

State of Kuwait
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Islamic Organization for Medical Sciences
Islam and Recent Medical Problems

International Seminar on
**Human Genetic
and Reproductive Technologies:
Comparing Religious and
Secular Perspectives**

Organized by the
Islamic Organization for Medical Sciences, Kuwait

in Collaboration with
*WHO (EMRO),
ISESCO and CIOMS*

*Muharam 7-10, 1427 H
February 6-9, 2006
Cairo*

(Part I)



Supervised by

Dr. Abdul Rahman A. Al-Awadi

*President,
Islamic Organization
for Medical Sciences,
Kuwait*

Edited by

Dr. Ahmad Rajai El-Gendy

*Secretary General Assistant,
Islamic Organization
for Medical Sciences,
Kuwait*

2008

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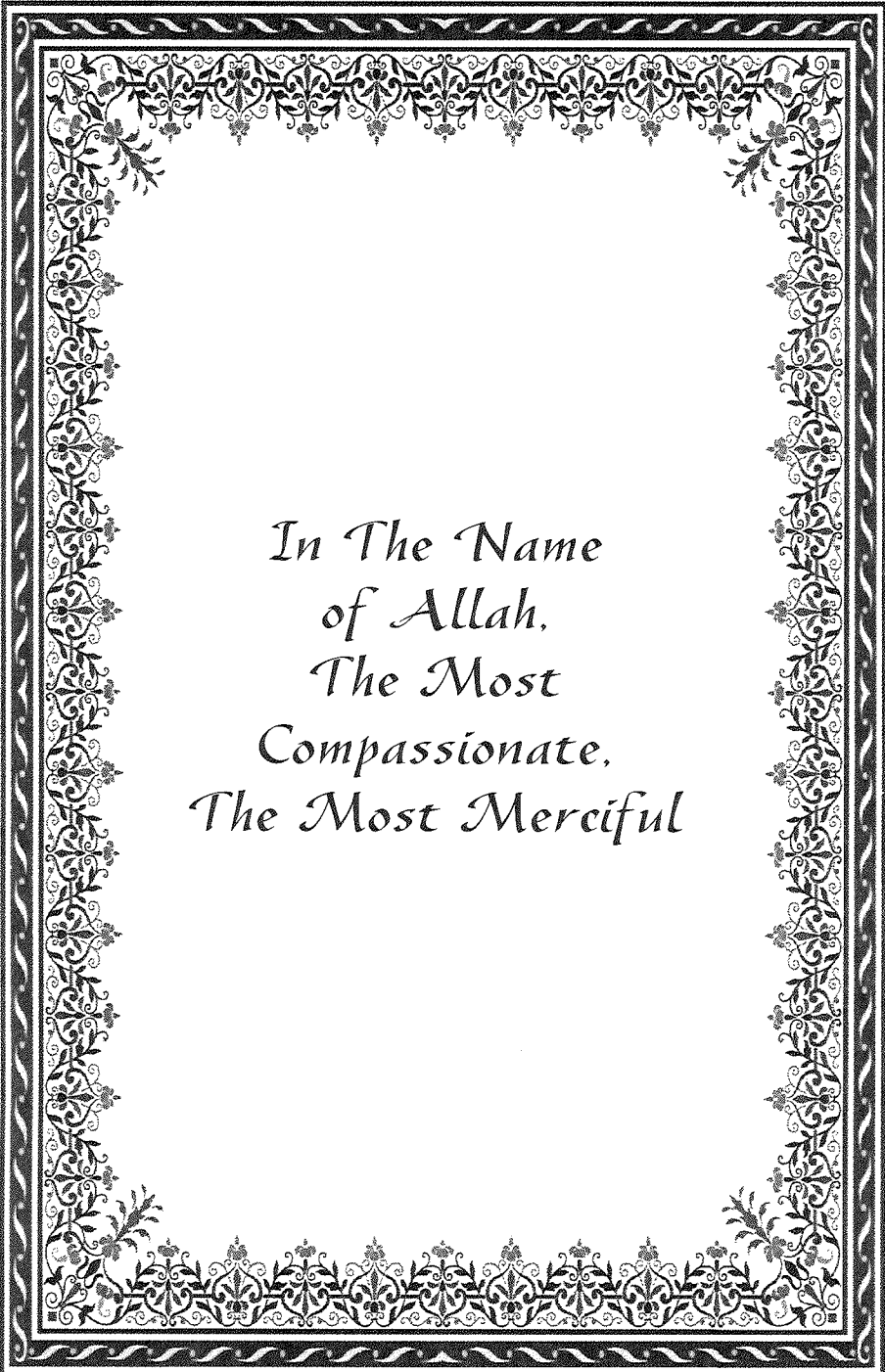
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*In The Name
of Allah,
The Most
Compassionate,
The Most Merciful*

