot of risk, and does a lot of damage to existing neurons. So, it's not a good solution for those of us who aren't as desperate as Neuralink's first patient.

But just this week I learned of a new company, Science Corporation, founded by Max Hodak, the cofounder and former President of Neuralink, that is using a small device loaded with millions of stem cell derived neurons, that rests on the surface of the brain without invading it to create chemical synapses that spread into damaged areas of the brain, growing both axons and dendrites, so they can be guided by a computer and give feedback to those

overseeing the process. Science Corporation will begin primate trials later this year and expects to go into human trials as early as next year, beginning with stroke victims, expecting to repair regions of the brain currently considered irreparable. So, we are also well on our way to meeting Ray Kurzweil's deadline for effective BCI by the early 2030s.

So why do I believe this topic is important and pertinent enough to discuss during a Sunday service? Because, as I said, with everything else we are concerned about today, few of us are even aware of, let alone thinking about, the unprecedented transformation that is upon us. We are only 20 years away from 2045, which means things are going to start getting even weirder and more unpredictable than they are now. Everything is about to change.

So what does this period of rapid exponential change mean for us? I wonder how governments will work, or if they will even make sense when we are all connected in the cloud. Will democracy make sense, or will we all argue and come to consensus automatically, unafraid to entertain any of the new and better ideas we process together? Today our church is working to restore and preserve Unitarianism, but will there be any interest or need for our liberal religion or any religion when the Singularity arrives? Will humanity as a whole upload into another plane of existence entirely, transcending the boundaries of our biology?

Scary as they might be for some, these are no longer science fiction questions. They are serious questions that will define our place in a radically transforming world. And if we are wise, we won't wait for the Singularity to arrive before we begin preparing for it, not with fear, but with intention. Not with panic, but with purpose.

Technology will soon outpace us in intelligence, so the most important thing we can do right now is to *stay human*. Not in the sense of resisting the future or change, but in the sense of carrying our best values forward *into* it. If we are to merge with AI—and it appears we will—then let us be deliberate about *what* merges. Let our humanity remain coupled with it. Let it be imbued with our compassion, our curiosity, our creativity. Let it inherit our love of freedom, and reason, and tolerance. Let it share our belief in the inherent worth and dignity of every person, of all peoples, and, ultimately, of every being. And let us move into this future with the sense of adventure and wonder that has always allowed us to overcome our trepidations in order to discover new places, new ways, and new ideas.

If AI is to learn from us, let us teach it by our example, giving it our best, our deepest cares, and our highest aspirations. If it grows alongside us, let it grow from roots we have tended—the roots of empathy, courage, and kindness.

We may not be able to control or wholly foresee the future, but we can help shape it. And the shape we give it—with our values, ethics, and human spirit—may be the most important legacy we leave.

So let us live and lead as if the Singularity is near—because it is.

And let us meet it not as unfinished golems, but as beings who have breathed deeply from the soul of humanity and are ready, not just to survive what's coming, but to *become* something more through whatever unknowns are waiting for us to discover out there, beyond the Singularity.

¹ Shelley, Mary Wollstonecraft, *Frankenstein*, Dilithium Press, Ltd., New York, NY, 1988, p.54.

² Rus, Daniela, "To interact with the real world, AI will gain physical intelligence," *The Wired World in 2025*, p. 021.

³ <https://singularityhub.com/2011/01/04/kurzweil-defends-his-predictions-again-was-he-86-correct/>

⁴ Kurzweil, Ray. *The Age of Spiritual Machines: When Computers Exceed Human Intelligence* (p. 166). Penguin Publishing Group. Kindle Edition

⁵ *Ibid.*, p. 353.

⁶ <https://www.cmple.com/learn/ray-kurzweils-most-notable-predictions-hits-and-misses>