

# Biotechnical Parenting

with Editing by Syed Mumtaz Ali

Biotechnical innovations relating not only to birth control, but also infertility and abortion are providing solutions as well as moral challenges for Muslims. These issues are directly related to human life, and for Muslims, all human life is regulated by the teachings of the Qur'an and the *Sunnah* of the Prophet Muhammad (s.a.w.s.). Our actions are considered proper or right if they conform to the broad teachings of the *Sunnah* and improper or wrong if they contradict either the letter or the spirit of the teachings of the *Sunnah*.

Since new techniques of biomedical parenting are now being developed at it seems at a frantic pace, the need for some broad guidelines is also becoming very crucial and urgent. Muslim scholars have not yet seriously probed the field of biomedical science, although family planning seems to be the only field with which Muslim Scholars have attempted to deal extensively. In my search, I have come across a book by Abul Fadl Mohsin Ebrahim under the title of "*Abortion, Birth Control and Surrogate Parenting*", published by American Trust Publications, Indianapolis, which seems to have fulfilled its objective "to analyse the relevant injunctions and present them in a systematic way in order to better assess the legality of such Biotechnical measures under the Shari'ah," i.e., the Muslim law. In its introduction, the author sets out very briefly the moral framework for a detailed discussion on reproductive control, Biotechnical parenting, and the termination of foetal life. In view of the extensive nature and scope of the book dealing with these three main issues, we have decided to reproduce here an edited and abridged version in such a manner that by retaining the author's own wording, none of its flavour is adversely affected. Only the contents of Part Three: Biotechnical Parenting, which deals with **1)** the problem of infertility **2)** biomedical science and infertility and **3)** analysis of Biotechnical methods. Added to this edited version of the articles, will be the "Conclusion" as it appears in the book.

## The Problem of Infertility

Infertility can be defined as the failure to produce a viable pregnancy within a year of regular sexual intercourse without the use of contraceptives. This

problem is not new. In the annals of history, it has been experienced by different communities and people have tried to overcome it in various ways. This chapter concerns itself with the means the Muslims used to cope with the problem throughout the ages before the recent breakthroughs in the field of biomedical science.

## The Qur'an and Infertility

Procreation of the human species is part of the Divine plan and this is brought out clearly in the following verse of the Qur'an: "*O mankind! Reverence your Guardian-Lord, Who created you from a single person, created of like nature his mate, and from them twain scattered (like seeds) countless men and women*" [Qur'an 4:1] Muslims look forward to having children and they are well aware of the *Hadith* of their Prophet (s.a.w.s.); "**Marry women who will love you and give birth to many children for I shall take pride in the great number of my *Ummah* (nation).**"

But, at the same time, they firmly believe that nothing happens except as willed by Allah (s.w.t.). Referring to the bestowal of children and infertility or barrenness, the Qur'an states:

*"To Allah belongs the dominion of the heavens and the earth. He creates what He wills (and plans). He bestows (children) male or female according to His will (and plan). Or He bestows both males and females, the He leaves barren whom He wills; for He is full of Knowledge and Power."* [Qur'an 42:49-50]

The Qur'an does make reference to at least two Prophets, namely Zakariyya and Ibrahim (a.s.), whose wives could not bear children but eventually did in their old age. The Qur'an records the words uttered by Zakariyya and the wife of Ibrahim on being given the glad tidings that they would be blessed with offspring, in the following manner:

*"He (Zakariyya) said, "O my Lord! How shall I have a son, seeing that I am very old and my wife is barren?" "Thus," was the answer, "does Allah accomplish what He will"* [Qur'an 3:340]

She (Sarah, wife of Ibrahim) said, *"Alas for me! Shall I bear a child, seeing I am an old woman, and my husband here is an old man? That would indeed be a wonderful thing!"* [Qur'an 11:72].

Thus, from the references made to infertility or barrenness in the Qur'an, it is clear that some people may not be able to bear children, but nevertheless can if it is the will of Allah (s.w.t.).

### **Coping with Infertility**

Muslims who are not blessed with offspring are, generally speaking, hopeful that they will one day be blessed with children in the same way as Prophets Ibrahim and Zakariyya (a.s. Hence their very first move is to beseech Allah (s.w.t.) to cure them of their barrenness. But, it has to be noted that though the invocation of Allah may be their first response, nevertheless, there are other ways and means by which Muslims in different parts of the globe have responded to the problem. Some of them resorted to polygamy, others by seeking help through amulets or *ta'widh*, and yet others chose to take foster children. [...the rest of the chapter deals with these three methods separately - Editor]

### **Biomedical Science and Infertility**

It is appropriate to understand the process by which pregnancy normally occurs before dealing with the biomedical analysis of the problems of infertility and the Biotechnical possibilities of helping people become parents.