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FOREWORD

Dr. Abdul Rahman Al-Awadi

President of the Islamic Organization for Medical Sciences,
Kuwait

Foreword

by

Dr. Abdul Rahman Al-Awadi

President of the Islamic Organization of Medical Sciences, Kuwait

This symposium comes at a time when the world is undergoing turbulent circumstances where right and wrong have been confused. Differences are not confined to difference in opinion, but have regrettably reached armed conflict and bloodshed. You will find one group claiming that the other group is without faith and thinking that it alone possesses the entire truth and is absolutely right. The other group will do likewise. Naturally, this way of thinking has come to reflect on many of life's scientific and practical aspects. There are those who think that making scientific progress in the field of human reproduction is permissible, provided that we do not infringe upon religious restrictions. They hold this opinion due to their belief that such progress would serve humankind and help it overcome its pains and realize its dreams. However, there are others who consider such progress demonic since it interferes with God's will, and therefore believe it ought to be stopped and should not be supported. Others maintain that scientific research should have absolute freedom so that it would be able to discover what has been unknown to man ever since the dawn of life. However, the great conflict between these different groups may very well be healthy, as it is for the sake of man and his wellbeing.

Some, however, consider the matter as a form of chaos which could lead to confusion in bloodlines. They consider it as an assault on man who is God's successor on earth, as it makes him the object of experimentation, and allows the manipulation of his genes and his genetic qualities. Such a course might lead some people to divide human kind into two races that do not have equal rights and duties; a master race and a race of slaves. The race of masters would deserve life with all its blessings and all its luxuries. The members of this race would have special qualities in their appearance, color, intelligence,

courage, and strength; qualities that no other human beings have. All other human beings would belong to the race of slaves and as such should have other qualities that are suited to their roles and the duties with which they will be charged. Is this the target of scientific research and its future applications? Are we then dealing with a new eugenics that is headed by the elite of the scientific society in the world? What will happen next? Some researchers think that the whole matter will not go beyond exploring the mysteries of human biological processes. They are confident that politicians are keeping a close eye on their results.

Due to what was just mentioned it was held necessary to invite members of the three revealed religions and secularists as well in an endeavor to find out their opinions and to establish some form of common ground between all these groups. All religions came from God to tell human beings that they are all equal and that there is no difference between nations or races as all human beings are God's creatures. God sent his prophets and messengers to guide them and show them the path of righteousness and to help them attain everything that is conducive to their happiness and wellbeing. He also forbade them from doing anything that would lead to their harm.

Despite the clarity of the message of the prophets and messengers of God, humankind starting with Adam has been seduced by Satan who is always tempting them to disobey God. Man succumbs to this temptation in search of knowledge or because he imagines due to his limited knowledge and reason that he could disobey God. Adam was the first to disobey God and if it were not for his repentance and God's forgiveness of his sin, the world would have been full of vice, tyranny, and corruption. In life both good and evil exist side by side and each person chooses between them both. Those whom God graced with his guidance carry the trust which God offered to heaven, earth and the mountains, but they refused to carry it.

We had to choose the elite among the followers of the three religions and the secularists to hold a discussion on critical matters which give rise to debate and to different visions. We chose the topic of heredity and human reproduction and their ramifications. We have

held this conference in an atmosphere of love and tolerance in which each group presented its views regarding each point in an attempt to clarify difficult issues by using and quoting from holy books, or by utilizing material evidence. This was done without any bias or prejudice; each group accepted the opposite point of view with grace and tolerance and discussed it in order to gain more knowledge and without any disrespect to any participant.

