

# Science Has Redefine the Ethical values of Morality

## Outlines

### I- INTRODUCTION

- a- Hook
- b- Background Information
- c- Thesis statement

Science has changed the traditional norms of ethics and morality by redefining the moral foundations, introducing bioethics, ~~and~~ technological morality, ~~and~~ environmental morality, ~~and~~ new norms for equality and freedom

### II- WAYS IN WHICH SCIENCE HAS REDEFINED ETHICAL values OF MORALITY

1- Shifting Moral Foundations from Divinity to Reason

a- Disease as divine punishment

b- insulin Discovery: A case study

c- Leprosy patients: Considered as divine curse

2- Bioethics and new norms of Morality

a- IVF, organ transplant

b- Gene editing and clanning.

c- surrogacy

### 3- Technological Advancements and New Ethical Norms

- a- AI and privacy
- b- Atomic bombs
- c- Cloning

### 4- Redefining Responsibility and Freedom

- a- AI and responsibility and Freedom
- b- Biological Advancements and Freedom

### 5- Redefining equality

- a- Genome sequence and equality
- b- Genome Database

### 6- Environmental Research and Neo ethical norms

- a- Climate change and ethics
- b- Climate mitigation as moral responsibility

### 7- moral Foundations are still based on philosophy and Religion (counter-argument)

- a- Guiding principles of religion still there
- b- Utilitarianism, truth rooted in philosophy

### 8- Science - Application of knowledge not morality.

## III Conclusion



## THE ESSAY

For centuries, a child's eye colour was a poetic reflection of inheritance; a father's gaze or a mother's hue. But today, this natural legacy can be rewritten in laboratory with the help of gene editing technology. Science, one of the greatest miracles of all time, has brought revolution in all aspects of human life. It has changed the way human used to think. In the same way, it has redefined the ethical values of morality. The morality, once having roots in religion and philosophy, is now based on reason and evidence. The emergence of biological research has brought a tremendous shift in traditional moral norms. Similarly, technological and I.T revolution has added fuel to the fire. Scientific advancements in 21st century has redefined the classical moral values like freedom and equality. Modern biological research has changed the ethical

and transformed them to economic values. So, the scientific advancements in 21<sup>st</sup> century has reshaped the classical concept of morality.

To begin with, science has shifted the foundation of morality from divinity to reason. In past, a number of natural hazards were considered as divine punishment and were feared. From sandstorms to floods, they were considered as divine punishment. Similarly, a number of diseases like Leprosy, diabetes and cancer were considered as a divine curse on a person. But science has changed this traditional perspective. For example, in 1961, around forty children were kept in ICU in Royal Hospital of London. There was no chance of their survival as they were suffering from type-I diabetes mellitus, which was considered as death penalty in 1960's. Then, as a last resort, the insulin was injected in their blood, and with in now time, they started to show improvement. Eventually, all



these children were saved from dying. This not only changed the lives of diabetic patient but also challenged the traditional beliefs that diseases are divine punishments. Similarly, the patients suffering from Leprosy were also considered as victim of divine curse, and were hated. But the discovery of Leprosy treatment also changed this moral norm. So the scientific advancements, based on reason, changed the traditional moral norms about divinity. The <sup>concept of</sup> diseases considered as divine curse was replaced with science and reason as divine blessing.

Similarly, the advancement in Biological sciences has changed the concept of traditional ethics and norms. In 21<sup>st</sup> century, emerging technologies in healthcare compelled people to rethink about morality. For example organ transplant is one such cutting edge technology. Kidneys and liver transplant has showed a promising result. But this confronts with ethics. Obtaining and transplanting an organ from unknown person is against

the traditional ethics. Some is the case of in-vitro fertilization (IVF). In IVF, the sperm and eggs are taken from human body, fertilized in laboratory and then re-implanted in the female's body. This IVF seems to be a sheer violation of existing norms specifically in Eastern cultures. Some is the case surrogacy, in which embryo is transformed from mother to a surrogate mother for medical or other reasons. Similarly, gene editing in new born at embryonic stage is another examples. Gene editing technologies are now able to edit the gene of a child in womb. This is usually done for medical reasons or to introduce the desired characters in new born. But all these cutting edge technologies are against the traditional social and cultural norms. This is also a debate on religious acceptability of all these technologies. A number of people are benefiting from these technologies accepting this new-normal. For example, a report published by Nature in 2023



showed that a surge of 2% in 2022 was seen in IVF in East Asian states. This shows that science has redefined the Bioethical norms in society.

