

CAN YOU MAKE A SILK PURSE OUT OF A SOW'S EAR?

Relevant for: Science & Technology | Topic: Science and Technology- developments and their applications and effects in everyday life

Advances and ethical issues | Photo Credit: Getty Images/iStockphoto

In India, because of the election cycle, and because political events oscillate between their significance for an electoral democracy or their implications for an electoral autocracy, we spend little time discussing the advances of modern science and their repercussions for public life. There have been such fascinating developments in science and in technology, such as in artificial intelligence, but these have merely been reported and then 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. She has only to press an unobtrusive button and the recording starts. Each video recording can last 30 seconds. It is an elegant device that combines both high technology and high fashion. Reviewers of the glasses were unsure whether to regard the glasses as creepy or as cool. What are their implications for state interference in our privacy?

In India, such advances of science and technology get adopted without even a boo. They soon get normalised without their ethical implications even being debated. This is because the election cycle, a low hanging fruit, dominates our attention. We do not have to, therefore, deal with complex ethical questions that result from advances in science and technology. And yet we need to.

The advances in science that I would like to place for public debate come from the field of medical sciences. It is an area labelled 'Xenotransplantation', to refer to its technical name. I am a student of the human sciences and not of medicine and so I shall place the facts as I understand them, which I have culled from popular news forums such as BBC, *Nature*, *The New York Times*, and *The Guardian*.

In the last four months, three news reports have caught my attention. The first case comes from a successful experiment, in September 2021, at the NYU Langone hospital in New York, one of the most advanced research hospitals in the field of medical sciences. A medical team there 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. It did. The details are in the *NYT*, January 20, 2022.

The family of the person had given its permission for this experiment since the individual had donated her body for medical science. In the United States there are apparently 90,000 persons waiting for a kidney transplant and this successful experiment would go some way towards meeting that need (*The Guardian*, October 20 2021); another estimate is that there are 1,21,678 people waiting for lifesaving organ transplants in the U.S.).

The second case, reported on January 14, 2022, is from the University of Maryland where 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. By all accounts the operation seems to have been successful. The Director of the Cardiac Xenotransplant Program of the University of Maryland, Dr. Muhammad Mohiuddin, (originally from Pakistan) had this to

say about the significance of the operation. “This is a game changer because now we will have these organs readily available ... and the technique of genetically modifying them... We can thereby customize the heart or the organ for the patient” (the BBC, January 15, 2022).

The third case is the news report that 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 his view, this will ease the pressure on the medical system. In Germany alone there are 8,500 patients waiting for organ transplants (*The Guardian*, February 3, 2022) In all three cases the animal from which the tissue or organ had been taken was the pig. It is regarded by medical science as the animal whose organs are currently best suited for humans.

At the very least there are three ethical issues that these medical advances raise for human societies. In India these developments carry an additional sting. Should we discuss them or, given that they involve community sensibilities, should we pretend they are not there? Do these ethical issues pertain only to the individual or do they also concern the community? Which gets precedence? Are we obliged to discuss them, because Article 51A of the Constitution requires us “to develop scientific temper”, or can we ignore them?

The animal rights movement has objected to these advances in medical science, of xenotransplantation, because 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. Animals, they argue, also have rights and it is our moral responsibility to support these rights. We must, therefore, not walk down the road of organ farms. Such thinking, they argue, 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. Such anthropocentric thinking, they rightly declare, has been the basis of the ecological crises of climate change. Mahatma Gandhi, they add, was opposed to the practice of vivisection.

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. Medical science is having to work through such moral dilemmas. In India, where such questions do not even enter the portals of regulatory bodies, such as the Indian Council of Medical Research (ICMR), I think the time has come for us to ask such questions (*Nature*, January 14, 2022).

But it is the third set of questions that is so incendiary in India. In a society where the pig is considered a dirty animal, where eating pork is considered disgusting, where those who deal with pigs are given low social status, where even asking such questions is taboo, what should the medical fraternity do? 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, what should the medical authorities recommend to the government? Imagine that such a patient is a Jain, or a Jew, or a Muslim or just a vegetarian. Should they be allowed to die since their belief system forbids them to have anything to do with a pig, or should they be offered a choice of life?

Further, would not the 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? In school we were taught to memorise proverbs. I never quite understood the saying, ‘You cannot make a silk purse out of a sow’s ear’. Now I do. You can.

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