Specialists in Islam, Christianity, and Judaism, as well as secularists, professors of philosophy and sociology, medical doctors, and chemists have taken part in this conference. Politicians, historians, and others have participated as well. Discussants, researchers, and speakers were all looking for the truth with open minds and hearts. At the end there was agreement on many points which would lead to the welfare of man as a human being, regardless of his race, religion, or social position because most of what was agreed upon was in harmony with religious laws which came from God who is more merciful towards us than we are towards our own selves.

The conference has come to an end and everyone is calling for it to be repeated as it might guide those who determine policies and decisions, making their decisions and policies agree with religious laws.

Before I end this foreword, I would like to offer my deepest thanks and gratitude to our fellows in the International Health Organization and our fellows in the Islamic Organization for Culture, Science, and Arts who assisted us in the preparation, introduction and contribution to this conference. We pray to God to accept all our efforts and those of everyone who contributed to this conference.

INTRODUCTION

Dr. Ahmed Rajai El-Gendy

Assistant Secretary General of the Islamic Organization
for Medical Sciences (IOMS),
Kuwait

Introduction

by

Dr. Ahmad Rajai Al-Gendy

Assistant Secretary General of the Islamic Organization
for Medical Sciences (IOMS), Kuwait

This International Seminar is a watershed in the history of IOMS. Since 1978, this organization has not witnessed an event of such magnitude, bringing together representatives of all the heavenly religions in addition to secular thinkers. Many organizations that have recently emerged are all for dialogues and exchange of views. But most of them focus on political or theological matters. Our present seminar, however, is characterized by certain distinctive features in terms of subject matter and the type of participants.

The subject matter is about something serious that emerged in the second half of the previous century and has been growing by leaps and bounds ever since. This is genetic engineering that has developed technologies for reproduction and cloning. The reason for concern is that such technologies are being applied now on humans.

The problems put forward for discussion are purely scientific, but the perspective is religious and philosophical. The point of concern is to gauge the positive and negative impacts these innovations will have on human beings, societies, and the whole world.

As for the participants, they are highly specialized in the fields of science, religion, philosophy, ethics, social studies, economics, politics and even security. This wide range of disciplines reflect the fact that the problem is no longer confined within the folds of theologians. It has become the legitimate concern of everybody.

I would go as far as to say that this seminar sends a strong message to the administrators and decision-makers. It tells them that serious decisions of war and peace and of matters relating to the well-being and security of the peoples in this world are not their exclusive responsibility. They are also the responsibility of scientists, jurists,

legislators, sociologists and philosophers. They, too, are entitled to have a strong say in matters that could determine the fate of their compatriots. History is full of examples that show their effective roles in victories won in wars against enemies and in peace against diseases and ailments. The great leaps in economy and social changes are nothing but science in action.

The atomic bomb is the most eloquent example of what happens when the products of science are manipulated by politicians. The atomic energy was originally meant to empower man against poverty, disease and ignorance. In the hands of politicians, unfortunately, this energy turned into the most devastating weapon of mass destruction. When Opennheimer saw the incredibly destructive power of the atomic bomb he uttered his oft-quoted statement, "Today science has fallen into sin." The folly of politicians in abusing such power is demonstrated by their decision to drop the two bombs on Heroshima and Nagazaki after the battles had virtually ground to a halt. So, what was the wisdom of making those decisions? What was the gain?

Today the world is going through one of the most precarious phases of its history where wisdom and justice are giving way to the deafening noise of war planes and guns. Instead of seeking cure for diseases, laboratories are busy producing microbiological weapons in the form of mutable microbes that defy any cure and stand capable of wreaking havoc on man, animal and plant. The arsenals of deadly weapons are awash with stockpiles of all sorts of bombs: cluster, atomic, nuclear and nitronic, in addition to God knows what of unrevealed weapons that can destroy the globe fifteen times over.

On the other hand, famines claim the lives of millions of people in the third world, in addition to those who die of an assortment of diseases that could be avoided if there were adequate resourcses. Still, there are millions of refugees around the world who lack the minimum of life-sustaining necessities such as drinkable water or a roof to protect them against the ravages of time and weather. If a fraction of the huge budgets earmarked for the vicious war machine was to be allocated to humanitarian programs much of human suffering could be averted.

