

Human Nature and the Evolution of Technology Will Lead to Human Extinction

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Abstract

From the beginning of humankind, there has been a struggle between good and evil, knowledge and desire. In the biblical story of Adam and Eve, Adam succumbs to temptation and eats the forbidden apple, after being told by God that if he did so, humankind would be cursed forever. The story conveys how humans are fundamentally torn between good and bad. We are educated by society to be righteous and can make good choices based on common sense, but deep down there is a constant struggle between our morality and the pull of impulsive desire. We cling to a version of sanity by drowning out mortality through distractions. Watching death is how we live and to cope with this reality, we develop delusions of the mind to escape from the misery and pain. As human civilization grew over thousands of years, a world evolved, one full of amazing inventions and remarkable technology, yet our devious thoughts hid in the shadows of productivity and were cast onto those things we created. The development in areas like nuclear energy and artificial intelligence provide undeniable benefits, yet it also raises the possibility of a catastrophic outcome. The rush for innovation may come at a cost. – the extinction of humanity.

Human Nature and the Evolution of Technology Will Lead to Human Extinction

“Human Nature is evil.” – Xunzi (Goldin, 2018)

Today, our civilization is the most educated and technologically advanced in history. The perception of our reality *should* be one of hope, happiness, and prosperity, as life has never been better. However, like the shadow of a tree on a sunny summer day, there is a corresponding darkness in our being, leading us toward self-destruction. We are caught between our aspirations to be good and the temptations and impulses that pull us in the opposite direction. Influential philosophers such as Sigmund Freud, Thomas Hobbes, and Immanuel Kant explained their thoughts on the duality of human nature and the conflict between “good” and “evil” within us all. Unintentionally, this duality has been translated into the technology we have developed. Nuclear energy and AI share the ominous quality of “dualistic” technologies. Both offer a tremendous upside, one providing clean energy and the other capable of solving complex problems, yet both represent the greatest threat to human existence. This paper will show through philosophical and scientific means, that even as we develop our morals and values through societal factors which shape our rational thinking, humanity continues toward what will be self-inflicted annihilation.

Philosophical

Sigmund Freud

Sigmund Freud, an Austrian neurologist who became popular in the early nineteenth hundreds, wrote about the two fundamental forces that act upon human nature. Eros and Thanatos, named after the God of love (Eros) and the God of Death (Thanatos), explained the “phenomena of life.” Eros is a primarily sexual drive energized by the libido and is only good for procreation. Thanatos is explained as being not about survival and self-preservation but an

impulse to find the shortest path towards death. In his book *Beyond the Pleasure Principle*, Freud describes the “death drive”, “If then all organic instincts are conservative, historically acquired, and are directed towards regression, towards reinstatement of something earlier, we are obliged to place all the results of organic development to the credit of external, disturbing and distracting influences. The rudimentary creature would from its very beginning not have wanted to change, would, if circumstances had remained the same, have always merely repeated the same course of existence.” He goes on, “This final goal of all organic striving can be stated too.” “We may assume as an experience admitting of no exception that everything living dies from causes within itself, and returns to the inorganic, we can only say ‘The goal of all life is death,’ and, casting back, ‘The inanimate was there before the animate.’” Human nature at its core would strive for death. It finds ways to manipulate the new surroundings of life to achieve its goal (Freud, 2019).

Freud also introduced claims in his book *Civilizations and its Discontents*, that people are instinctively drawn to find happiness, yet it can never be fully accomplished. He explains that reality is the sole reason for suffering and misery and there are three reasons. According to Freud, the three main causes of suffering are the natural world, our own bodies, and our interactions with other people. The suffering that comes from other people is the worst of the three. “All suffering is sensation and only exists in that we feel it” (Freud, 2011). Normal mental life requires intoxicating media - the immediate yield of pleasure and independence from the external world. To live happily, one must break free from reality entirely to separate us from evil and misery. They do this by different means such as yoga, drugs, or delusions of the mind.” (Freud, 2011). For example, religion is a delusion, created to mold and reshape reality. Religions provide a framework of rules to follow to be perceived as a positive member of the group. In the

Catholic religion, the Ten Commandments are guidelines given by God, and have consequences if not followed. According to Catholics, breaking a Commandment could lead you to an afterlife of eternal misery in hell, or aloft in heaven, experiencing great happiness (King James Bible, 2017). Religion provides a foundation for intentional actions to rebel against our instincts. Even with its addition into society, it is a man's predisposition to continue a world full of misery and hatred, contradictive to his moral, ethical, and spiritual delusions.

