Needed: An Indian Debate on Bioethics

Dr. SUMAN SAHAI

Keeping pace with the growing importance of biotechnology and its potential to address some of our urgent food and health care needs, a spurious and somewhat bogus debate on bioethics is being started in India. This debate which is essentially a debate on the ethical problems associated with genetics and biotechnology , is being kicked off on the seminar/workshop where a certain section of Indian intellectuals solve the nation's problems when they are not solving them on international platforms. Like many of the arguments offered against biotechnology, the debate on bioethics with its rhetoric borrowed from the west and its plagiarised metaphors, is not Indian in context or substance and far from being relevant, it is really something in the nature of a red herring.

The concern with bioethics is essentially a western phenomenon. In these countries one of the more visible reactions to the growing strength of genetic research is the ethical dimension of this research and its applications, particularly with respect to humans. The bioethical debate attempts to come to terms with a fascinating new science which has challenged many of biology's and philosophy's existing frontiers.

Bioethics is a subject of concern almost everywhere in Europe and America but the debate is sharpest in Germany. There are several reasons why this is so. Most important perhaps is Hitler's Third Reich and the utterly reprehensible programme of eugenics practised by the Nazis. The latter believed in the superiority of the German (Aryan) race and launched on the annihilation of 6 million Jews for as much economic jealousy as distorted concepts of racial superiority. In addition they killed off a few hundred thousand gypsies, and old and disabled Germans.

This is bad enough: what is worse, is the complicity of some scientists and medical men of the Third Reich in what must rank as mankind's most grotesque crime. Biologists and geneticists of a certain hue fell in with enthusiam to provide the scientific framework and expertise to carry out these terrible plans. Monsters like Josef Mengele experimented with genetically determined eye disorders and blinded whole families of Gypsies where this disorder was found, to study the nature of the defect. It is no wonder that after the Third Reich, genetics is suspect among certain sections in Germany and the rather extreme view that nothing but evil can come from this science has gained currency in radical fringes.

Another important reason for the resistance against genetic research lies in the very basis of the Judaeo-Christian faith. This has created the philosophical underpinnings for a society that finds "interference" in God's work an unacceptable arrogance and something that is evil and unethical. Each philosophy grows out of the soil of its religion and culture. According to Christian belief, God has created all living creatures and He has created man, His supreme creation, in His own image. It is this belief in the very special nature of man that militates against a science that presumes to improve upon God's work. The language of the ethical objections voiced by the Church and by many philosophers is explicit. Genetic manipulation, including gene therapy to correct genetic disorders, violates "the dignity of man". This inborn dignity derives from the fact that man has been created in the image of God. This is a powerful reason for those who believe, to reject a science that interferes in divine

work.

It is interesting that the operative words which appear in the concerns and the rhetoric voiced by opponents of genetics, are not so much "genetics" or "genetic sciences" but "genetic engineering", "gene manipulation" and "gene technology". All these terms are suggestive of interference and are dehumanisation in the sense of reducing life , specially human life, to a mere technology and robbing it of its extraordinary status. The language of the objection reveals much of the basis of the objection.

With respect to the violent objections to biotechnology as the application of genetics and genetic engineering, the unspoken rationale of German and other western societies is logical for their context and economic situation. The fact is that all these are countries that are not only self sufficient in food, they have a standard of food availability and choice that perhaps can not be bettered.

Not only are these countries secure in their food supply, they produce such volumes of surplus that it is costing increasing sums of money to destroy the mountains of fruit and vegetables, the lakes of milk and wine and the stacks of meat and butter. In 1993, for example, it cost the Europeans over 3.6 billion dollars to destroy in an environment friendly way, the surplus fruit and vegetables that could not be consumed or processed.

The other field where biotechnology is showing potential is in the synthesis of vaccines and drugs. Many drugs like insulin and tPA, a drug against blood clots, are much more cheaply and easily available through biotechnology than through conventional methods. The possibility of manufacturing cheaper, more efficient life saving drugs like antibiotics and anti-leprotics is another one of the promises of genetic engineering. Although concrete results are thin as yet, the potential for creating vaccines for the large number of diseases afflicting the poor in the developing countries, is promising.

Western societies where the dangers of the biotechnological route to drug production are the subject of intense and emotional debate are societies that are fortunate to enjoy excellent medical cover. These are also societies where medical insurance assures practically every citizen (perhaps less so in the US), a high quality of medical aid at a subsidised, reasonable price. These are not societies that have to confront deaths because of epidemics or children disabled because of lack of vaccines. For affluent western societies, procuring medical aid is not an urgent and desperate social need. They can be finicky as to which kind of medication, from the several available, they wish to have.

It would be clear after tracing some of the important reasons leading to the often unbalanced concern about genetics in European societies, that these are arguments and reasons that do not apply to us in India. Yet, those who speak in our country about ethical objections and the dangers of genetics and genetic research do so on the basis of western concerns. So we hear objections based on violating the dignity of man, on the dangers of gene manipulation creating an army of robots to wage war and conquer the world. We hear of the dehumanising impact of gene technology and the terrifying dangers of biotechnology in agriculture, dairy and food production where monster plants and animals will rise from the field as a result of mixing genes.