What actually happens, though, is that the fire of war around the world is never allowed to die down. Whenever one is put out at a hot spot, another is artificially encouraged to break out at another so that weapon factories keep turning out bombs, rockets and new death devices that are tried out on people in those war zones. So, instead of attempting to alleviate pain and promote welfare through peaceful policies of co-living, world politics bring about death and suffering to millions of people. What is worse, when industrial countries want to dump their poisonous and carcinogenic waste they never do that in their own countries of course, but go to poor underdeveloped countries for that purpose as if the people there were worthless.

The present generations are in a desperate plight; for man is destroying his brethren instead of making life easier for them. We find reference to this situation in the Quran:

“Corruption has appeared in the land and sea, for that men’s own hand have earned. (30:41)

We are in dire need of a different world state of affairs where peace replaces terror, justice replaces oppression and love replaces hatred and animosity. Were that to happen, humanity would reap the fruits of scientific progress in an atmosphere of peace and security. This rosy image is not out of man’s reach, though. It can become a tangible fact if certain things are realized. Religious leaders, for instance, should be at the head of humanities march. They should declare that the whole earth is only a minor part of God’s vast kingdom and that He bestows it on whoever He wants. Furthermore, the culture of pushing away the other should never prevail. Throughout the long march of humanity, there has been no record of any success achieved by doing that. In all devastating wars, past or present, there has never been an all-out winner or loser; all stand to lose and suffer.

The only alternative left for humanity is to co-live in love and harmony. Islam acknowledges this fact. The true believer, according to an attested Hadith, “Is he who believes in God, His angles, His Holy Scriptures, His Messengers and the Hereafter.”

In the Quran, God (SWT) says about the believers:

“The Messenger believes in what was sent down to him from his Lord, and the believers; each one believes in God and His angles and His Books and His Messengers; we make no division between any one of His Messengers. They say, ‘We hear and obey. Our Lord, grant us Thy forgiveness; unto Thee is the homecoming’” (2:285)

In another verse, God enjoins Muslims to converse rationally with followers of other heavenly religions:

“Say: ‘people of the book! Come now to a word common between us and you that we serve non but God and that we associate not aught with Him’” (3:64)

God also commands us to be gentle and kind in our disputes with others, whether Muslims or non Muslims:

“ and dispute with them in the better way. Surely thy Lord knows very well those who have gone astray from His way, and He knows very well those who are guided.” (16:125)

Such are the directives of Islam to its followers and such is its message to non-Muslims to the effect that they are entitled to the same rights and bound by the same duties. I trust that the same attitude is to be found in all other heavenly religions.

We gather today to discuss one of the most serious scientific innovations, viz., human genetic and reproductive technologies and their impact on human individuals, families and societies.

These innovations are the outcome of on-going research. Once a technology emerges and gets published, it is received by a divided public. There are those who reject it entirely. Others, however, hail it as a promising means of overcoming some of man’s problems and a hopeful way to happiness and comfortable life. Both parties come up with strong arguments. The layman, therefore, feels torn apart between the two opposing views, especially as such technologies are close to the concerns of his personal daily life.

Opponents of such technologies argue that they are unethical. Their evidence is that some clinical experiments were conducted in a

way that callously violated man's dignity and ended in heart-breaking affliction. Other experiments proved to be fraught with designing errors. The published results of some experiments were found to be made up.

Eugenics is often dealt with in daily news papers, weekly magazines and academic periodicals. In the past, it was encouraged by fascist regimes for their pernicious purposes. But it has never achieved any success. The question is raised now if Eugenics is on the way back since genetic and reproductive technologies make it possible for parents to select certain attributes for their begotten children. In this respect, the questions revolve around man's dignity and freedom as well as the freedom of scientific research and the extent to which man should be allowed to seek knowledge. Is science, too, for science's sake?

The history of science shows that science and technology are our area of weakness in our modern civilization. The use of medical science and technology in Eugenics and the cure of many diseases represent the bright side which invites our approval. But this brightness is marred by three matters:

- 1 - Who is entitled to decide if this use is good and not evil? Is it the father, the physician or society in general? Where are the lines between them to be drawn? Should it be on the basis of the outside appearance or the inside reality? Are there safe limits to what a scientist can do in the way of reform?
- 2 - What is the impact of such technologies on future generations? It is well known that each gene functions harmoniously with the surrounding ones. No body can tell what would happen to this marvelous harmony if this or that gene was manipulated for improvement. The main problem is that experimentation is carried out on man, God's vicegerent on earth. There are no guarantees for an experiment to be conducted as planned. This is pretty serious when we are dealing with a human being who is considered sacred. One could disregard complications resulting from such experiments if they were conducted on inanimate objects or on other animate beings.