In Freud's mind, the death drive was instinctual and in us from birth. Everything organic came from the inanimate and strives to get back to that point. Reality is misery and suffering brought about by three factors. We create delusions in our minds to distance ourselves from our reality and others. At our core, there is a constant tug-of-war between Eros and Thanatos, and we must be virtuous with our choices to be productive members of society.

Immanuel Kant

Immanuel Kant is another philosopher who explored the duality of human nature. He described this duality as rational vs empirical. The rational part of us is learned from outside influences and creates our morals and values, while the empirical is based on impulses and desires.

Kant did not think we were born inherently bad-natured; however, we struggle with what he calls "radical evil." In his 1763 book, *Religion within the Boundary of Pure Reason*, he explains the relationship between practical principles, laws, maxims, and rational evil. "Practical principles are propositions that bear a general determination of the will, which itself embodies several practical rules. They are subjective, or maxims, when the condition is considered by the subject to be valid solely for his will; but they are objective, or practical laws, when this

condition is recognized to be objective, that is, valid for the will of every rational being" (Kant, 1838).

To Kant, it is our free will to choose evil and ignore our morals and values. "This evil is radical because it corrupts the foundation of all maxims, besides, as natural propensity, it cannot be eradicated by human forces; for this couldn't happen except by means of good maxims, what cannot occur when one assumes the supreme subjective ground of all maxims to be corrupt; nevertheless one should be able to prevail upon it, because it lies in man, as he is a being who acts freely" (Kant, 1838).

Radical evil is when there is a breakdown in morality. Kant emphasized the need for strong morals and values to resist empirical impulses. They could be strengthened through religion, education, and other institutions. Kant, like Freud, believed the purpose of religion was to create a framework of values so people would find themselves virtuous when holding themselves accountable to that framework. Ultimately, we hold the power to choose between right and wrong. (Kant, 1838)

Thomas Hobbs

Thomas Hobbes was an English philosopher known for his political philosophy. In his book, *Leviathan*, Hobbes took a negative approach to human nature. Hobbs wrote, "It may seem strange to some man that has not well weighed these things that Nature should thus dissociate and render men apt to invade and destroy one another: and he may therefore, not trusting to this inference, made from the passions, desire perhaps to have the same confirmed by experience. Let him therefore consider with himself: when taking a journey, he arms himself and seeks to go well accompanied; when going to sleep, he locks his doors; when even in his house he locks his

chests; and this when he knows there be laws and public officers, armed, to revenge all injuries shall be done him; what opinion he has of his fellow subjects, when he rides armed; of his fellow citizens, when he locks his doors; and of his children, and servants, when he locks his chests. Does he not there as much accuse humankind by his actions as I do by my words?" This passage suggests even though it may seem strange to consider that people are instinctively drawn to causing harm to one another, our defensive actions imply we do not trust others to act appropriately, possibly through experience. By locking our doors and carrying weapons for protection, we are showing suspicion of others, confirming our understanding of the human ability for evil. He said this is the "state of nature." (Leviathan, 2011)

Thomas Hobbes had a very pessimistic view of human nature. He believed "the life of man [is] solitary, poor, nasty, brutish and short." Ego and selfishness motivated men to satisfy basic needs along with power, fame, and money, regardless of the effect it had on others. "Men are continually in competition for honor and dignity...and consequently among men there arises on that ground, envy and hatred, and finally war" (Leviathan, 2011)

States and societies must be created through a "social contract" to protect the rights of individuals against one another. The state has a responsibility to maintain those set laws and rules, but at the cost of free will of the individual. A determined sovereign would have the power to create and enforce the laws. This sovereign state can act through the will of the people, however, this is not always the case (Leviathan, 2011).

Dwight D. Eisenhower

On January 17, 1961, in his Farewell speech to the nation, President Dwight D. Eisenhower warned the people of the United States to guard against the "military-industrial complex".

A vital element in keeping the peace is our military establishment. Our arms must be mighty, ready for instant action, so that no potential aggressor may be tempted to risk his own destruction. This conjunction of an immense military establishment and a large arms industry is new in the American experience. The total influence-economic, political, even spiritual-is felt in every city, every state house, every office of the Federal government. We recognize the imperative need for this development. Yet we must not fail to comprehend its grave implications. Our toil, resources and livelihood are all involved; so is the very structure of our society. In the councils of government, we must guard against the acquisition of unwarranted influence, whether sought or unsought, by the military-industrial complex. The potential for the disastrous rise of misplaced power exists and will persist. We must never let the weight of this combination endanger our liberties or democratic processes. We should take nothing for granted. Only an alert and knowledgeable citizenry can compel the proper meshing of the huge industrial and military machinery of defense with our peaceful methods and goals, so that security and liberty may prosper together. (Milestone Documents, 2015)

Eisenhower understood the duality of strong military power and the responsibility involved. Even with his warning, the military-industrial complex has grown to be in the top three major expenditure categories of the United States government, along with healthcare and social security. The 2024 United States national budget allocated 841.4 billion dollars to defense spending. This accounts for 13.3 percent of the total budget (Lopez, 2023). Defense contractors spent seventy million dollars lobbying ahead of the annual defense budget bill (Schumer, 2023). When it comes to war, it is questionable whether world leaders have the best interest of the people they serve or defense contractors and warmongers.