In the same manner, the cutting edge technologies in IT has also challenged the traditional norms of morality. For example the traditional concept of privacy has now shifted due to A.I. Getting access to mobile and laptop of a person is no more required to embarrass a person as this can easily be done by using deep fakes. The concept of morality has shifted from spreading and selling data to creating data. Similarly, the atomic bombs has changed the dynamics of morality and ethics. For example, Waging a war <sup>or</sup> a committing war crimes has become less immoral than using a nuke. Similarly, cloning, a modern and advance technology, to create copy of an organism or even a human, is another ethical concern, never seen in history. This demonstrates that technological advancements has reshaped the ethical concerns.

Similarly, the <sup>science</sup> AI has changed the concept of freedom and responsibility. Take the example of Artificial Intelligence (A.I.). In age of AI, the tradition meaning of responsibility and freedom are no more valid. One may have the freedom to buy ~~the~~ a smart phone and go to any A.I. model but this freedom is limited to <sup>specific</sup> prompts. One does not have freedom to enter the prompts concerning dignity of an individual. This also increases the responsibility of an individual. Some is the case for a biological researcher. For example, the researchers working on gene editing and cloning have huge responsibilities. For example, a researcher working on human genes is bound <sup>not</sup> to alter genes in such a way to increase criminal tendencies. Similarly, a <sup>scientist</sup> working on cloning has responsibility to avoid cloning of an aggressive or terrorist master mind, as it may lead to a threat to peace and security. Such sort of moral obligations were never witnessed



in history. Similarly, the science has redefined the concept of equality. For long, humans were divided on bases of race and nationality. Blacks were considered lower race and were not considered equal to white. But science has shaken these foundations of inequality. The scientific studies on genome shows that all humans are equal as they share 99.9% of the DNA. The similarities in DNA are bases of scientific evidences that human are equal. Genome database were developed in 2016 and are available free for all. The analysis of genome database across the globe provide scientific evidence of human equality. This science has given a new dimension to moral concept of equality. Last comes the concept of environmental research. Environmental studies in decade of 1990s and onward has shaped new concept of moral values concerning environment. For example, the issue of environmental pollution

was never considered as moral issue and tons of pollutants were released in environment through industries without any moral regret. But now the issue has considered and given moral consensus. Same is the case for climate change. Climate change, which was considered as a myth, has now been acknowledged as reality and climate mitigation has taken as moral responsibility. This shows that environment research has shifted the moral values.

There is another school of thought which supports that moral values are ethics are intact and science has to do nothing with ethics and morality. This school of thought argues that moral principles of ethics and values still exist in societies and cultures and are derived from either religion or philosophy. From 10 commandments and Islamic code of concept life including justice, equality and equity is still there in Eastern countries which are benefiting from science. On the other hand, the western



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11

states, from where science emerged still follow the christian values and science has not shaken the moral foundations. Similarly, various philosophical concepts like utilitarianism are still considered in western societies. This shows that science has not altered the ethical foundations of society.

Similarly, this school of thought argues that science is more an application of knowledge. It has to do nothing with concepts like ethics or morality. For example, there are a lot of fields whose application can shape the morality. For example, if an individual studies criminology, he can apply this on both positive or negative aspects. This does not reflect that subject has to do anything with morality. Likewise, use of a kitchen knife can be <sup>done</sup> to cut fruits or to cut a neck. This is the application of a specific knowledge that decides the moral consensus so science has to do nothing with morality.

To conclude, a number of evidences suggest that science is reshaping ethical value of morality by rationalism, emerging Bioethics and technological advancement. It has redefined the concept of liberty and equality. Moral values in various fields like medical are re-emerged and are adopted as neo-norms. It is important to incorporate moral guidance and norms in application of science to ensure smooth relation of science and humanity, as it is stated that "Science without conscience is just a disaster."

- Make a comprehensive outline
- Add diverse points apart from medical sciences
- Give cogent argument
- Support your arguments with evidence
- Proper use of transitional devices other than similarly
- Avoid cutting
- Improve your Argumentation