At the time of intercourse, sperm is ejaculated by the man into the upper part of the vagina of the woman. These sperm swim through the cervix (the mouth of the womb), through the cavity within the body of the uterus (womb), and through the fallopian tubes.

In the female, ovulation takes place every month. During ovulation one or more ova (eggs) are pushed out of the ovary where it has been growing. Finger-like projections at the end of the fallopian tube pick up this expelled ovum (or ova) and pass it into the tube.

If the timing is correct, then the sperm and ovum will come into contact with each other in the tube and the egg

will be fertilized. The fertilized egg then divides into a number of cells. This ball of cells then begins its movement down the tube. After about three days, it reaches the body of the uterus and is implanted into its wall and begins to grow and develop into a baby.

### **Causes of Infertility**

Biomedical science has succeeded in pointing out that infertility may be caused by certain "defects" either in the wife or husband.

Male infertility may be due to the abnormality of the sperm in the sense that there is a low sperm count and poor sperm movement. This may result from excessive heat, such as frequent use of hot tubs, or the wearing of tight-fitting jockey shorts, or contacting mumps after puberty, which may cause permanent damage to the testes. Or, infertility may result from certain anatomic abnormalities such as varicoceles, i.e., an abnormality of the veins surrounding the testes, and undescended testicles, a birth defect that leads to infertility if untreated. Sometimes corrective surgery may cause irreversible damage. Likewise, the ducts that carry the sperm from the testes to the penis may be blocked. Or infertility may result from reverse ejaculation whereby the male ejaculates in the reverse direction so that the semen enters the bladder instead of going out through the tip of the penis. This may occur as a result of severe diabetes, neurological disease, or prostatic surgery.

Female infertility may result from the absence of or a blockage of the fallopian tubes. Closure of the tubes may occur especially as a result of sexually transmitted diseases, or occasionally from an infection originating from within the abdomen - for example, from a ruptured appendix. Or the tubes may also be damaged by handling during pelvic surgery. Another problems may be associated with the failure to ovulate (anovulation), so that no egg emerges from the ovary, in which case there may be a problem in the uterus, vagina, ovary, or pituitary gland. Or female infertility may result from an allergy to the proteins contained in the semen. Sometimes, the female may be born without a uterus and fertility in such a case is virtually impossible.

### **Analysis of the Biotechnical Methods**

When Muslims object to specific Biotechnical methods, this does not mean that Islam is against technological advancement or progress. Nor does it imply, as Sania

Hamady contends, that Muslims are fatalists.

The Qur'an does speak of predestination in regard to the creation of the various things in the world, but that means that the natural properties ingrained in these things have already been predetermined. Also in the case of man's creation, the way he is physically constituted has already been predetermined. The Qur'an does not maintain that man is predetermined in his actions.

The Qur'an speaks of man as being neither completely determined nor completely free, i.e., he has limited choice. Moreover, man does not possess knowledge of the future, and that is why sometimes his actions lead to success and at other times to failure. The knowledge of Allah (s.w.t.) does not relate in any way to predetermination or predestination as such. Let us take as an example a man lighting a candle in front of a child and leaving the candle on the table. He knows that the child would be tempted to touch the flame, but his knowing that does not determine the action of the child.

Medical intervention, is thoroughly Islamic. The well-known saying of the Prophet (s.a.w.s.), "**for every disease there is a cure**," led the Muslims eventually to probe into the science of medicine and to make great contributions in this field. It would have been more appropriate for Muslims to resign themselves to the mercy of Allah (s.w.t.) when infected with a disease rather than attempt to seek medical attention. But history bears witness to the fact that this was not the attitude of the Muslims. The Prophet (s.a.w.s.), who received the revelation of the Qur'an, in reality exhorted his companions to seek medical attention whenever they fell ill.

The first possible objection to biotechnical solutions for the problem of infertility concerns their justification. Don't they tamper with the *Sunan* (Ways) of Allah? Might not such technology lead to a dystopia [an imaginary place where people lead dehumanized and often fearful lives] like the one Aldous Huxley depicts in his novel *Brave New World*? It is true that such technology may be abused. But we should look at the positive aspects of such technology. A knife can prove disastrous if misused, but has numerous benefits if used correctly.