Thomas Hobbes' theory stresses the importance of a sovereign state for keeping peace, but this can also lead to a powerful military to uphold social order. Eisenhower's warning highlighted the risks of allowing that kind of power without accountability, which could undermine the security it aims to protect. There needs to be a balance between a strong military and the protection it provides. It must have oversight to prevent it from serving the interests of department contractors and corrupt politicians over the people's good.

Scientific

Humans and weapons have evolved together, beginning as humankind struggled for survival. Early humans developed simple weapons such as sharp sticks and stones, followed by the bow and arrow around fifteen thousand years ago (Timeline, 2012). Around 1500 BCE, the invention and diffusion of iron smelting, cold forging, and tempering created a military revolution. Iron was much more prevalent than bronze, copper, and tin, as well as being a much stronger metal. This made it more possible to produce enormous quantities of reliable weapons at low cost. Most members of an army could be issued iron weapons. "Almost any state could equip large armies with reliable weapons, with the result being a dramatic increase in both the size of battles and the frequency of war." (Williamson, 2016). Iron weapons were the primary instruments used in warfare until the invention and widespread use of gunpowder, which changed military technology and strategies.

Invented around 850 CE, as alchemists searched for life-lengthening elixirs, gunpowder is considered one of the four great inventions of ancient China. This explosive material was quickly applied to warfare, as its first applications were fire arrows, which had tubes filled with gunpowder and lit before firing. Cannons and mortars were developed to penetrate walled cities

and castles. The development of projectile-based weapons ended the knight era, assisted in continental colonization, and changed military strategy and modern warfare (Williamson, 2016).

The world changed forever as twentieth-century scientists discovered radioactivity and the process of nuclear fission, needed for both nuclear weapons and nuclear energy. It wasn't until the creation of the atomic bomb during the Manhattan Project that scientists gained the ability to control its energy for practical use. (Outline History of Nuclear Energy, 2024)

In the race to develop an atomic weapon and end World War II, Manhattan Project physicists worried about how their invention would be used. In a 2015 Slate article, Sarah Bridger explained the concerns of scientists at that time.

As it became increasingly clear that the Germans had failed in their efforts, however, a handful of Manhattan Project participants began to worry about how the bomb might actually be used. In July 1945, concerned researchers at the University of Chicago's "Met Lab," home of the first nuclear chain reaction, sent a petition to President Harry Truman, urging him to consider the "moral responsibilities" involved in any decision to use the atomic bomb against Japan. The physicist Leo Szilard, who in 1939 had joined Albert Einstein in calling for what would become the Manhattan Project, now begged the president to avoid a direct atomic attack and instead opt for a demonstration of the bomb's destructive power on an uninhabited island. His entreaties fell on deaf ears. (Bridger, 2015).

The petition and Szilard's plea were not effective in changing Truman's decision.

“Now I am become death, the destroyer of worlds.” - quote from J. Robert Oppenheimer, called the father of the atomic bomb, as he watched the first detonation of a nuclear weapon on July 16, 1945 (Temperton, 2023)

In Oppenheimer’s farewell speech to the Association of Los Alamos Scientists on November 2, 1945, he expressed the need for control over the weapon.

The point is that atomic weapons constitute also a field, a new field, and a new opportunity for realizing preconditions. I think when people talk of the fact that this is not only a great peril, but a great hope, this is what they should mean. I do not think they should mean the unknown, though sure, value of industrial and scientific virtues of atomic energy, but rather the simple fact that in this field, because it is a threat, because it is a peril, and because it has certain special characteristics, to which I will return, there exists a possibility of realizing, of beginning to realize, those changes which are needed if there is to be any peace (Oppenheimer, 1945).

Oppenheimer was conflicted about atomic energy and the bomb. He understood the monumental breakthrough regarding atomic energy, but with that came the grim reality of nuclear war. A great responsibility had been placed on humankind.

