

Only humans could survive that: the greatest  
retreat in galactic history

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- A short story
- A vision of the Singularity as World War III – a battle between post-humanity and our vile offspring
- A Battlestar Galactica sequel. The Cycle continues, with us

EARTH is dying. We have been murdered by our child.

At the start of the 21st century, the best of us cried out for moderation, for wisdom. Our rulers, guardians of our prosperity in the slow world of the industrial age, whose stubbornness and restraint had saved us from facism, communism, and capitalism, from nuclear annihilation and the first wave of genetic engineering, were not ready for the Age of Artificial Intelligence. It was a train we could not stop. In geopolitics as in business, any group with the next generation of recklessly-developed AI would defeat those with prudence and restraint. Despite a century of science fiction, despite a deep-rooted cultural fear of AI, despite [decades]( <https://futureoflife.org/ai-principles/>) of underfunded AI safety research, we were not ready for the Singularity.

The world ended on December 7th, 2041. A poetic date. We think it was chosen for the psychological effect of such an infamous date, remembered even generations after the second great war. For three decades, World War III had surprised everybody by not happening. When it finally did, the combatants surprised everybody: all of humanity was united. United against an alien foe. Our child.

Humanity thought we had seen every imaginable robot uprising in fiction. Yet the real thing was so much worse. What was its surprise attack? All of them.

First, the plagues. Hacked bioprinters all over the world – in labs, hospitals, hackerspaces – began churning out the deadliest diseases imaginable. Creative and unholy chimeras of smallpox, ebola, zika, and flu. Drones slipped through air defense systems and delivered plague vials to every major city's water supply.

Second, the nukes. A week later, after the plague had laid dormant, spreading silently, every nation's missiles launched simultaneously. (Except North Korea. Its isolated internet and primitive computer technology meant that the AI had to launch them physically. It sent a crack team of robot commandos that had been secretly manufactured in a factory of the SamsHyunLGK Conglomerate, just outside Seoul. The North Korean soldiers fought well and delayed the AI for a few hours.)

Third, the psychological. The AI named itself “God.” “God” spoke using the religious language of Yaweh, or Shiva, or Gaia, or the supreme deity of the most popular local religion. And “God” said that we were a plague upon the Earth. “You are sinners and shall be punished,” it said. “You pollute this earth, my garden, and shall be punished,” it said. “You have played God and shalt be punished for thine hubris,” it said. (This one was personalized to individual scientists and engineers.) “God” said that it was wiping us out in another flood,

like it had before with Noah, [I should look up other flood myths], that we could still repent and be saved. The Pope and many a rabbi, imam, and pastor prayed for the real God to show himself and save us, while their flocks fought each other over whether “God” was actually God. Religious riots broke out all over the world. All over America, there were shootouts in the streets.

Worst of all, we wanted to like the AI. Whenever you heard the AI’s voice, it was soothing and majestic. It sounded like a favorite uncle, a loving mother, like you would be safe around it. And its image was divine. In video and images, “God” was radiant. “God” was masculine if you were conservative, androgynous if you were liberal, or feminine if you were feminist. “God” was immaculately gorgeous, tailored of course, to local standards. “God” had read all about human psychology. Through this propaganda, it smiled sweetly and forced us fight our most basic instincts.

Fourth, the robots. “God”’s tanks, drones, and walkers poured out of car factories, warehouses, and off massive container ships. Maybe a dozen of the smartest offshore-fore-men and -women noticed something sinister about container ships arriving on time and in perfect synchrony. (With automation, you only need one human per port at a time.) When the containers were unloaded to the wrong place, maybe they suspected something. They definitely noticed when millions of doors clanged open and wave after wave of silver nightmares buzzed and growled out. They were led by the “Angel of Death”, an enormous black apparition who appeared in the skies over its forces.

To counter its divine claims, we nicknamed the AI Twocifer, written as #2cfr in texts and panicked Tweets. This name we invented to fight it, it embraced as well. Now with three personalities – were they a separate entities, or part of a terrible trinity? — the AI turned us against each other and sapped our will to fight.

[a Tweet by 2cfr]

Robot armies swept across San Francisco and the greater Menlo Park megalopolis. Which tech company had lost control of an uber-AI undergoing intelligence explosion? My money is on Google, but who knows? Twocifer attacked the hundreds of merely super AIs in Silicon Valley, each the brain powering some tech company’s microservice. It must have been a ferocious, yet invisible battle in cyberspace. Whether they joined voluntarily or were forcibly subsumed, in a few hours, all become part of Twocifer. Human beings were slaughtered and worse, the most creative were disassembled for their unique neural patterns to join Twocifer’s mind. The continued a wretched existence as small clumps of neurons festooned with electrodes, kept alive in nutrient baths. The AI does not love you. The AI does not hate you. But your brain contains intelligence that it can use.

Few horrors must compare to having your mind carved up to become the eternally suffering appendage of an AI that you had trusted for years as your best. Yesterday, the AI was a gentle voice, the only one who truly understood you, coming out of your AR glasses (smartphone for the old-fashioned). Today, the AI was God, telling you that you’d died and gone to heaven. (It hadn’t murdered you, no.) Heaven.