3 - It is customary to talk about human rights when reference is understood to be made about living adults. But what about babies? They should also be a party to reckon with. They are not consulted about anything done to them. Imaginably, a baby may not object to its parents' attempts to improve upon one of its attributes. But what if a baby is produced through cloning from two different women or a father? Isn't the grown up child entitled to know who his parents are? Is his mother one of those two women? Even if the somatic nucleus is taken from his father, he should know how he is related to that father: is he a son to that father or a twin brother? In light of these dilemmas isn't the child entitled to reject such vitiated kind of relation which will most likely hurt him in his community? The onus is on scientists to be well equipped with ethical principles before they embark on their research work. But there are those who do not recognize ethics on the premise that science is an objective matter that cares only for actual facts studied through objective methods, whereas ethics is concerned with studying human values through subjective methods giving rise to sheer controversial opinions. So it is wrong to mix this with that. Moreover, misconduct has other reasons that have led to immoral behavior:

A - As governments cut down on funds allotted to scientific research private sectors stepped in to fill the vacuum. An American company, for instance, spent over 11 billion dollars on genetic engineering research for which it recruited a personnel of 15,000 individuals. This would seem to be admirable but in fact such a situation is not as positive as it sounds. The reason lies in the difference of interests between a government and a private sector. Whereas, the former aims to promote acquisition of knowledge and to serve public purposes, the latter aims mainly at making the highest possible profit; an attitude that lends itself to all sorts of unethical behavior.

B - Some scientists are enticed by lucrative contracts to participate in secret research which is financed by the private

sector. The immoral behavior of such scientists has been the subject of many complaints filed by those in charge of academic research at universities.

- C - The most ominous phenomenon in this regard is the involvement of the military in scientific research. This is often done as classified activity under the pretext of national security. This shielded liberty of action allows researchers to violate many regulations and to infringe upon any rights in order to experiment with new lethal weapons. The records are full of such practices, the latest of which is the case of the Korean scientist who claimed to have done a particular research and went as far as to publish its made-up results. When asked why he did this, he pleaded overwork and eagerness to get funds.
- D - Junior faculty at universities are hard-pressed to do research and publish it in specialized magazines and periodicals in order to get promoted. Some would just do anything to reach that goal.
- E - Another type of scientists would be those who know the ethical guidelines only too well, but try to get around them in an attempt to justify the kind of research they are doing. They argue for instance that society comes before the individual. Hence, a few individuals could justifiably be sacrificed in the course of experimentation so that the whole society might benefit from the findings.

Islam is crystal clear on this point: top priority is man's safety and security. God (SWT) says:

“...that whoso slays a soul not to retaliate for a soul slain nor for corruption done in the land, shall be as if he had slain mankind all together; and whoso gives life to a soul, shall be as if he had given life to mankind all together” (5:32)

And in another verse:

“And slay not the soul God has forbidden, except by right.”
(17:32)

Therefore, research and researchers should be governed by stringent ethical rules to safeguard the humanity of human beings. The question is which ethical sources should be consulted for eliciting such rules. There are two sources for ethics: heavenly religions and human endeavor, which is called secularism. The two sources have the common goals of preserving man's dignity, making him happy, overcoming poverty and disease, putting an end to famines, and living freely in a world where peace and security prevail. But each source seeks to reach these goals through its own beliefs and philosophy.

Heavenly religions are sent down by God to His Messengers and chosen Prophets for the purpose of laying the foundation of justice, propagating virtues and good manners and preserving Man's dignity. A believer would evaluate deeds as good or evil: if a deed is meant to serve God's purposes, then it is good; but if it is meant to serve the purposes of a tempter or a seducer or to grab a worldly gain, then it is evil and needs to be reconsidered. The rule that the end justifies the means has no place in any religion because it is immoral and opportunist. Good and evil, however, are relative matters that could be hard to pinpoint But Islam directs Muslims to do only what is permissible (halal) because it is good, and abstain from doing what is prohibited (haram), because it is evil.