Such technology to resolve infertility cannot be condemned outright as being against the *Sunan* of Allah (s.w.t.) Because infertility should be viewed as a "defect"

or "disease." And the saying of the Prophet (s.a.w.s.) That "**for every disease there is a cure**" gives Muslims the impetus to try to do something about it. For example, the cause of infertility in the man or woman concerned may be rectified through corrective surgery, as in the case where the ducts that carry the sperm from the testes to the penis or the fallopian tubes in the case of the woman may be blocked. No doubt trying to resolve the problem of infertility by technological means does not guarantee its solution, but it is a positive attempt in that direction. Methods other than corrective surgery, however, involve certain ethical or legal issues. Let us now attempt to evaluate these techniques separately by applying the ethical principle of Islamic law.

### Artificial Insemination and Masturbation

Artificial insemination is the procedure whereby a semen specimen is placed in a syringe attached to a narrow tube or catheter and subsequently that catheter is inserted with great care into the cervical canal and the semen is slowly injected into the uterus.

The question now is how the sperm in the above mentioned procedure is to be obtained? The only two ways in which sperm may be obtained is either by masturbation or the inserting of the penis inside a special sheath, which does not contain a spermicide, prior to intercourse. In the event that this special sheath is not easily available, the only way to collect the semen would be through masturbation. Here is where the problem arises.

All four of the major schools of Islamic law view masturbation is a sin but prescribe no specific punishment or even reprimand for the one who engages in it.

'Abd al Rahman al Juzayri states: "The author of *Subul al Salam* says some of the Hanbali and Hanafi jurists are of the opinion that masturbation may be permissible in the event that one fears (that his not engaging in it) would lead to his committing adultery or fornication. But, he cautions that such a view is weak and is not to be relied upon."

The consensus is that masturbation is regarded as a forbidden (*haram*) act is to be avoided. But the question before us now is whether it would be forbidden under Islamic law to masturbate in order to obtain the semen so as to have one's wife impregnated with it through

artificial insemination. Support of permitting it should be argued on the basis that engaging in the act is not to derive pleasure but, rather, to obtain fertility. Permission would come from the purpose-oriented concept of the higher goals contained in the juristic principle that "necessity renders the forbidden permissible," as indicated in the Quranic verse:

*But whoso is compelled (thereto) by necessity, without wilful disobedience, not transgressing due limits, thy Lord is Forgiving, Most Merciful" [6:145]*

### **Sperm Donors**

In some cases, the husband may be unable to produce any sperm at all (a condition called azospermia). Or he may be suffering from a neurological condition that makes it impossible for him to ejaculate. Or he may be suffering from a certain disease like diabetes, for instance, which renders him impotent. Or he may be the carrier of a dominant gene for a genetic disorder (Huntington's Chorea, for example). If any such condition prevails, then it is still possible to have one's wife inseminated with the sperm of a sperm donor. This accounts for the existence of sperm banks in certain advanced technological countries.

Pregnancy takes place when the sperm fertilizes the ovum, so the foetus or child that results out of the union can only be said to be the child of the biological parents. Now the Qur'an recognizes the vital role that the sperm plays in human reproduction and states:

*Now let man but think from what he is created!  
He is created from a drop emitted (i.e. sperm) -  
proceeding from between the backbone and  
ribs [Qur'an 86:5-7]*

But the Qur'an warns that this "seed" or sperm should not be misused, in the sense that its emission should occur only in the event of having sex with one's wife. This can be deduced from the verse wherein it describes as one of the qualities of believers that they have sex only with those who are joined to them in the marriage bond [Qur'an 23:5-6]

The question before us is whether Islamic law justifies the use of the sperm of someone other than that of the husband to be used in the process of artificially inseminating the woman? In this regard, a former head of Azhar University, Shaykh Mahmud Shaltut, issued the

following religious decrees (*fatwa*) condemning it and equating it to the adulterous act:

"Artificial insemination with the sperm of a foreign person, is, under the *Shari'ah*, a grievous crime and a great sin and is tantamount to adultery, for their essence is the same and their result is also the same. For, it is the insertion of the sperm of the foreign person intentionally into a tilth which has not been legally tied to him through the bond of marriage . . . The legal verdict for artificial insemination in that way is the same as that of adultery which has been condemned and prohibited by the Divine *Shari'ah*."

