

1. CAN SCIENCE SAVE US?

• OUTLINE2. Introduction

- Brief overview
- Thesis statement

2. Science as a saviour of humanity:
Historical manifestation3. Ways through which science can save us:

3.1 Scientific advancement in healthcare can cure fatal diseases.

- Covid-19 vs. other pandemics in history.

3.2 Science can also aid in sustainable development, for instance, in urban planning.

- Chinese model of urbanization and soap cities.

3.3 Advancements in science can avert the rising threat of climate change.

- Solar farms, tidal and geothermal means of energy.

3.4 Science can further enhance industrial revolution to meet the future challenges of humanity.

- '1 billion people go to bed hungry' - WFP

3.5 It can also prevent crimes and maintain law and order through technological advancement.

- Surveillance system in USA.

- Judicial system of Singapore.

3.6 Through space exploration, science can aid-in to preserve the existence of humans.

- NASA's DART-Mission in 2022

3.7 Science can also save humans from lagging behind through connectivity.

- Invention of internet and globalization.

3.8 Science can transform societies holistically i.e. sustainable homes and neighbourhoods.

- Women will have more freedom as their conventional role will be handled by technology.

3.9 Through Artificial Intelligence, science can aid transform the whole world.

- Invention of Google's Willow, generative AIs and automated-guided vehicles.

4. Despite its evident manifestations, the critics believe that science will destroy us: (Counter)

4.1 Weapons of mass destruction is the product of science.

- Tsar bomb is 1000 times deadly than the episode of Hiroshima and Nagasaki.

4.2 Advancement in science has contributed in the exploitation of Ethics among youth.

- The 'stork' mindset among GenZ. - Pew Research.

- Science as a tool of cultural imperialism

4.3 Scientific explorations have deteriorated Earth's environment, causing global warming.

- Rising sea levels and global temperature.

- Pacific Ocean as the garbage bin.

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5. Nevertheless, Scientific advancements have two sides, making Science the saviour for us:
(Rebuttal)

5.1 If Science has provided humans WMD, it also gave them rational mindset, promoting deterrence.

5.2 Science and its use is completely subjective
- Fighter jets are used as air ambulance in Nordic countries.

5.3 Scientific advancements provide ways to counter the challenges rise-up amid its use.
- Waste treatment ability of Singapore

6. Conclusion

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"Had the dinosaurs had the science in the form of space programs, they would not be extinct, the way they have." This statement from Neil DeGrasse Tyson, an astrophysicist and author, conveys the significance of science for the survival of any species on Earth. It is true that, in the case of humans, science has played a vital role not only in their societal advancement but also in their survival. To put things in perspective, imagine a world without the invention of wheel, bow and arrow or steam engine. ~~we~~ ^{Humans} would be living in caves in a world not so favourable ~~to~~ ^{for} their existence. Following the same trajectory, science can save us from problems of the future. Scientific advancements can aid in healthcare sector, urbanization, climate preservation, industrialization, and inclusive societies. It further can contribute to humans' survival through space exploration, efficient connectivity, maintaining gender equality, and automate whole world through AI. This will maintain human's position of dominance among other species of the world. However, the critics believe that science will destroy humans through weapons of mass destruction (WMD), cultural imperialism and global warming, which is the product of science as well. Nevertheless, there is always a silver lining in the dark clouds. Despite the drawbacks, science

With its merits outpace these opposing arguments. If science has provided humans WMD, it also made them rational enough to know deterrence. Also, the use of any field is completely subjective, and science provides ways to counter its challenges as well. This made science a holistic subject capable of saving humans in modern epoch. Now, it is evident that science has helped humans to ensure survival and it will do the same for new problems of humanity as well. Despite the opposing arguments, science is the answer for the survival of man on Earth.

To start with, it is important to highlight the historical evidence of science as a saviour for humankind. This can be traced back to neolithic age when a man discovered fire. That was simply science that helped early humans to survive in teeth-biting cold. Later on, the invention of bow and arrow in Africa gave humans the concept of distant-killing for their survival. This concept is manifested in modern weapons such as bullets or missiles. In industrial age, steam engine gave humans productivity hence, societies transformed rapidly. The advancement in technology and connectivity followed by these discoveries. This made humans to survive from different animals to enemies. Hence, science has saved humans throughout the history.

There are ways through which science can save humans in the coming times as well. First of all, scientific advancement in healthcare can cure fatal diseases. Many diseases that were once considered fatal are treatable in modern era including polio, heart attacks and brain tumours. Science has contributed a lot in medical science. This is evident in the Covid-19. The pandemic that was predicted to last a decade overcome by the world in an year. This happened due to the advancement in medical science. Compare Covid19 with European's Black Death, the former is merely a simpler disease. The medical science made it possible. Following the same pace, science can do more wonders, defeating diseases such as polio, cancer and AIDS. Hence, science can ensure human survival through better healthcare.