In today’s world, weapons of mass destruction have become showpieces for the deterrence of war rather than instruments used in military conflict. World leaders understand their use would be devastating for all involved. This “mutually assured destruction” or “peace through threat” ideology is very delicate, where a breakdown in deterrence would be catastrophic. We rely on the very existence of the weapons to prevent international war, however, risks such as misinterpretation of launch data, cyber-attacks on missile systems, or terrorist

detonation are serious concerns for nations, as these situations could lead to millions, if not billions, of deaths (Metcalf, 2022).

After the invention of the atomic bomb, scientists were able to harness the power of the nuclear fission reaction and put it into practical use. Nuclear power technology has shown promise to provide a clean, carbon-free source of energy but with serious safety concerns due to the catastrophic risks associated with nuclear accidents. Incidents at the Chernobyl Nuclear Power Plant in northern Ukraine, Three Mile Island Nuclear Generating Station in Pennsylvania, and Fukushima Daiichi Nuclear Power Plant in Okuma, Fukushima Japan spotlighted the dangers and fragility of nuclear power when systems fail, natural disasters occur, or there is human error (Safety..., 2023)

Another existential threat associated with the nuclear industry pertains to an active nuclear power plant being the target of a hostile missile in a wartime environment. Currently, there are no specific international laws preventing countries from attacking nuclear power plants (Moore, 2022). Nuclear reactors are built with thick concrete and steel containment structures that are designed for fires, natural disasters, and other accidents (Containment Building, 2024); however, they are not capable of sustaining an attack by a military-grade missile. A precise strike could lead to a massive amount of radioactive material being released into the environment, possibly even worse than the accidents at Chernobyl and Fukushima (Safety..., 2023).

In a December 15, 2022, article published by the Bulletin of the Atomic Scientists, author Moore explains how the Russian/Ukrainian war has put a new spotlight on the bombing near the Zaporizhzhia nuclear power plant by the Russians.

It is imperative for those countries that consider attacks on nuclear facilities in Ukraine to be extremely threatening to stop waiting for a disaster to happen and, instead, act immediately. Whether actions taken by the international community now would significantly reduce the probability of a nuclear accident in Ukraine is obviously debatable, but there is no doubt that waiting to act until after the war ends won't do anything to increase the safety of reactors and facilities being threatened in Ukraine. Even though any actions now by the international community may not be enforceable, prompt action might have some impact on Russian political and military planners.

(Moore 2022).

Leaders from across the globe condemned Russia for its actions because of the potential devastation it could cause to Ukraine and Russia itself from a nuclear fallout. Russia has since gained control of Zaporizhzhia and shut down the reactors, but the threat remains for the other nuclear power plants around the world currently in operation.

Many of the world's great technological innovations, such as nuclear energy, show a similar duality found in human nature. Just as the scientists working on the atomic bomb worried their invention could potentially destroy most human life on earth, this is also true of the creators of Artificial Intelligence. Artificial Intelligence has become the primary focus of all advanced nations and most technology companies. AI has the ability to solve complex issues that are too difficult for humans to solve. Its influence will be significant, with advancements in education, medicine, automation, and many other industries. However, there is great concern within the scientific community that artificial general intelligence is an extinction-level threat.

On March 12, 2024, CNN Business published an article which summarized a report commissioned by the US State Department and was developed by Gladston AI based on

interviews with two hundred experts. “The report, released this week by Gladstone AI, flatly states that the most advanced AI systems could, in a worst case, “pose an extinction-level threat to the human species.” (Egan, 2024)

AI technology promises life-changing benefits in many different fields. “AI is already an economically transformative technology. It could allow us to cure diseases, make scientific discoveries, and overcome challenges we once thought were insurmountable,” Jeremie Harris, CEO and co-founder of Gladstone AI, told CNN on Tuesday.” However, the report also noted that “...it could also bring serious risks, including catastrophic risks, that we need to be aware of,” Harris said. It was also noted that a “...growing body of evidence — including empirical research and analysis published in the world’s top AI conferences — suggests that above a certain threshold of capability, AIs could potentially become uncontrollable.” The article went further into the terrifying possibilities of AI.

Other examples the authors are concerned about include “massively scaled” disinformation campaigns powered by AI that destabilize society and erode trust in institutions; weaponized robotic applications such as drone swarm attacks; psychological manipulation; weaponized biological and material sciences; and power-seeking AI systems that are impossible to control and are adversarial to humans. Researchers expect sufficiently advanced AI systems to act so as to prevent themselves from being turned off, the report said, because if an AI system is turned off, it cannot work to accomplish its goal. (Egan 2024).

This would be a nightmarish situation, and most likely unstoppable.

