



Time to discuss the advances of modern science and their repercussions

 [sanskritiias.com/current-affairs/time-to-discuss-the-advances-of-modern-science-and-their-repercussions](https://www.youtube.com/watch?v=...)



(Mains GS 3 : Science and Technology- Developments and their Applications and Effects in Everyday Life.)

Context:

Indians spend very little time discussing the advances of modern science and their repercussions for public life because of the oscillating election cycle.

Ethical implications:

- The fascinating developments in science and technology like artificial intelligence have merely been reported and have quietly faded from public view.
- For example, there has been little discussion on the privacy implications of the new Ray-Ban/Facebook smart glasses/spectacles branded as 'Stories'.
- These allow the wearer to video record or take photos of events and conversations without the permission or knowledge of those in the wearer's vicinity.
- In India, such advances of science and technology get adopted and normalized without their ethical implications even being debated because the election cycle dominates our attention.

Recent fascinating development:

- The advances in the field of medical sciences, especially an area labeled as 'Xenotransplantation' shows fascinating results recently but should not be out of ethical debate.
- A medical team at NYU Langone hospital in New York there successfully attached a kidney from a gene-edited animal to a person declared brain dead to see if the animal kidney was able to do the job of processing waste and producing urine shows positive result.
- At the University of Maryland a team of doctors used the heart of an animal, which had genetically modified features, as a replacement heart on a patient who had run out of available options.
- This is a game changer because now these organs are readily available and the technique of genetically modifying them can thereby customize the heart or the organ for the patient.
- Further a doctor in Germany, who has been working in the area of xenotransplants, plans to develop a farm to cultivate genetically modified organs for such transplants.
- In all the cases the animal from which the tissue or organ had been taken was the pig which is regarded by medical science as the animal whose organs are currently best suited for humans.

Animal rights movement:

- The animal rights movement has objected to these advances in medical science, of xenotransplantation, as it ignores the rights of animals.
- They are hostile to the idea of animal farms with genetically modified animals for the purpose of harvesting organs for humans requiring transplant as animals also have rights and it is our moral responsibility to support these rights.
- According to them such thinking stems from a philosophy of anthropocentrism which places human beings at the centre of nature and regards all other living creatures as having only value if they can be of use to humans.
- However, such anthropocentric thinking has been the basis of the ecological crises of climate change.

Moral dilemmas:

- There are various ethical issues that these medical advances raise for human societies and as an Indian it's our duty too because Article 51A of the Constitution requires us "to develop scientific temper".
- The animal rights perspective places on us the classic utilitarian dilemma of whether it is better to kill an animal and save a human being or to save an animal and let the human die.
- If global advances in medical research are moving towards a consensus on the suitability of a pig's heart for patients suffering from terminal heart decline then medical science must have to work through such moral dilemmas.

Conclusion:

Wide adoption of xenotransplant procedures diminish the illegal and immoral market in human organs, where people, even children, are abducted so that their organs can be harvested.

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