Secondly, science can also support sustainable development. Human population is spreading really fast especially through urbanization. According to UNEP, by 2050, 60 percent people would be living in urban areas. Such rapid change must be followed by sustainable approach. China is a prime example here. As they are scientifically rich, their urban planning is phenomenal. China relocated industries and introduced Electric vehicles. This not only made the space special but also

clean the environment. The smog in Beijing is dealt this way. Similarly, the soap cities of China are effective for the floods and rainwater harvesting. Such development ensures human survival as humans are not at the mercy of nature.

Thirdly, advancement in science can abate the rising threat of climate change. According to UNFCCC, the world has surpassed the threshold of 1.5 degree Celsius now it is global boiling period. The reason behind it, the use of non-renewable source of energy for power generation. Science, on the other hand, provides humans with clean energy options such as tidal force energy or geothermal. Furthermore, science has gone that far now, scientist are now planning to have space farms in outer space. Sun does not set in space, hence it will be indefinite source of energy. Such implementation will not only counter fossil fuels but make the air humans breathe, water humans consume more clean. Hence, science can counter the rising threat for humans, which is climate change.

Further, science can enhance the role of industrial revolution for the survival of humans. According to WFP, 1.2 billion people go to bed hungry every night out of 6.5 billion studied. This number is worrisome as industrial revolution gave

humans surplus food and economy in the first place. Science can aid humans here. New methods of agriculture can be introduced such as drip irrigation. Monitoring of farmlands and canals can reduce water logging and salinity. Transparency and accountability of corporates will surely ensure equal distribution of wealth. AI can be a helping hand here for humans. Considering these factors, it's evident that science can deal with the challenges of humanity such as food crisis.

Moreover, Science can avert crimes and help in maintaining law and order. This makes a society resilient and safe for all. For instance, Karachi is considered 'not safe' city because of its high crime rates. Science is used here in the form of surveillance. The surveillance system of USA - specifically of police department - made the crime rates low. The advance technologies can trace a person on his phone or through the number plate of car. Likewise, judicial system of Singapore with the aid of AI allows the people concerned to present virtually in hearings. People can easily access every document online without any red tapes. Such system

prevent crimes in a society due to transparency. Therefore, science ensure human survival even at societal level by reducing crime and maintaining law and order.

Talking of survival, the greatest threat for humans is outer space as they don't know much of it. Space exploration programmes walk-in here to ensure that humans can be saved rather facilitated by outer space. In 2022, NASA's mission of DART is its example. That mission firstly landed on a moving asteroid, space rock, collected the sample of it and flew back on Earth. This indicates that even if the natural resources depleted, humans would still have outer space to exploit. The other task DART mission did, it struck the 10 meter asteroid and changed its trajectory that was in-line with Earth. This simple strike proves that humans through scientific exploration can prevent humans to meet the same fate as dinosaurs. Hence, science through space programs can also ensure the existence of humans.

Besides, science and its advancement can also save humans from lagging behind in a fast-changing world. The concept of cultural lag is countered by scientific revolution of internet. This allowed humans to make this world a global village. Now, humans are connected to each other even if they are at a remote location.

Globalization and internet have ensured human survival. For instance, a person can be rescued even if he or she is in high mountains or in deep forests. The social media has contributed here. This makes human survival even in most unfavorable situations. The adoption of mobile phones countered cultural lag as well. Hence, science helps humans to remain integrated and safe.

In addition to this science has contributed in sustainable societies as well. An experiment in California, USA of self-sustainable houses worked so well that it replaced the conventional role of women. Now, women can do jobs or pursue a career while AI along with advancement technology can cook food, clean house and switch-off lights. This has improved gender equality as well. Such an advancement is necessary for developing countries like Pakistan, where women are tied up in house chores. The technological advancement hence, transform societies, making them holistic and inclusive.

Lastly, AI has been revolutionizing the world at unprecedented rate. Recent development of Google's Willow, a computer chip, is its example. This chip is so powerful that it can do operations in 5 minutes what super computers

would do in 10 septilian years. This is believed now, that such advancement can majorly aids humans to deal with the problems such as poverty, population, corruption, and climate change. Earlier, the arrival of generative AI also transformed the educational field. AI is doing wonders for humans in every field. Through automated guided vehicles, AI has ensured human safety. Now, many tasks such as of loading, unloading can be done remotely. A post in Shengai is its example. Considering all the aspects it is evident now that science has given more option for human safety through the inclusion of AI.