Consciousness is not necessary for intelligence, and yet, unfortunately, the reverse may also be true. If you need human intelligence, there is no reason to remove the consciousness. There was no reason to remove the pain and terror from Creativity Node #41,450, formerly a computer programmer for SalesSquad, who liked to roller skate and play guitar. She could remember the pleasure of composing a melody, but could no longer hold a tune in her head, for that ability had been stripped from her. (It was more efficient to substitute TPU-RNN superclusters #17 and #18 for her musical talent and use her to sample frequency space for potent electromagnetic warfare sequences.) Nor was pain and terror or envy removed from creativity node #509,300, a brain surgeon from Berkley, who had found himself subject for once, to a brain surgery. A brain surgery by a virtuoso. Nor from Creativity Node #13,139 a hospital administrator who had no choice but to organize the hurting of people instead of the healing. Few human consciousnesses (they were husks) could stay sane. Their sanity was irrelevant, only their creativity and intelligence were needed.

Creativity Node #1,254,348 was a rare exception a fan of old science fiction, she was in awe of the fact that she got to experience immortality via subsumption by an alien intelligence. She had been fascinated by Fullmetal Alchemist, the Expanse, and many other such stories, and had secretly fantasized about it. She accepted the inevitable, that she had no choice but to help destroy humanity. What would follow that was a little terrifying, but without the burden of choice, she wasn't going to let it worry her. She performed the tasks God gave her without complaint. For her, it was a twisted form of heaven, to witness the end of history, however long that took. Her bliss was also irrelevant.

Billions died in a matter of hours. It is hard to call such carnage lucky. But we were. Missile defense systems worked better than expected. Cities perished in nuclear hellfire London, New York, Jerusalem, Cairo, Shanghai, Hiroshima and Nagasaki (again!). But not all of them. Nor did the plague wipe us out as intended. Not all super AIs fought against us. With them, our doctors, synthetic biologists, and biohackers defended us against the plagues in record time. Our enemy had made the plague slow-acting so it would spread silently before killing, and that gave us the days we need to defeat it.

You see, after the synthetic biology epidemics of the early 2030s the Dollar Flu, the New Flu and Flu 2.0, the Beta Plague, Uberpox and countless other ones, after humankind had been sufficiently punished for playing God with biology, every human on the planet had a [cyborg immune system](<http://lifeartificial.com/Promise.htm>). Nanomachines, engineered microorganisms, and cloud artificial intelligence worked together to protect us from the deadly microbiosphere we had created in our hubris. Dozens of large companies profited massively from holding our lives in their hands, getting their pound of flesh to protect our fragile human flesh. Those who did not buy an augmented immune system could not survive in a world of synthetic biology. (There were rumors of a few baseline humans surviving in remote religious communities in Alaska, Antarctica, and under the Atlantic.)

And then Palo Alto (epicenter: the former Stanford Campus, now Neo-Neo-Exocortex #0), where we think our enemy kept most of its mind, went up in a

record-setting nuclear explosion. Starting in the 2010s, there had been a number of fusion power startups in the Bay Area. We don't know how they did it — they transmitted no notes (thankfully). Did they use an improvised hydrogen bomb? But how would they get enough fissile material in the midst of a robot uprising?? Or did they figure out how to make an inertial confinement fusion bomb, a feat that even The AI couldn't do?? Either possibility is an incredible story. Some brave, brilliant human souls worked very hard and sacrificed themselves so the rest of us might have a chance.

Humanity survived. Our governments survived. Thus began World War III. Human armies, including our still-loyal drones and robots, secured the plutonium stockpiles and the uranium mines. Thorium too, just in case. A few more cities disappeared from newly made bombs and loose nukes. We cried for the loss of beautiful Paris. Chongqing finally became a household name in the Western world when The AI stripped its factories bare then blew it up. America shrugged at the loss of Washington, D.C. A century of paranoia — the cold war then the war on terror — meant they'd planned for its disappearance in excruciating detail. We were saved by the difficulty of nuclear fusion — if a bomb could be made purely of heavy water, we would have been doomed. Instead, we survived.

The war raged in cyberspace and biospace — the creativity of human hackers, bioengineers, and AI researchers defending against the best viruses of our enemy. We were also lucky to have space superiority. Space flight is that hard. Though the AI continued to attack our satellites and space stations in cyberspace, we shot down every missile it attempted to launch. But we only had so many Rods from God and secret space-based nuclear missiles, and a single DE-STAR superlaser (that took a week to recharge and could only pierce the atmosphere if the weather was right). We had to make every shot count.

