

# Can Science Save Us?

## 1) Introduction

Thesis Statement: Science has surely transformed life by increasing the standard of living but it has also threatened humanity as evidenced by nuclear bombs which underscores its imperative of utilizing it for the betterment of humanity.

## 2) How science transformed life?

- a) Hunter Gathener's Age
- b) Agricultural Era
- c) Industrialization Era
- d) Increase in the standard of living
- e) Medical Advancements: Decline in mortality

## 3) How science is transforming life today?

- a) Medical Field
- b) Industries
- c) Agriculture
- d) Retail and E-commerce
- e) Transportation

## 4) Challenges of Modern Science

- a) Climate Change
- b) Job Displacement
- c) Data concerns with AI models
- d) Lack of empathy in robots and AI
- e) Nuclear warfare
- f) Fifth generation warfare

## 5) Solutions

- a) Sustainable practices
- b) Skill incorporation

- c) Ensuring quality of data
- d) Human - AI collaboration
- e) Strict regulations against nuclear arms
- f) Counter measures and awareness

b) Solutions

## Can Science Save us?

Science has, without a doubt, revolutionized human life as evidenced by better health facilities, food availability and increased comfort. In short, science has transformed standard of living. At the same time, it has posed serious existential threats that cannot be overlooked. The thirst of power has overshadowed the ~~ethical~~ ethical implications and has driven humanity to utilize science in a neverending arms race. This has forced people into a serious dilemma, can science really save us? The potential of science to be equally effective in both destruction and betterment underscores the imperativeness of utilizing it only for the philanthropy of humanity. It is essential that humans pledge to use science solely for ethical purposes for their own protection and survival, else it will lead to total destruction of life.

Humans once lived in caves and had to hunt for food everyday with no assurance to the next meal. Everyday their life was threatened by wild animals, hunger and extreme weathers. This was the Hunters gatherers Age where people had no place to buy or store food and were forced to sustain themselves by hunting animals or gathering tools. Even in those times, they

invented tools to hunt through scientific innovation.

After hunter-gatherers age, came the age of agriculture where humans learnt to grow crops and started living in small localities. This ensured their food security and protection from wild animals. Through scientific method of trial and error, humans were able to distinguish poisonous from safe plants and fruits. Through the power of reasoning, humans were able to understand the life cycles of plants and grow their own food. Humans also started inventing new gadgets and tools to ease their lives such as chairs, tables, utensils.

As the humans progressed, the handmade items became unable to suffice the needs. So they moved towards automation and the era of industrialization emerged. Industrialization revolutionized human development and progress at a phenomenal scale. It gave rise to the process of trading which gave rise to competition between different markets, further boosting the progress. Living standards improved and the world turned into a global village.

Through science, humans were able to move from caves to houses, transforming their standard of living. Through innovation, humans were able to protect themselves from extreme weather conditions. They were able to ensure food security, making their life more comfortable.

Diseases posed a grave challenge for early humans. Nonetheless, through trial and error, they were able to identify effective treatment methods. With the advancements in science, the medical field flourished as well. The doctors moved towards better scientific techniques and were able to successfully mitigate the loss of life involved ~~use~~ in case of error.

Today, humanity has found cures to diseases that were once so lethal that they wiped out huge populations. Diseases such as plague, dengue and malaria no longer pose existential threat, thanks to the invention of their vaccines and medicines. Moreover, the rapidly growing field of nuclear medicine is doing wonders in diagnosing and treating cancer - certainly the most deadly disease today. Additionally, the incorporation of Artificial Intelligence in Medical

field has significantly reduced human error. It has improved the field of diagnosis by improving the understanding of MRI, x-rays and CT scans. It has also boosted personalized medicine by taking into consideration genes, medical history and lifestyle, improving efficacy of medicines. Also, the instant response provided by AI chat bots increase the customer satisfaction. All these advancements in medical field would not have been possible without science. Had it not been for science, humans would still be dying of flu.

Similarly, science has transformed life after industrialization. Most of the labour intensive jobs have been moved to machines and robots, mitigating the danger involved in case of accidents. Moreover, scientists are now using scientific methods to incorporate sustainable practices in the industries.