Dr. Yusuf al Qaradawi, addressing himself to the question of donor artificial insemination states:

"Islam safeguards lineage by prohibiting *zina* (adultery and fornication) and legal adoption, thus keeping the family line unambiguously defined without any foreign element entering into it. It likewise prohibits what is known as artificial insemination if the donor of the sperm is other than that husband."

So from what has been said above, sperm banks would be condemned by Islamic law in view of the fact that using any sperm other than that of the husband to impregnate one's wife is considered an illegitimate act. Moreover, even if a husband has his sperm stored in a sperm bank, with the intention that if he dies, his sperm can be used to impregnate his wife. This is illegal under Islamic law, because death renders the marriage union void in the sense that a woman can marry someone else after a certain specified period - the *'iddat* (i.e., after four months and ten days). So for the wife to be impregnated after her husband's death with his sperm would also be termed an illegitimate act.

Islam does not stand alone in its condemnation of artificial insemination by a third party donor's sperm. Papal teaching rejects such artificial insemination within marriage.

Impregnation of one's wife with the sperm of a sperm donor does not make the child one's own, and is looked upon as illegitimate even in man-made laws. In the United States, some courts have viewed donor artificial insemination as adultery, and grounds for divorce. Moreover, in a few cases, children by donor

insemination have been declared illegitimate by the courts.

### ***In vitro* Fertilization**

*In vitro* is a Latin phrase which means "in glass". In embryology it is used in contrast with "*In utero*" or "in the uterus.". In normal circumstances, human fertilization takes place *in utero* (strictly speaking, in the fallopian tubes) when a sperm cell unites with an ovum. So, *in vitro* fertilization (IVF) is fertilization that is artificially performed outside the woman's body "in a test-tube".

*In vitro* fertilization is a process that helps a woman overcome her infertility in cases where the woman's fallopian tubes may be absent, abnormal, or damaged.

There are four basic steps involved in the process of *in vitro* fertilization. First, the woman concerned is given a reproductive hormone in order to cause ova to ripen. A few hours before ovulation can be expected to occur, a small incision is made in the abdomen just below the navel. A laparoscope (an instrument with a built-in lens and light source) is inserted through the incision, the ovaries are examined directly. When mature eggs are found that are about to break free from the thin walls of the ovarian follicle, the walls are punctured and the contents are removed by a vacuum respirator. Several eggs may be removed. Second, the eggs are transferred to a nutrient solution biochemically similar to that found in the fallopian tubes. Sperm is then added to the solution. As soon as a single sperm cell penetrates the ovum, the ovum is fertilized. Third, the fertilized egg is transferred to a nutrient solution where, after about a day, it begins to undergo cell division. When the ovum reaches the eight-cell stage, it is ready to be returned to the uterus. The woman concerned is then given injections of hormones so as to prepare her uterus to receive the fertilized egg. Fourth, the small ball of cells is placed in the uterus through the cervix (the opening that leads to the vagina) by means of a hollow plastic tube called a cannula. The fertilized egg continues to divide, and somewhere between the thirty-two and sixty-four cell stage, it attaches itself to the uterine wall. If the attachment is successful, then from that time onwards, development takes place as though fertilization had occurred in the normal fashion.

The advantage of IVF may be enumerated as follows: 1) it meets the childbearing desire of the woman; 2) the child bears the genetic features of both married partners; and 3) there are no risks of strain between the married partners because of the contribution of another woman who might be perceived as a competitor. Paul Ramsey, however, strongly opposes IVF and is of the opinion that it should not be carried out due to the great risk of genetic deformity. Looking at it from the Islamic standpoint, it is true that IVF may help a woman beget offspring and thereby "cure" her of her infertility. But there is one important issue involved in this procedure that makes its legality questionable. It is that only a single fertilized ovum is selected for implantation while all the other fertilized ova are simply discarded.

It seems that the only way IVF could be acceptable under Islamic law as a means to overcome infertility is if the fertilization process outside the uterus is restricted to a single ovum. That would solve the problem of discarding other fertilized ova. But it may be argued that in normal circumstances, if more than one ovum are fertilized, nature takes care of that by expelling the other fertilized ova. Thus, would it not be equally justified to discard other fertilized ova and use only one of them for implantation?

### **Egg Transfer, Artificial Embryonation, and Embryo Adoption**

Egg transfer involves the transfer of an egg of another

woman into the uterus of one's wife, while artificial embryonation and embryo adoption involve the transfer of an already fertilized egg from another woman and placing it in the uterus of one's wife. If attachment to the uterine wall is successful, then development of the embryo would take place in the normal fashion.