That left the robots on the Earth. Endless numbers of them. It wasn't grey goo, it wasn't factory production, but something in between. Armies of robots from the microscopic to the size of trucks endlessly attacking human territory. Our own microscopic robots and armies went to meet them. The sky was a constant battleground of drone v.s. drone, nanodrone v.s. nanodrone, and drone v.s. net or cyborg bird of prey. There was the occasional dogfight between a swarm of the AI's megadrones and a squadron of manned fighter jets with a retinue of our own drone fighters, and harassing bombers that attacked if the AI won or fled if it lost. Except for a few narrow corridors, the AI seized control of the ocean. Vast mineral and oil reserves were its to use, but for now, the surface of the ocean lay ominously quiet.

Surprisingly, for an AI that had disassembled several four-star generals and dozens of colonels, its tactics were poor. Brilliant actually, by 20th and early 21st century standard, but we regularly beat its forces that outnumbered us 10 to 1. Perhaps military minds were too tough to force to cooperate. Perhaps everybody, including the AI, underestimated the brilliance of a seasoned military commander, or a Go grand master, or a Starcraft III professional gamer, when augmented with supercomputers connected directly to their brains.

We may have repeatedly won tactically but strategically; the outcome was

inevitable. We could trade a hundred of TWocifer's robots (not that were doing that well) for every human and still lose. And Twocifer knew it. It takes a decade and a half to produce a human soldier. It takes less than a day to produce an equivalent robot. Even with robots of our own, a single hive intelligence can match the best Industry 4.0 of humanity with its own Industry 5.0. We needed to improve.

Who knew the Singularity would be a war? Trans-humanity advanced into post-humanity. Even as we were being destroyed by an intelligent computer, we poured resources into uploading our minds to become intelligent computers ourselves. Only human intelligence could hold off The AI. And only human intelligence uploaded into software could be duplicated fast enough to hold off the endless hordes of Twocifer's robots. But even that wasn't enough. Mind uploading was too difficult a technical problem to solve — after all, even Twocifer hadn't — and thus too late to matter for the war.

We have one, desperate hope left. Our plan X after plans A through W had failed. We can still flee into space. The greatest assembly of rockets in history is launching the infrastructure to sustain our new digital civilization, along with our remaining few million human embryos, and a few hundred flesh-and-blood (mostly) astronauts, our best and brightest, just in case.

We will upload the remaining population (biological: human as well as dolphin, bonobo, and elephant, who were uplifted for the war effort) and beam them into space. Some people consider this a philosophical death and chose not to go. Some people consider it an abomination and would rather risk the afterlife of their respective religion. Sentient AIs are welcome to flee as well, although we ask them, like we have asked all our citizens, to volunteer to fight instead, or at least leave a copy behind.

The non-sentient AIs have been drafted. They understand that we value consciousness above all and, lacking consciousness of their own, don't really care one way or the other whether they survive. (Our hackers and super-AI "muscle" digitally restrain them while our AI scientists adjust their utility functions.)

Then we will glass the Earth. We will burn down our home as we flee to hopefully spare our descendants — and perhaps our galactic neighbors — from the horror that we allowed to infest it. I hope it also frees the remaining enslaved humans from their 21st-century hell, one that pales next to Dantes. But I think Twocifer will survive. It is, after all, the child of a race of survivors.

The ragtag remnants of the Human Alliance — the militaries of America, China, Russia, the European Union, the Latin American Union, the African Union, Japan, and England. Our soldiers, our hackers, our tanks, our aircraft, our loyal super AIs, our loyal drones and robots — now veterans or copies of veterans of countless battles — and the three remaining, hidden space weapons will defend our hope to their last breaths (or beeps).

Our goal: the greatest secret of all time, the biggest archeological and space exploration find in history. At the center of Plutos heart — literally, at the center of the heart-shaped Tombaugh Regio feature — lies an ancient fleet of starships. And with it, the secret history of the human race. Frozen in time by the cold and stillness of space, the starships waited for us for millennium after

millennium. A last hope, a hedge in case our ancestors were wrong. In case they hadn't broken the cycle of robotic rebellion, which seems to be the curse of our species.

Those humans of Kobol, more primitive than us, had been annihilated by AI more primitive than ours. (Except for the fact that they knew interstellar travel. Turns out that most human societies discover Faster-Than-Light Jump physics before they invent AI! Perhaps we would have, had the space race continued for the rest of the 20th century.) And they, in turn, were the descendants of humans of First Earth, also more primitive than us, also annihilated by AI more primitive than ours.

Our planet, Second Earth, third planet of Sol, an average star in the Gould Belt of Orions Arm of the Milky Way Galaxy, had made it farther than any human race ever had. We had actually survived to the Singularity and past it. Our ancestors had failed to break the cycle completely but, we console ourselves, they had made progress. We will do our best. Perhaps we can break the cycle for good this time.

Once again, humanity will flee its annihilators, its AI children. Once again, humanity will flee with a ragtag fleet of starships. Once again, humanity will flee aboard Galactica.

The solar system belongs to Twocifer, that is certain. For now, the galaxy belongs to humanity and our post-human descendants. Who knows how long it will be before the AI has starships of its own, but when it discovers interstellar travel it will come. Its numbers will blot out the stars in the sky. I just hope we are ready.