The field of agriculture has also been revolutionized through the invention of machines such as tractor. Through these machines, farmers are able to carry out their tasks with more efficiency and ease.

Through the use of computers, businessmen are able to better manage their stocks, significantly reducing the wastage. Incorporating customer behavior and demands has revolutionized the field of retail and commerce.

Innovations in the field of transportation has shortened the distances and turned the world into a global village. The distances that once took ~~great~~ weeks or even months to cover, can now be traverse in a few hours.

On one hand, science has surely made life easier; on the other, it has posed serious challenges as well. The gravest of which is climate change. It is causing existential threat to island and coastal regions due to rising sea level, while on the other, it is sparking tensions between nations over resource scarcity. It is a global threat that has transcended borders and impacted many lives.

Another threat posed by scientific inventions is the fear job displacement. It is feared that artificial intelligence (AI) and robots would take over the jobs, diminishing the need for labourers.

staff. The unprecedented potential of AI is raising serious concerns regarding job security across the world.

The AI models are trained on the data provided. This raises the questions on the quality and biasness of decisions made by AI. Moreover, the overreliance of AI models on historical data make it unable to adapt to current situations. Additionally, the use of AI in the medical field raise concerns regarding ethical values as its effectiveness would rely on private data of patients being shared with the models.

Lack of empathy in robots and AI is another major concern of incorporating them in the medical field. Moreover, the lack of trust in robots and AI would make it difficult to utilize their true potential.

On one hand, nuclear medicine is doing wonders in medical diagnostics, while on the other, nukes have posed existential threat to humanity. Today, owning nuclear weapons has become essential to ensure deterrence of a country. Blinded in power, the countries are busy in stockpiling the deadly



weapons, without realizing their potential of wiping humanity from Earth.

Advancement in technology has also led to the emergence of fifth generation warfare where countries are utilizing propaganda to spark conflicts in the regions of their opponents. Today, the ~~war~~ war of misinformation and disinformation has overshadowed the conventional war tactics.

Even though science has posed significant ~~ex~~ threats to humanity, its potential to benefit humans outweighs the risk involved. Therefore, it is essential that humanity look for the solutions instead of totally disapproving science. The threat of climate change, though ~~is~~ unprecedented in scale, can be mitigated by adopted sustainable practices through collaborative measures. Techniques such as Direct Air Capture (DAC) and carbon mineralization should be incorporated in industrial sector to make it more environmental-friendly. Similarly, ~~precise~~ precision farming and vertical farming should be introduced in agricultural sector to ensure optimal use of land and resources. Additionally, transition from fossil fuels to renewable energy sources should be ensured. At the

same time, proper efforts should be made for plantation drives including afforestation and reforestation. By incorporating such sustainable practices, a safer future can be ensured.

To mitigate the risk of job displacement, proper training programs should be introduced to incorporate different skills among workers. This will ensure job security.

To make AI model more effective, the ~~data~~ quality of data on which they are trained should be ensured. The data should be free from any biases so that the decisions of AI do not affect the marginalized communities. Moreover, the data should be updated on timely basis to ensure adaptability of AI models for current situations.

To address the factor of empathy, human AI collaboration is essential. Humans should overlook the technology to ensure they make proper decisions. This would also improve the trust of humans in technology.

Nuclear warfare has become a grave security threat for humans. Strick regulations should be imposed on the use of nuclear weapons and their proliferation should be discouraged.

The war against fifth generation warfare can only be fought by taking counter measures and raising awareness. Proper campaigns should be arranged in schools and universities to inform the youth about the power of propaganda. Similarly, seminars should be held in communities to inform the general public regarding the perils of misinformation and disinformation. Additionally, proper steps should be taken to produce counter narratives and to enlighten the public with true information.

Everything comes with pros and cons. The same is true for science. On one hand, it has transformed humanity, while on the other, it has threatened the very existence of life. Nonetheless, the benefits of science outweighs the challenges. The technology with the potential of causing both harm and benefit, should be dealt with great caution. It is essential that humanity pledge to utilize it solely for the benefit betterment of humans. Only then a safe future can be ensured.