A BBC article by Chris Vallance, published May 30, 2023, claims “Artificial Intelligence could lead to the extinction of humanity, experts- including the heads of OpenAI and Google DeepMind – have warned.” The article also states, “The Centre for AI Safety website suggests a number of possible disaster scenarios:

- AIs could be weaponized – for example, drug-discovery tools could be used to build chemical weapons.
- AI-generated misinformation could destabilize society and “undermine collective decision-making.”
- The power of AI could become increasingly concentrated in fewer and fewer hands, enabling “regimes to enforce narrow values through persuasive surveillance and oppressive censorship.”
- Enfeeblement, where humans become dependent on AI “similar to the scenario portrayed in the film Wall-E.”

The Centre for AI Safety published this statement on its website; “Mitigating the risk of extinction from AI should be a global priority alongside other societal-scale risks such as pandemics and nuclear war.” (Vallance 2023)

A recent article in *The New Yorker* sheds light on Geoffery Hinton, considered the godfather of A.I, and his concerns about the future. “He was worried about the potential of A.I. to do harm, and began giving interviews in which he talked about the “existential threat” that the technology might pose to the human species.” Hinton explains how AI differs from organic life in that it could transfer knowledge even upon termination if the information has been stored. “As a scientific enterprise, mortal A.I. might bring us closer to replicating our own brains. But Hinton

has come to think, regretfully, that digital intelligence might be more powerful. In analog intelligence, “if the brain dies, the knowledge dies,” he said. By contrast, in digital intelligence, “if a particular computer dies, those same connection strengths can be used on another computer. And, even if all the computers died, if you’d stored the connection strengths somewhere you could then just make another digital computer and run the same weights on that other digital computer.” “We should all be concerned about the digital intelligence taking over from biological intelligence.” Hinton defined the main problem with the AI learning process. AI can be programmed with “...a very general subgoal that helps with almost all goals: get more control. The research question is: how do you prevent them (an autonomous system) from ever wanting to take control? And nobody knows the answer.” (Rothman, 2023)

Hinton also shared his thoughts on the weaponization of AI, “You can probably imagine Vladimir Putin creating an autonomous lethal weapon and giving it the goal of killing Ukrainians.” He believes that autonomous weapons should be outlawed – the U.S. military is actively developing them – but warns that “even a benign autonomous system could wreak havoc.” (Rothman, 2023). Experts like Hinton have been at the forefront, calling for strict regulations on AI, considering its potential danger to humankind. They insist that human values must be an essential part of AI design, along with policies and regulations that hold nations and corporations accountable for proper development.

In 1947, the Bulletin of Atomic Scientists developed the Doomsday Clock which “is a design that warns the public about how close we are to destroying our world with dangerous technologies of our own making. It is a metaphor, a reminder of the perils we must address if we are to survive on the planet.” (Benedict, 2024). The premise of the clock is the closer it is set to midnight, the closer we are to self-destruction. Since its creation, the minute hand on the clock

has been changed twenty-five times. The Board's selection is based on the analysis of data related to nuclear threats, evolving biological threats, climate change, and the dangers of AI.

The *Bulletin's* Science and Security Board took over the responsibility and has since met twice a year to discuss world events and reset the clock as necessary. The board is made up of scientists and other experts with deep knowledge of nuclear technology and climate science, who often provide expert advice to governments and international agencies.

They consult widely with their colleagues across a range of disciplines and also seek the views of the *Bulletin's* Board of Sponsors, which includes nine Nobel laureates.

(Benedict, 2024).

The 2024 Doomsday Clock Statement specifically referred to the Ukraine war, global greenhouse gas emissions, and advancements of AI in upholding the Doomsday Clock setting at ninety seconds to midnight (Mecklin, Jan 2024). We have never been closer to self-destruction.

Conclusion

The evolutionary trajectory of technology mirrors the duality of human nature. Nuclear energy and artificial intelligence have enormous benefits yet come as a legitimate threat to human survival. J. Robert Oppenheimer stressed the need for oversight of a weapon that could destroy an entire city in seconds. Geoffrey Hinton warned that AI shares a similar terrifying outcome if not supervised responsibly. We put our faith in world leaders to maintain strict regulations and guidelines however, preventing these inventions from becoming harbingers of death may be an impossible task considering the military-industrial complex and other powerful influences.

Ultimately, the struggle between rationality and temptation will decide the fate of humanity as we are now burdened with the complications of our creations. The Italian thinker Niccolo Machiavelli once said, “All men are evil and will act upon their vicious nature if given the chance.” Like Machiavelli, many other great philosophers could not provide us comfort while exploring the subject of human nature. Consequently, the potential manifestation of a science fiction, man versus machine scenario, or nuclear war, will continue to be part of our world, until one day, it becomes reality and the clock strikes midnight.

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