These techniques are chosen if one's wife is not able to ovulate. Or perhaps she has no fallopian tubes at all, or there may be something abnormal causing blockage of the fallopian tubes or her tubes may be damaged. Clearly the three techniques can possibly assist an infertile woman to bear and give birth to a child. The problem is that in the case of egg transfer, the woman will bear a child with half of the genetic identity of her husband and none of her own. While in the case of artificial embryonation or embryo adoption, the child would have the genetic complements neither of her husband nor of herself.

The Qur'an teaches that in the creation of mankind, the roles of males and females in the process are recognized. For example, it states:

*O mankind! We created you from a single (pair) of a male and a female [Qur'an 49:13]*

And it emphasizes, the union should be legitimated through the marriage bond [Qur'an 23:5-6]

Thus, using the ovum or egg or an embryo of another woman, even though it is transferred in the uterus of one's own wife, would be questionable under Islamic Law. And the above mentioned religious decree or (*fatwa*) of Shaykh Shaltut against artificial insemination with the sperm of a donor, could apply equally, on the basis of analogy, against the adoption of such techniques to correct infertility.

### **Ectogenesis and Cloning**

This technique involves the nurture of a foetus from fertilization to viability in an artificial placenta or glass womb. If the sperm and ovum used in this process come from a legally married couple, it appears that Ectogenesis would not be illegal under Islamic law, especially if undertaking such a step is motivated by the simple reason that one's wife was born without a uterus.

As James B. Nelson points out, however, such a technology is still being developed. He mentions that the Italian embryologist Daniele Petrucci, who used this

technology to sustain the life of an embryo for 29 days, destroyed it, for it was grossly deformed.

Bernard Haering is critical of the prospect of childbearing by Ectogenesis on grounds other than the danger of deformity. In his opinion, this technique is a "loveless way" of producing a child. He even fears that such a person would suffer great damage psychologically and might not be in a position to reciprocate love. Paul D. Simmons points out that such technology could even lead "to the suggestion that human embryos might be nurtured in the uterus of cows so as to relieve women of the maternal burden. Non-human environments ought not be used for human subjects. The development during gestation is important in caring for the humanity of the foetus. The experimental results of the Italian embryologist, who had to kill the human form he brought about by Ectogenesis, might makes its legality in Islam at best questionable.

It seems that cloning would not fall under the category of trying to resolve the problem of infertility; because it is motivated rather for the satisfaction of one's own personal ego - to have a clone of oneself. Producing children in this manner would threaten the very institution of marriage, and therefor clearly would be an illegal venture under Islamic law.

### **Surrogate Parenting**

Surrogate parenting involves a woman bearing the child of another woman who is not in a position to bear children as a result of blocked fallopian tubes or lack of a uterus. To be a surrogate mother is, so to say, "leasing her womb"; for the child that one gives birth to does not "legally" become one's own but is the child of the couple who pays the surrogate mother for that particular purpose. In some of the states in America, it is a legal venture. But in England, it is not as yet been legalized. This procedure no doubt allows an infertile couple to have child who would have the genetic complement of the husband, if the husband's sperm is used to fertilize the ovum of the surrogate woman. But, the problem arises in fertilizing the ovum of another woman by the sperm of a man not her husband. Is this to be regarded as an adulterous union? Clearly it would be illegal under Islamic law. It would be legal if the surrogate mother was the second wife of the same husband.

The sperm and ovum of the married couple may also be fertilized *in vitro* and placed in the womb of the

surrogate mother, who would be paid for giving birth to their child. The child would bear the full genetic complement of the contracting couple. It is relevant here that when Muslims have their children breast-fed by a foster mother, the children would be like the child of the wet-nurse.

This means that if the wet-nurse has her own biological children, the children she breast-fed would not legally be permitted to marry any of her own biological children. But, it is to be emphasized that this prerogative of surrogate breast feeding can in no way serve as justification for the surrogate mother to carry to term the fertilized egg of the married couple. No parallel can be drawn between the wet-nurse and the surrogate mother. The wet-nurse provides the basic essential nourishment to the already born child, while the surrogate mother carries the "unformed" child to term and literally gives birth to it! This poses two immediate problems:

### A. The Legality of the Contract

The contract which the surrogate mother and the married couple enters into can in no way be justified legally under the *Shari'ah* (Islamic Law). It would be considered a *batil* (invalid) contract. This stand may be clarified by pointing out that a sale contract would be legal only if it involved such transactions as are permissible under the *Shari'ah*. For example, no transaction involving the sale of or purchase of alcohol (intoxicating drinks) would be legally valid. In the same manner, the contract between the married and the surrogate mother is invalid in the sense that 1) it is a contract stipulating the "sale" of a free person; and 2) it involves an element of adulterous implantation (the fertilized egg being implanted not in the wife, but in the womb of the surrogate mother).