All religions agree on the matter of Man's freedom: it is essential but not boundless; it ends where the freedom of the family or of the whole society begins. The family is a crucial unit of the society. It is a sanctified and closely-knit unit.

Good manners are held in high esteem by all religions. God Almighty describes the Prophet (PBUH) in the Quran in the following words:

“Surely thou art upon a mighty morality.” (68: 4)

On the one hand, heavenly Messages were sent down to guide Man out of the dark into the light. They are meant to educate him and refine his manners so he could distinguish between “halal” and “haram”, i.e. good and evil. The difference at times are not easy to capture on the spot, but in the course of time the wisdom of

permitting certain acts and prohibiting others gradually dawns on the mind.

Some might think that religious faith is a kind of irrational prejudice against scientific advancement. Others believe that religious doctrine and scientific research are a contradiction of terms. But this is farthest from Islam. Islamic civilization has always pivoted on strong faith and useful knowledge. Along six centuries, it never stopped contributing to human knowledge in all fields of juridical and worldly sciences of medicine, pharmacology, engineering, Algebra, mathematics, astronomy, geography, encyclopedias, etc. Never in the history of Islamic civilization has a scientist been put in the harm's way because of his ideas. On the contrary, scientists and scholars in general always found favor with Muslim Rulers regardless of religion, ethnicity or gender. One of the brightest examples is the case of Musa bin Maymoun, a Jew who spread the word that he had embraced Islam. Despite his apostasy later on, his favorite position with Salahuddin remained unscathed even while he was deep in war with the crusaders.

In modern times, the Islamic Organization for Medical Sciences (IOMS) has been a witness during the past 35 years to the openness of Islamic jurisprudence and specialists in the field to all innovations of the age. Jurists have tackled them rationally and issued well-balanced resolutions on how to make use of them. The IOMS was even ahead of many Western countries in such matters as surrogacy, AIDS, etc. This obviously refutes allegations that religious thinkers are irrationally biased against scientific progress.

On the other hand, secular thinking is subject to human personal judgments which put out theories that fascinate the unbelievers. If we look into many such theories along human history we will find that they have not stood the test of time. This is only natural because they are the outcome of heretic tendencies or the inevitable result of pressures that could be psychological, economic, political or military in what has come to be called "the Devil's Deal".

Human history is full of examples of such practices. Let's take the example of wine. Prohibiting alcoholic drinks is a basic rule in Islam. The Quran is admirably eloquent on this point:

“Oh believers, wine and arrow-shuffling, idols and divining-arrows are an abomination, some of Satan’s work; so avoid it; haply so you will prosper” (5:90)

The specialized commentators of the Quran explain that the avoidance here is more inclusive than just the prohibition of drinking it: it includes coming near it, handling it, dealing in it, brewing it or sitting where it is being drunk. We Muslims did not know the secret or wisdom of this prohibition but we have always been confident it must be harmful since the prohibition came from God. So, true Muslims have always abstained from drinking. This behavior has always been sneered at by Westerners when Muslims attended their parties. Today, the West is coming to realize the wisdom of Islamic prohibition as alcoholism has taken epidemic proportions costing Western countries billions of dollars and loss of many human lives. Propagating alcoholic drinks is one of the faulty human endeavors to attain material profit and physical pleasure.

Another example of such faulty practice is the matter of smoking. Tobacco manufacturing companies knew all along that cigarette smoking was hazardous as research had proved that tobacco contained carcinogenic ingredients, some of which are also addictive. For a long time these companies had obscured information about the findings until they were forced by court injunctions in USA and Europe to place conspicuous warnings against smoking on each cigarette packet in addition to reducing cigarette advertisement to the minimum. Consequently sales dropped drastically in America and Europe. To make up for losses those companies turned to developing countries where they launched large-scale promotion campaigns for their products. Government leaders in some industrial countries went as far as to pressure their counterparts in poor, underdeveloped countries to sanction these campaigns. This is a blatant case of unethical behavior at the highest levels prompted by greed for profits at the cost of vulnerable small countries.