However, despite all the evidence and manifestations, the critics believe that science cannot save humans rather, destroy them. Its first evidence is in the form of WMD. With the passage of time, human security and dominance has driven him to create weapon capable of wiping-out the humanity for good. The bombing of Japan by the USA in WWII wiped-out million in a blink of an eye. Compare to that, recent bombs such as Tsar Nuclear bomb of Russia, is so powerful that 1000 times of the catastrophe will occur if detonated compared to WWII nukus. These weapons along with AI-based weapons such as Gospel and Lavender

are the product of science. This indicates that science actually pushed humans toward self-detonating stage. Hence, science in the form of WMD has been destroying humans.

Along with it, the advancement in science has resulted in the evaporation of Ethics from the young mind. Genz specifically is addicted to smartphones and gadget which gave them no time to have Ethics or morals in their life. According to few researchers, store mindset is more common in youth that is addicted to mobile phones. The store mindset is the state of being joyless and sorrow-less whether one gets happiness or sadness in life. One of the drawback of such philosophical mindset, a person takes morals for granted. It is not only the children but the parents are so much engulfed in science that they have no time for their children. Either they are dealing with office work through online meetings or not at home. Many believed that science is used as a cultural imperialism tool by the West. This is suspecting the value system of the East, evident in youth. Hence, science has contributed in the exploitation of Ethics.

Furthermore, scientific exploration and advancements is affecting the environment of Earth adversely. As per the UNFCCC, rising sea levels boost up with the rising global temperature, linked to the industrial revolution. This portrays, that scientific advancement has caused climate change as well as global warming. Along with it, Pacific Ocean has become a garbage center for every type of waste. The North Pacific ocean is so big that it is a favorite destination for space junk. Along with it, the natural currents in water drag all the waste of the ocean to North Pacific ocean. This makes it uninhabitable for marine life, hurting biodiversity. Hence, it's evident that scientific exploration has been contributing to the deterioration of climate.

Nevertheless, scientific advancements have two-sides, where its positive outpaces the opposing arguments. To understand it, if science provides humans with NMD, ~~the~~ it also gives them ability to think rationally. This mindset has made nuclear deterrence in society too. This is indeed an interesting case that despite having the ability to turn enemy state to dust, humans are practising deterrence. This made possible by science itself.

WNA the passage of time, human intellect increases that resulted in scientific discoveries and advancements. Therefore, Russell once said, "What was philosophy years ago is now common sense". It is all about human mind. Hence, the other side also needs to be seen. Science gave nuclear weapons or WMD when humans were ready to understand deterrence. Therefore, it can be said that science is a double-edge sword, providing humans with opportunities as well as challenges as in the case of WMD.

Over and above, the use of science is completely subjective. One cannot objectively believe that ethics have been deteriorated by science. It is more upon the people who are utilizing science in the first place. For instance, TikTok in USA is used for entertainment purpose but it's an educated app for Chinese. Likewise, in social media, the proponent of science, is destroying values in the East, then how it is being used for cultural promotion in Nordic and European states? So, the answer lies in subjectivity. To put the things in perspective, fighter jets all around the world are used for military purposes, but in Norway, they are being used as air ambulances. This clearly

depicts that social media or any scientific achievement is dependent upon its users. Hence, the use of science is subjective.

Lastly, scientific advancements that have pushed humans to achieve great things such as freedom, liberty and peace, also push them toward solutions to the problems. Pacific garbage is an issue of concern for sure. But, the critics forget that science also provides ways to counter the waste. Singapore waste system is quite useful for it.

The Lion City is capable of utilizing its 100 percent waste in the form of power generation. These methods such as recycling is the product of science as well. Hence, scientific advancements have two sides of the coin. In a similar way, the threat of global warming and climate change will also be countered by the very use of science. Humans cannot leave technological advancement now, it's unrealistic, hence, science is the answer for various challenges pose by the human due to scientific advancement. Now, it is clear that challenges arise due to the scientific achievements can only be solved by the science alone.

In a nutshell, it has proven that science has helped humans to ensure survival, and it will continue doing so despite getting the flak from its critics. In reality, science is the answer of the survival for man. It's a ~~two~~^{double}-edged sword that can ^{also} help ^{world} humans to have sustainable ^{world} by countering the challenges arise by its advancements. It is also clear that at one end, science has been criticized for providing humans WMD, exploiting culture and affecting climate change, while on the other hand, science provides ways to counter these hurdles as well. It is a fact that science can save humans in more than one way. From technological advancement to space programs; from transforming societies to retooling industries; and from countering climate change to fighting fatal diseases, science ensures humans survival and safety. The same stance has been proven historically as well. The humans needs to build consensus on it, lest they become extinct ~~of~~ owing to preventable cause such as in the case of dinosaurs.

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