### B. The Question of Parentage (*Nasab*)

The Prophet Muhammad (s.a.w.s.) is reported to have said, "**The child is for the bed.**" From this statement, a general principle is laid down. A child, legitimate or illegitimate, always has a mother. The mother is the one who gives birth to it. Therefore, the surrogate mother will naturally, truly, and legally be the mother of the child. A child born under the surrogate contract would be illegitimate in the *Shari'ah* since the contracting husband had not entered into matrimonial contract with the surrogate mother who gave birth to the child. [In the

case, however, of one husband with two wives, if the first wife has no uterus or fallopian tube or blocked fallopian tubes and if the second wife was willing to surrogate a child by the use of the husband's sperm and was used to fertilize the ovum of the first wife and implanted in the second wife, then in this case, the child would not be illegitimate. Both the first and the second (surrogate) wives may be legally considered mothers.]

There is no place for surrogate motherhood within the Islamic system, for the evils that would accrue from it will far outweigh any good. Some of its evils may be enumerated as follows: Acceptance of surrogate motherhood would:

- 1) tamper with the *Sunan* ("Ways") of Allah in the normal process of procreation;
- 2) entice unmarried women to "lease" their wombs for monetary benefits; this would in effect undermine the institution of marriage and family life;
- 3) tempt married women to resort to this technique in order to relieve themselves of the agony of going through the pains of pregnancy and childbirth. Islam does not consider pregnancy as a burden but as a blessing. If a mother dies during pregnancy or childbirth she is given the status of *shahidah* ("martyr");
- 4) encourage the surrogate mother to claim legal rights to the couple's child she bore, as has already occurred in the United States; and
- 5) if not checked, create confusion in blood ties, when a mother like Pat Antony of Tzaneen, South Africa, carries the children of her biological daughter, Karen.

It cannot be denied that biomedical science has made positive contributions towards assisting infertile couples in becoming parents. The technological methods used are sometimes ethically questionable. In the Islamic system, ethics is not divorced from law. Thus, the question we address is whether such techniques are valid under Islamic law? We have attempted to analyse all of the biotechnical possibilities and have come to the conclusion that only artificial insemination with the sperm of the husband can be regarded as lawful.

The other functionally similar technique that could be looked upon as permissible would be *in vitro* fertilization where the ovum of the wife is fertilized by

the sperm of the husband and surrogate parenting by another wife of the husband (when the first wife is barren.

All other techniques cannot be legally sanctioned, for they involve an element of adulterous unions and/or could destroy the institution of marriage.

The Quranic verse [42:50] stating that it is within the power of Allah (s.w.t.) to leave barren whom He wills enables Muslims to resign themselves to the will of Allah (s.w.t.) in the event that both the process of artificial insemination and *in vitro* fertilization fail and leave them without offspring.

If these two techniques fail, they have two further options. If the cause of infertility is the woman, the husband may resort to polygamy and try to have children from his second wife. But, if they are so intimately attached to one another and would not like to be disturbed by the presence of another woman, even one legally married to the husband, then they have the option to adopt a child, preferably an orphan. Besides enjoying the spiritual benefits of this responsibility, they will also have the pleasure of rearing a child who may not legally be adopted by them, but yet be psychologically satisfying to care for as if he or she were their own.

## Cures

In order to help a couple overcome infertility and become parents, biomedical science has devised certain ways and means. Paul D. Simmons has elaborated these possibilities, as summarized below.

**Artificial insemination** involves using the husbands' or a donor's sperm to impregnate a woman. A physician introduces sperm into the woman's uterus, where, it is hoped, it will fertilize the awaiting ovum. The sperm may be fresh or supplied from a sperm bank, where semen is frozen and stored.

**In vitro fertilization** involves extracting a ripened ovum from a woman's ovary, fertilizing it in a Petrie dish in the laboratory, and returning the embryo to the woman's uterus, where it is hoped the ovum

will attach to the wall of the uterus and develop to a normal birth.

**Egg transfer** involves transferring an egg from a donor woman to an infertile woman's uterus. The egg may be fertilized by the recipient's husband.

**Artificial embryonation** requires flushing an embryo from a woman who has been inseminated artificially by a donor's sperm, then implanting the embryo in the womb of the donor's wife.

