The field of human reproduction has proved to be fertile ground for medical technology for, within the span of a few decades, we have moved progressively from 'sex without babies' to 'babies without sex'! The various sophisticated techniques of assisted procreation have brought new hopes to infertile couples, but in the process they have also rocked traditional concepts of "marriage" and "family", and challenged long-established views about the status of the early human embryo and about the significance of the genetic link between parents and offspring.

The development of In Vitro Fertilisation (IVF) is a perfect example of how medical science has outpaced morality and ethics. Reproductive technology, while offering enormous benefits to infertile couples, has opened up a veritable Pandora's box of ethical dilemmas. Louise Brown, now 21 years of age, was the first IVF baby born in England. Here in Malta our first IVF baby was born only a few years ago in what could well be described as a legal and ethical vacuum. For while Science and Technology have forged ahead, Law and Ethics have lagged behind. So, in launching this document on Reproductive Technology (or, should it be Assisted Procreation?), the Bioethics Consultative Committee has taken a decisive step towards remedying this deplorable state of affairs.

Because of time constraints I shall not dwell at length on the various ethical issues raised by Reproductive Technology. I have chosen instead to focus attention on what I consider to be fundamental issues, namely, the moral status of the early human embryo, and the role of bioethics in dealing with controversial issues associated
with assisted procreation. The aim of my presentation, therefore, is not to provide ready-made solutions to ethical dilemmas, but rather to stimulate further discussion on these important topics.

1. The moral status of the early human embryo

The moral status of the early human embryo is of central importance in bioethics not only because the degree of respect which is due to the human embryo depends largely on the status accorded to it, but also because recent advances in reproductive technology have implied questions about the value and protectability of human life in its earliest stages, to which IVF now gives easier access. But before tackling moral status, I want to consider the complex and difficult question concerning the nature of the human embryo, or what it is.

Let us, therefore, review briefly the available scientific evidence and see what we can discern about the nature of the human embryo, given that an entity acts specifically according to its nature. What do we know about the early human embryo? We know that a substantial change occurs at the end of the fertilisation process when the male and female gametes (each carrying 23 chromosomes) transform themselves into a completely different entity (with 46 chromosomes) - the human zygote. Beyond this stage, substantial change does not occur and what follows, as embryological development continues, is a series of accidental changes without any corresponding alteration in the nature of the entity itself.

We know that the human zygote has a complement of 46 chromosomes which characterise the species Homo sapiens. We know that the new genetic identity established in the zygote, besides being unique, remains basically unchanged throughout subsequent embryological development and indeed throughout its entire life span. The changes that do occur represent the ‘switching on’ and ‘switching off’ of various genes as embryological
development progresses. We know also that the genetic information contained within the nucleus of the zygote, together with that contained in the cytoplasmic organelles, is ultimately responsible for causing virtually all of the processes throughout embryological development.

Now if the human zygote, with its 46 chromosomes in the proper combination, exists independently as one, unified, self-identical being, then it must be an individual of the human species, even if it later produces more than one individual, for it is naturally capable of doing so. The human zygote, therefore, is not a possible or a potential human being, but a presently existing, real human being, albeit of microscopic dimensions, equipped with the potential to develop into what we will later be calling a 'human person'.

Viewed from this perspective, the distinction between 'human being' and 'human person', which features so often in bioethics literature, is valid only in so far as it reflects different stages in normal functional development of the same human organism. This distinction has its roots in functionalism which claims that personhood is definable only in terms of function or behaviour. Common sense, however, acknowledges the distinction between 'what one is' and 'what one does'; between 'being' and 'function'; and thus between 'being a person' and 'functioning as a person'. It makes no sense biologically to speak of 'human being' and 'human person' as if they were two separate entities. It is because of what we are, because of our nature or essence or being, that we can, and do, function in certain ways. Functioning as a person is a sign and an effect of being a human person. It is evidence that the human being has reached a particular stage of its normal development.

By and large, the way we behave towards nascent human life is a reflection of the value we place on it. In so far as assisted procreation is concerned, bioethical guidelines should therefore respect not only the dignity of the human being, but also the
inviolability of individual human life. Science and technology are there to be at the service of humankind, and not the other way round, and respect for the dignity of the human being should never be sacrificed at the altar of scientific and technological expediency.