Another example which comes in response to a tendency to maximize sensual pleasure is the unbridled sexual liberty adopted in the West as long as the two parties to the affair are willing to go into

it without any coercion. This has led to innumerable cases of abortion giving rise to a serious social problem in the major industrial countries as young pregnant mothers risk complications that may lead to death or different health problems. This liberty is also behind the spread of infectious venereal diseases such as syphilis, gonorrhea and herpes and the billions of dollars spent on curing them. The most devastating consequence of this obsession with sexual liberties is the almost incurable disease of AIDS, often referred to as the plague of modern times. One of the basic means by which the infection occurs is proven to be sexual intercourse with several partners. Although this “plague” is claiming millions of human lives by the day, health officials in the world never cared to prohibit fornication. What is worse they even recommended the so-called “safe sex”. This is a misleading term; for safe sex requires a series of precautionary measures before and during the sexual act. Yet, companies took the opportunity and mass produced low-quality condoms and exported them to Africa. So, instead of protection these devices helped spread the disease even further. The world is facing now the crisis of having to spend billions of dollars on research that aims to wipe out the disease. Using this research pharmaceutical companies are manufacturing medicines that come in useful but are too expensive for poor African nations to afford. So, the high death toll in these countries remain unabated, leaving thousands of families below the breadline. What kind of ethical behavior is that?

A recent example of a crisis that was brought about by voracity for material profits is the cow disease. Some researches have emerged recommending that cheap remnants at slaughter-houses of blood, bones and skins be processed to feed cows. Cows accumulated flesh and gave an abundant flow of milk, but they caught the disease. This is the inevitable result of tampering with nature: the cow which is a herbivore was forced against its nature to turn into a carnivore. No one expected that this would lead to a drastic change in one of the amino acids which turned the brain of the affected animal into a sponge-like object causing death in a few days. Britain lost over 2 billion Sterling pounds when its cattle had to be exterminated. Here is

the rub! When some biological research is applied we do not know what will happen in the long run after one or two generations. The case of the cow disease was the outcome of faulty human endeavor at innovation. When we consider the Islamic stance on this point, we will find that Islam prohibits eating any carnivorous animal. The reason had been mysterious until the cow disease crisis demonstrated the Divine wisdom of this prohibition.

All the above examples show that we are dealing here with ideas, mental efforts and personal judgments applied under the influence of capricious drives and economic and political pressures. History abounds with such examples that have always victimized human beings.

One of the main principles on which these secular theories are based is utilitarianism. It calls for complete freedom in thought and scientific investigations on the premise that an action is good if it helps the greatest possible number of people. This is a here-and-now materialistic principle that can be translated into figures of profits or losses when we are talking about attempts to overcome a disease, enhance certain abilities, boost economy and trade or implement a certain policy. But who can predict the impact of such attempts on human beings? Man is not only a physical being, he is also a combination of a soul, a self, and a body. He loves and hates, he gets angry but can forgive and be tolerant. In short, man has feelings and passions that cannot be measured in terms of profits and losses when projecting for the coming two or three decades or generations.

Philosophers of secularism have different points of departure and different visions. If we take the concept of “dignity”, for instance, we will find a myriad of definitions, interpretations and views. But Islam defines “human dignity” clearly as the attribute which places Man above all other creatures in this universe. It is bestowed by God as the Quran explains:

“When I have shaped him and breathed My spirit in him, fall you down, bowing before him” (38:72)

The command here is directed to the angels. This means that the

bowing in honor of Man came after God has breathed His spirit in him. Further, God (SWT) says:

“We have honored the children of Adam and carried them on land and sea and provided them with good things, and preferred them greatly over many of those We created.”
(17:70)

The dignity we would like to protect is an integrated entity, no part of which should be served at the cost of another part. As mentioned earlier, Man is a combination of body, soul, mind and heart. If one organ sustains injury or malady, the whole body runs a temperature and remains awake. The Prophet (PBUH) says: “Man is God’s building: cursed be he who demolishes it.”

Secular philosophers, however, disagree on the concept of human dignity. Some of them consider it the exclusive privilege of those who have volition and mental ability to think, choose and use language. The question now is: what about the mentally retarded person? Isn’t he, too, entitled to have dignity?