The rhetoric is lifted straight from the radical fringes of Europe and repeated almost verbatim on Indian platforms. This has two manifest dangers. One, it reduces the serious subject of ethical appraisal of a science to a ridiculous farce by introducing thoroughly irrelevant arguments. The second danger from this kind of plagiarised argument is creating artificial concerns which may come in the way of our evaluating and using this powerful science to provide such essential social needs like food and health care.

When we in India discuss the ethical aspects of genetics, we must do so rooted in our own philosophy and religion, reflecting our social and human needs and positing and resolving our own dilemmas and problems in the way that is right for India, not Germany or Europe.

Let us take religious and philosophical arguments different to the Christian belief in the supremacy of man as God's ultimate creation. The Hindus, for example, have the concept that man is part of a continuum of creation, transmutable and changing from birth to birth, depending on his karma. He enjoys no exalted position like in Christian belief. According to Hindu belief, man is not created in the image of God and therefore it is very difficult to argue that genetic manipulation would violate his dignity for that reason. Similarly, the Hindu concept of God/ Divinity is more in the nature of an eternal truth without beginning and end as against a finite God of the Christian faith.

The reason I am pointing out these very fundamental differences, and these can be analysed for all faiths, is to point out that the philosophy and culture of a country reflects the religious beliefs of its people. India can not evaluate genetics or any other science in a western paradigm. It will have to create its own paradigm, reflecting its cultural and religious traditions and answering its social needs. For a multi- cultural, multi- religious people like ours, we will have to formulate ethical guidelines that allow individual freedom and ensure that nothing is imposed on any person or community.

The concerns of Europe are right for Europe. There is little reason for people in a food surplus Europe and US to become excited about the biotechnology route to increase the yield of wheat or potato. Why should they produce still more food when it is already costing them money to destroy what no one will eat. But can we India have the same perception? Is it more unethical to "interfere in God's work" or is it more unethical to allow hunger deaths when these can be prevented?

Is the Green Revolution unethical, nefarious plot or is it, with all its faults, also the instrument that brought food to the starving poor. Satiated western societies can afford to find fault with the Green Revolution as an environmental burden that should be done away with. Hungry societies in India and other developing countries will have to balance the overwhelming need for food with protecting the environment. The Green Revolution will have to be viewed in that light, even as we seek to redress the imbalances created by it, and in searching for better methods of food production, jettison those factors that have been proven to be detrimental.

If there is an outcry in the west against the hormone Bovine Somatotropin, which increases milk yield in cows, it is entirely logical for a society that is afloat in an ocean of milk. What on earth will they do with still more milk when they can not dispose of

the surplus that they are already producing. But is it logical in india, a country with severe milk shortages, where children do not get minimal nutrition and where starvation deaths are infrequent? Should India with its acute fodder shortage and a bovine population that gives about 2 litres of milk a day, spurn a product on ethical grounds that has the potential to improve the fodder conversion ratio and allow a cow to produce more milk from the same fodder? Is BST an acceptable product on ethical grounds?

Should we allow ourselves to be hemmed in by borrowed ethical arguments when it comes to the critical area of raising agricultural production ? In India where post-harvest losses destroy upto 40% of the food we bring in from the field, should western hysteria about biotechnology be allowed to get in the way of making agricultural products more durable and amenable to processing. Should 60% and more of the fruit grown in the economically weak hill regions be allowed to rot because it can not be sold or processed or should we try to produce fruit varieties in which the rotting process can be delayed.

The resistance in some sections of western countries to the genetically engineered Flavr Savr tomato which does not rot quickly, is to be seen among other things, in the context of the mountains of tasteless tomatoes being produced in intensive cultivation modes in countries like the Netherlands. Suppose however the genes to hold back the rotting process in apples or pears are located, let us say not even in apples and pears, but in cauliflower, should the imported ethical paradigm stop us from conducting research to transfer the gene from cauliflower to apple and so enhance the earnings of hill farmers by lakhs? What should our ethical considerations be?

Unfortunately, the issue of bioethics is often being confused with that of biosafety in the sometime incoherent debate on genetics and genetic application. The crucial significance of biosafety which is one of the most important aspects of research in genetics and biotechnology cannot be overemphasised. Whereas different interpretations of ethics are needed and are desirable, no divergence is possible in interpreting the importance of safety protocols when considering the release of genetically manipulated organisms.

Different countries can have strict or very strict protocols for biosafety. No one however denies that genetically changed organisms must be tested with the utmost caution in the laboratory and in controlled field conditions before being sanctioned for release.

The aim of developing societies should be to harvest the power of science and technology to improve the living conditions of their people. That is one of our most important ethical compulsions. The new science of genetics has raised complex issues of science, ethics, society and its well being and its moral dilemmas. These issues need a sophisticated, reasoned response that address the complexity of the problems. It is much too simplistic and totally inadequate to rely on charged hyperbole and bans forbidding the practice and use of science. Above all, the concerns and debated in each society must be relevant to that society and rooted as much in its needs as in its culture.