

CAN SCIENCE SAVE US?

5

Outline

I Introduction

Hook/Opening statement
Thesis statement

II Developments because of Science

Medical Developments
Security Development
Crime Prevention Techniques
Food Safety and security
Increased Technology (trains and devices)

III Developments to Doom

Pollution and Climate Change
Weapons of mass Destruction
and Existential threat
Artificial Intelligence threats.
GMOs and food insensitivities
Cybercrime

IV How can Science save us from science?

Ethical use of science
Global cooperation.
Innovation and sustainability
Education and awareness.

V Conclusion

conclude with the thesis statement.
Quotation.

ESSAY

Thousands of years ago, there is said to have been an incident where a man accidentally discovered fire by rubbing two stones. With the discovery of fire a human's journey in the field of scientific discovery began. Slowly he learnt the benefits of fire as it gave him warmth and also the detriments of it as it burnt him. This fire gave man the superiority over other animals. He could work and hunt more easily in the night, use the fire to scare other beasts and live more comfortably. As the saying goes, "Necessity is the mother of invention"; so humans continued to make the world more easy and comfortable for them. The ability of humans to observe, experiment and make judgements on the phenomenon of nature led to the discovery of various processes and invention of many important things. Science has led to the invention and discovery of much of the things around us. It provides humanity with many benefits but at the same time humans are faced with various challenges because of it.

Many scientists are asked

with the question that how much has ~~been~~ science done for humanity and they all find this statement very difficult to explain. Scientific developments are blessings for mankind as they help him in all walks of life.

The discovery of Penicillin - the first antibiotic saved many soldiers who had little to no hope after amputations. Similarly with the introduction of vaccines to the public many children have lived without diseases. Vaccines for polio virus can save a child from lifelong disability. Back in the days when medical science relied only on herbs 7 (seven) out of ten children could not survive beyond the age of five. Now maternal and child mortality rates are nothing like they were a few centuries back.

Life saving medicines, and life saving surgeries might be the best gift to mankind from science. Procedures like heart and kidney transplants can increase the life expectancy of an individual from 10 to 20 years. Medicines for cancer chemotherapy and quick acting drugs like adrenaline can revert a cardiac arrest. Apart from

4

the treatment research, the diagnostic tests which usually involve various chemical reactions are very common nowadays like blood and urine test. Radiological tests like X-rays, MRI and CT scans have contributed to saving man and giving new life to him.

Personal health is one thing, but scientific expansion in research lead to the invention of different weapons to prevent them from enemies. Before the invention of the highly sophisticated weaponry we see today, humans once started to protect themselves with heavy stones. Humans did not have claws and fangs like lions and tigers so they relied on different techniques starting from blunt stones to sharpening the stones. Then they started mounting the sharp stones on wooden sticks and the journey to make progress followed with time. Whenever there was a need to be more stronger than ones enemy, the scientists came up with much better options and technologies. The era of world war I saw the use of air-planes for the first time in the history of warfare. First they were only used to see ground

targets but with time other model with machine guns came which started aerial firing. During the world war II scientists worked day and night to make their country the successor in the ongoing war. This led to the development of nuclear technology. Nowadays countries with nuclear weapons face ~~the~~ relatively less fear of war also known as nuclear deterrence. Scientists are working on better technologies to keep their borders safe from infiltration.

Technologies and understanding of science has evolved with the better understanding of methods to investigate crimes or examine evidence for courts. The development of forensic science makes it very easy to curb crime rates and locate criminals. Integrated Ballistic Identification System helps identify bullets and cartridges at the crime scene and link it with the criminal's weapon. Examination of fingerprints left by the suspect and respective databases made to match those prints helps in the capture of the suspect easily. DNA examinations and procedure like post mortem can uncover

many complicated and cold cases. Due to these and other related forensic techniques it is much more difficult to commit crime and much easier to get caught. Now we can most probably declare the cause of death whether natural or homicidal. Forensic science will continue to evolve as new scientific technologies emerge.

Food is a basic requirement for life. For a long time humans have depended on domesticated cattle and before that hunting. But with the advent of agriculture and irrigation technologies humans face readily available foods. Keeping in mind many famines like the ones in Ireland and Bangladesh, the failure of agriculture and impending lack of rains led to a decreased production of food. This led to various scientific researches to boost produce. Nowadays there are different plant foods and fertilizers and pesticides which guarantee increased growth of crops. Science has saved many food scarce areas where the soil pH is not optimal by systems like hydroponic towers.

where many vegetables can be grown on very small area.

Different preservatives are added to canned foods so they can be used in places short of food. Canned food is preferred by refugee organizations in war-stricken areas as it is easy to transport and has a greater shelf life.

Apart from this there are various other preservation techniques to keep different meats, vegetables and fruits last longer throughout various seasons.

Places in the north pole employ practices like freezing their meats and places along the equator have practices like fermenting and burying their produce in underground cellars. Much technologically advanced areas have more better and modern devices like deep freezers to save their foods.

The development in science replaced our horses with motorbikes and cattle carts with cars. Trains and aeroplanes made travel more easier.