**Embryo adoption** or **prenatal adoption**, involves both donor sperm and donor egg, but they would be transferred to the womb of the recipient and she would bring the foetus to birth.

**Ectogenesis** is the nurture of a foetus from fertilization to viability in an artificial placenta or glass womb.

**Cloning, or nuclear transplant**, consists of removing the nucleus of an egg and replacing this with the nucleus of a donated unfertilized egg or the nucleus of a body cell. The renucleated cell is then implanted and brought to term in the womb. The child has only the genetic material of the donor of the nucleus. Since only a male or female seed is used, this is a process without conception. It is artificial virgin birth - a child with the same DNA as the (one) parent. This has not as yet been carried out on humans.

**Surrogate parenting** involves a woman bearing a child for another woman, one who is presumably infertile. The surrogate mother is artificially impregnated with the contracting husband's sperm.

The contribution of biomedical science in determining

the salient factors involved in infertility can hardly be underestimated. The biomedical possibilities mentioned above, bring hope to the childless couple, but such techniques, in efforts to solve the problem of infertility, raise a number of ethical and legal questions or issues and thus cannot be given blanket approval.

## Conclusion

Now that we have explored the technological details and related ethical nuances of reproductive control, biotechnical parenting we should stand back and "look at the forest" as distinct from its individual trees. Our exploration has revealed the intensity of the problems these issues pose. Each of these issues, in one way or another, is directly linked to the question of human life.

Reproductive control calls for certain precautionary measures to frustrate the very possibility of pregnancy and aims at the prevention of the birth of human beings from the very outset, prior to conception. Abortion actually terminates human life after conception and implantation. Biotechnical parenting, on the other hand, offers technological measures designed to help infertile couples have children and perpetuate the human race.

Analysis of the ethical issues in biomedical technology should be derived from the guidance of Allah, Who alone has absolute knowledge of good and bad. In a beautiful passage mentioning the different stages of embryonic development, the Qur'an reveals that every person is created by Allah:

*Man We did create from a quintessence of clay, then we placed him as a drop of sperm in a place of rest, firmly fixed. Then we made the sperm into a clot of congealed blood; then that clot we made a lump; then we made out of that lump bones and clothed the bones with flesh; then We developed out of it another creature, so blessed be Allah, The Best to Create [Qur'an 23:12-14].*

The husband and wife engage in the sexual act so the sperm can fertilize the ovum and begin human life. But it is Allah (s.w.t.) Who in reality blesses some human beings with children while others He chooses to leave barren.

This has raised the question of whether biomedical measures to increase or restore fertility constitute

interference with Allah's *Sunan* (Ways). This seeming dilemma is addressed by understanding that infertility should be viewed as a "disease." Since the Prophet (s.a.w.s.) emphasized that his followers should seek medical aid or attention whenever the need arises, it logically follows that trying to resolve infertility through modern biotechnological means would not be tantamount to denying one's trust in Allah (s.w.t.).

Nevertheless some of the biotechnical means may not be legitimate under the *Shari'ah*, for example, 1) artificial insemination by a third party and 2) surrogate parenting. Only two means are morally legitimate, namely, artificial insemination by the husband and *in vitro* fertilization. Since these two techniques may not prove successful in resolving the problem of infertility, if both fail, then Muslims have the option of adopting children who remain legally the children of their biological parents, but are raised by the adopting couple as their own children.

Man was created to know and serve Allah (s.w.t.). In the Qur'an, Allah announced, "*I have not created man and jinn except to serve Me.*" [Qur'an 51:56] Man is entrusted to realize the *summum bonum* [the highest attainable good] as revealed by Him. Moreover, the Qur'an affirms that the world was not created in vain [Qur'an 3:191]. The world is the arena in which man is to prove his worth by realizing the ethical ideal. Because of his unique ethical vocation and destiny, man is higher than the angels and is the crown of creation. Devoid of human beings, the world would thus have no meaning.

When the question of contraception comes up, many are hesitant, for that implies controlling the birth of human beings and hence tempering with the natural process of procreation. In order to dispel some of the misconceptions in this regard, we have seen that where pregnancy may injure the health of the woman or may even threaten her life, the higher purpose of protecting life, operating under the rubric known as "the rule of necessity," would prevail, requiring a woman to make use of contraceptive devices for other reasons, by mutual consent between the husband and wife, is *makruh* (undesirable, improper), as Imam al Ghazali pointed out, but not necessarily *haram* (forbidden) under the *Shari'ah*.