2. The role of bioethics

Let us consider a few examples of the kind of ethical problems raised by reproductive technology and examine the role of bioethics in sorting them out. One may indeed ask: Is it ethically acceptable to have an egg fertilised by a donor sperm (or to fertilise a donor egg with the husband’s sperm), and then replace the embryo in the uterine cavity? Is it ethically acceptable to cryopreserve embryos for future use? And if so, is it ethically acceptable for the embryos to be implanted in the uterus of a woman who has no genetic relationship with such embryos? Is it ethically acceptable for surrogate mothers to be used where a woman can produce eggs but cannot undergo a pregnancy? And, finally, is it ethically acceptable for ‘spare’ embryos, produced by IVF but not needed for implantation in the uterus, to be killed or used as tissue for research purposes?

The issue concerning gamete donation presents special problems. Some would argue that, in our culture, marriage is meant to be an exclusive relationship between husband and wife both of whom contribute the genetic elements needed for the procreation of their offspring. Hence, third-party involvement is seen as going against the grain of marriage as an institution, not only because it undermines the exclusivity of the marriage relationship, but also because it raises serious problems concerning the child’s genetic identity. On the other hand there are those who find no objection with third-party involvement because they see no significant difference between donation of gametes and such practices as blood and organ donation. Fertilisation using donor gametes would present no special problems in countries where artificial insemination by donor (AID) has already been accepted and
practised for a number of years, since the principles involved are very similar. But I think you will agree that there is a significant difference between donating blood and donating gametes, for it is only the latter that have the potential to generate human life.

Another thorny problem associated with IVF concerns the fate of ‘spare’ embryos. If ‘spare’ embryos are killed or used as tissue for research purposes, let us be in no doubt as to what it is that is being destroyed. What is being destroyed is a human being with a claim to life and all the potential of a genetically unique individual. It is impossible to reconcile respect for human life with creating it with a view to using it as experimental material, and then disposing of it as laboratory trash.

In the UK an attempt was made to reach the classic compromise in dealing with the dilemma posed by experimentation on human embryos. Mainly for reasons of pragmatic expediency, the Warnock Committee decided to select Day 14 as the limit beyond which embryo experimentation should be banned. Now pragmatism and compromise are all very well, but I do believe that there are some values which are too important to be relegated to second place unless it is otherwise impossible to prevent harm. And respect for human life must surely rank high among these values.

How can bioethics be of help in resolving these dilemmas? The help which bioethics can provide consists not so much in handing down conclusions as in enabling others to reach them by sound arguments. What is needed is a sound and generally accepted method of argumentation, armed with which those who start with different views can have them discussed in the light of the medical facts and possibilities, hopefully with a view to reaching agreement. The conclusions reached are, to a large extent, conditioned by the ethical theory one embraces as the depository of the basic values underpinning one’s arguments. For obvious reasons, however, it may not always be possible to reach an ethical consensus on all controversial issues.
On a practical level, one of the roles of the Bioethics Consultative Committee is to provide ethical guidelines on assisted procreation - guidelines which should respect the dignity of the human being, not simply in isolation, but also in its familial and social contexts. In fulfilling this role, the Committee should also be conscious of its educational commitment, not just towards health care professionals, but also towards society at large. It is in this context that cultural values need to be taken into consideration when drawing up guidelines.

Most scientists naturally resent what they see as arbitrary limits set to their right to experiment. They contend that lay persons are ill-equipped to discuss issues of this sort with them, let alone share control of what they do. They consider these to be highly technical matters which should be left to technical people who understand them. A balance must obviously be struck between Science and Ethics. What needs to be stressed is that human life is too precious a commodity and too valuable an asset, to be left solely in the hands of scientists. Other members of society outside the scientific arena have an equal right to share in decisions over such issues as IVF, experimentation on human embryos, cloning, gamete donation, surrogacy and other procedures which impinge so heavily on the dignity of the human being.

Whatever the technology used, let us not forget that what we are dealing with is a couple who are seeking help from medical science for the treatment of infertility. The human aspects of assisted procreation must not be neglected. The aim should be to treat the couple, and not just treat the diagnosed condition. The couple should therefore be counselled about treatment options and associated risks, about possible solutions and their likelihood of success or failure. The aim is not for them to have a child at all costs. They should also be prepared to cope with the possibility of failure. Without meaning in any way to be insensitive to the genuine suffering of many infertile couples, I would add that infertility, although undoubtedly a blight, is more an absence of a good than
an actual harm, and that marital harmony does not depend solely on begetting children.

Let me conclude with an expression of hope that, in our attempts to expand the frontiers of medical science, we resist the temptation of allowing the so-called 'technological imperative' to cloud the values that should be guiding us in our scientific endeavours. Not everything that is technologically possible is necessarily also ethically acceptable. And before establishing what is technologically possible, and whether it is likely to be safe, let us pause awhile to consider whether we should be doing it in the first place!