The places which took weeks to reach, now can be reached in a matter of hours from technologies such as GPS to satellite imaging.

we can easily and safely reach our destinations. Weather forecast save our plans and automated maps lead us anywhere we want. ~~to~~ Literally all things from the nib of our pens to the huge telescopes are the blessings of science which has given us a new and better life.

With the advent of artificial intelligence many of our problems are solved, schedules made, coding done and reports written. Everyone has a personal computer having all the tools of daily life in their pockets. A calculator, a calendar, whole books, videogames, telephone telephone diary, camera and much much more just in our pockets. It is just like what the humans want, they create it by working to understand the process. An American sociologist Daniel Bell rightfully said, "Technology like art, is a soaring exercise of the human imagination." We used our imagination and the power of science to save us any extra difficulty for our tasks and made our life much easy.

As much as we can say that science saved humanity, we definitely have to mention how it destroyed us and the world. As humans used science to benefit us in every walk of life but we only looked at the more active and obvious effects of science and technology. If we now look closer at us, the animals and the environment around us we would be forced to see the cost they had to pay for our safety and security.

The increase in the development has given rise to problems such as pollution which has led to climate change. The mighty factories which produce our favourite clothing or devices or even fertilizers for our crops produce a huge amount of waste both in the air and water, endangering humans, animals and fish alike. The increased production of green house gases from factories and refrigerators trap harmful radiations in the atmosphere and raise the temperature. This causes quick melting of glaciers, raising sea water

levels and cause issues like flooding in vulnerable area. The increase in the temperature of oceans has disturbed the weather patterns of the world. As observed recently snowing in desert areas like Saudi Arabia and extreme hot temperatures in rather temperate area. The temperatures of European countries reached a record high in 2024.

Practices like deforestation have resulted in not only less trees and fresh air but also habitat loss for many species, with a hundreds going extinct & upto now Tasmanian tiger has already gone extinct and the tiger species dwindling. The need for sophisticated and elegant wooden furniture crafted with beautiful designs might look beautiful on the outside but are detrimental to the ecosystem if looked at closely.

The presence of microplastics in nearly everything like the human placenta and even human breast milk is due to the widespread production and use of plastics. Plastics although a revolution for science has now turned into a menace for

us and the environments. When plastic was first invented it was used as nothing ever. An inert material, which could be used to store almost anything, can be molded into chairs, utensils, TV sets and much much more. But now there is an excess of plastic everywhere. Take the Pacific garbage patch for example. The plastic in it floats and is perceived by turtles as jellyfish. When they eat plastic bags, they suffer the worst fate.

Of this waste enough humans have been using the oceans to dump the failed or retired satellites. Much of the failed rocket launches end up in our oceans as well. The advances in science thus also ruin us. The science that saves us also dooms us.

Weapons such as Nuclear weapons also known as weapons of mass destruction were first used by America of Japan during the world war II. These weapons "little boy" and "fat man" killed between 90,000 to 166,000 people in Hiroshima and 60,000 to 80,000 people in Nagasaki. The world war II did end as a result of these explosion but

at what cost? These weren't just regular bombs that just landed and blew but they were such that after immediate deaths many people continued to die of radiation burns in the following days. These were horrifying deaths. They destroyed everything in their way and engulfed many poor souls. Today with expanding scientific knowledge of the nuclear fusion and fission processes the atomic nations have created far more dangerous nuclear arsenal. The world's nuclear armed states possess a combined total of about 14,000 nuclear warheads and they can cause huge man destruction. They are now considered an existential threat to humanity. The growing nuclear arsenals, the risk of a nuclear war can cause extinction of the human race. The science that was meant to save us has now put us in fear of elimination.

Another seemingly harmless and very useful technology, the artificial technology has raised questions in many people's heads. Though robots and artificial intelligence are created to make our lives easy, they have

Created things too much automated
 and easily that many people
 might risk losing their jobs.
 But more importantly there
 is a fear that Artificial Intelligence
 will gain consciousness and take
 control over humankind. There
 are certain reports which
 towards this fears like the
 suicide of a robot in South-
 Korea. Upon investigation it
 was found that the robot
 did this because it was
 forced to over work. Another
 in a recent experiment
 where one robot convinced
 other seven robots to leave the
 work they were assigned by
 humans. Artificial intelligence
 can lead to mankind's
 destruction if left unchecked.

The highly Technological
 world where all our information
 is digital though seems
 convenient but has various
 security implications. Hacking
 and breaches by company
 owners who are supposed
 to keep our information safe
 can lead to privacy breaches
 and security issues. To make
 The leak of personal data
 like credit card information
 can lead to theft.

The evolution of science made us progress but more progress is leading to our downfall. From human safety to the planet's safety we have so much to lose at the hands of so called scientific progress. We have to understand that science if kept in balance with nature can be more helpful and less destructive. Uncontrolled scientific progress without checks and balances might lead us to our doom. We have to make sure that we are using scientific technology not only for the betterment of our selves but for our planet as well. This arms race might look beneficial for once but it may engulf everything that we cherish today.

Global cooperation to develop certain policies and practices to ensure the safety of mankind and our environment is necessary, like the Paris Agreement.

We must understand that progress should be done but precautionary measures should also be taken.

Science has definitely led to
the invention of marvellous
things but if left unchecked
can cause havoc to humanity
"Everything is theoretically impossible
until it is done."

Robert A. Heinlein