The Qur'an defends the sanctity of life in the following words:

*If anyone slays a human being, unless it be (in*

*punishment) for murder, or for spreading corruption on earth - it shall be as if he had slain the whole of mankind; whereas, if anyone saves a life, it shall be as if he had saved the lives of the whole of mankind [Qur'an 5:32]*

From this verse, it is evident that every human being has the right to be born, the right to be, and the right to live as long as Allah (s.w.t.) permits. No one may be deprived of life, except for a legitimate crime as discussed above. The foetus is regarded by all schools of Islamic law as having the right to life, as indicated by the fact that the death sentence on a pregnant woman can be carried out only after she has given birth.

The problem of pregnancy as a result of rape, cannot be solved by abortion. The only real solution is to curtail the free intermingling of sexes and impose strict punishments for those involved in such a crime. Moreover, after a lapse of time, it might not be readily ascertainable whether rape had indeed taken place. Hence, arbitrarily to sanction abortion for any pregnancy that is said to have resulted from rape might lead to abuse of such permission.

Even fear of fetal deformity is no excuse for abortion, because the extent of the deformity cannot be positively ascertained. Moreover, the very techniques that have enabled doctors to detect fetal deformity and in the near future be capable of curing or treating certain types of fetal deformity. The Islamic approach would be to focus on preventing the birth of defective infants, in the event that such is feared, by employing contraceptive measures rather than by resorting to abortion after fertilization and implantation have already taken place. Deeper research is needed in all three of the major issues addressed in the book.

### **The Challenge of Islam**

There is no doubt about the emphasis the Qur'an lays on the necessity of observing natural phenomena. It invites man to study creation as the handiwork of Allah (s.w.t.) and to marvel at its beauty.

In the light of the teachings of the Qur'an, the Prophet (s.a.w.s.) of Islam urged Muslims to seek knowledge and declared that its quest was incumbent upon his followers. History bears witness to the fact that the exhortations of the Qur'an and the instruction of the Prophet (s.a.w.s.) did not fall on deaf ears. With the aim

of understanding the design of their Creator that exists in nature, Muslims ventured into the scientific field and made breakthroughs in most of its branches such as in mathematics, astronomy, physics, and optics.

Likewise, the injunctions of the Qur'an and *ahadith* of the Prophet (s.a.w.s.) pertaining to hygiene, dietary habits, and the necessity of upholding moderation in all walks of life, led the Muslims to the study of medicine. Abu Darda' reported that the Messenger of Allah said, **"Allah has sent down both the disease and the cure, and He has appointed a cure for every disease . . ."** Moreover, there are many *ahadith* of the Prophet (s.a.w.s.) that concern illness and their cure. In fact, the *Hadith* literature has a separate chapter entitled *al Tibb al Nabawi* or "Medicine of the Prophet." This gave the pursuit of the science of medicine a religious basis from the very beginning. History tells us that Muslims made great strides in the field of medical science. For example, the celebrated work of Ibn Sina (Avicenna d. 1037 A.C.), namely, *al Aqnun*, served the chief guide to medical science in Europe from the 12th century to the 17th century.

It may be emphasized here that the motivating factor behind the Muslims' quest for knowledge in the scientific and medical fields was primarily to understand the creation of Allah (s.w.t.) so as to be drawn closer to their Creator. Thus, it follows that it was never their aim to exploit nature selfishly, nor to dominate it as rivals to Allah (s.w.t.), nor to exert control over life and death.

Thus the question of accountability necessarily implied that science and technology cannot be divorced from ethics. In Islam, however, ethics is not independent of the *Shari'ah*, i.e., Islamic law, but, rather is part and parcel of it. In the West from the 17th century onwards, an atheistic tendency prevailed within the scientific field whereby the relevance of Allah (s.w.t.) to the natural phenomena was deliberately rejected. Events in nature from then on have been explained in Euro-American civilization as the result of necessary causes that can never be other than what they are.

In the biomedical field, there is a tendency to try to "conquer" death and to manipulate life through the process of genetic engineering. It is in this field that Muslims are confronted with a series of ethical issues that the legal connotations as well and must be explored. The bifurcated Western civilization, which separates the sacred from the secular or denies it altogether, is in a

dilemma. Muslims have an obligation to offer the guidance revealed in the Qur'an. Without this Divine Guidance, man may be governed by his own selfishness and arrogance. With it man has an ultimate basis for rational discourse in promoting the good and opposing the bad wherever it may be.