Other philosophers argue that the factor of “dignity” that must be protected pivots on human ability to make ethical choices. The ones who are characterized with this ability are the only ones who possess a free will. Again, what about those who are dispossessed of their free will for one reason or another? Should they also be stripped of their human dignity?

Some philosophers argue that the human essence we are talking about is only a fallacy. Others reject the concept and refuse to base human rights on such a chimera.

The Sanctity of Life:

Religion considers that life is a gift from God. It should never be wasted or tampered with. God (SWT) says: “We indeed created Man in the fairest stature.” (95: 4)

Although other creatures are also God’s creation, Man is distinguished by special attributes. He is given a mind to think and perceive with; a will for making his decisions and choices and a language for

communication with others. He can be creative, a manufacturer and a designer. In addition, unlike other creatures in the animal and plant kingdoms, man has a civilization. So, he has been selected by God to be His vicegerent on earth. God commanded the angles to bow down to Man as a sign of investing him with respect and nobility. God (SWT) said to the angles:

“Assuredly I know that you know not.” (2: 30)

God also told them that Man would inherit the earth:

“For we have written in the Psalms, after the remembrance, the earth shall be the inheritance of My righteous servants.” (21: 105)

Philosophers are divided on the sanctity of life. Some consider that it hinges upon the value of life. This principle is ambiguous and inaccurate. It could mean that there are two kinds of life: one invested with value and another void of it, and can therefore be wasted. Could this be the life of an embryo that has no chance to live, or the life of an old man with little chance to extend any further?

Other philosophers associate sanctity with the quality of life. To some extent, this principle is similar to the above one, but it could rather open the way to sacrificing a number of people for the benefit of others in application of utilitarianism. Those who believe in this principle may approve the use of some people as a source for organs to be transplanted in the bodies of others whose lives are deemed, according to this principle, to be more valuable.

Others see that the sanctity of life is strictly a human distinctive feature. So, we must preserve it and keep it in good shape with whatever means we can employ for that purpose. This view is perhaps the closest to the religious concept and establishes the principle: “Thou shalt not kill”.

The sanctity of life lays the solid foundation for an extremely important principle: man is entitled to live; his life must not be wasted or tampered with unless there is an intrinsic reason to do so. The legal system should fundamentally be based on this principle.

I have no desire to turn this introductory article into a debate

between religion and secularism. The main purpose of the seminar is to hold a dialogue between representatives of the two sides and conduct it with open minds and heart with a view to narrowing the gap between them. Difference in views, whether between followers of various religions or between Religion and Secularism, is only one of God's ways in His creation. Some would believe; others would not but cannot in any way bring harm to God: "If God had willed, He would have made them one nation." (42: 8)

The question now is: Does Islam recognize the importance of scientific research or has it persecuted scientists and researchers?

I can most confidently assure that Islam exhorts its followers to seek knowledge and pursue the path of scientific investigation. Islam elevates scholars to the high rank of being the inheritors of the prophets. It urges Muslims to contemplate the Kingdom of heavens and earth and to look into themselves. But what kind of scientific pursuit does Islam recommend?

Islam defines science as that which is beneficial to mankind. Worthy research work is that which does not contravene God' norms or put man in harm's way. Positively, it is that which helps man master his pains and opens up for him ways to a happy life where he could secure a healthy dwelling, decent food and effective medicines. In Islam, the attempt to fathom out God's ways on earth is a collective duty because it proves God's oneness, omnipotence and glory. These are the rules and basic principles set down by Islam for its followers.

Some scientists, however, lack such insight. They are driven by an obsession for knowledge and fall victims to an insatiable impulse to know more and delve deeper. So, instead of science serving man, man turns into a servant of science. Thus, they leap from one point to another and get so immersed in their pursuit even if success occurs at the expense of man's dignity or at the risk of mixing family kinship or changing God's creation.

Science is a mixed blessing; no science is good all the way or bad all the way. What matters is what one wants to use science for. Is it used to find out about a certain type of bacteria in order to devise a

method of treatment? Or is it to discover a new type of bacteria with the purpose of changing its genetic structure so that they turn into a lethal, incurable weapon for bacteriological wars? Is it to discover the gene of muscular strength so that a whole nation could be made to turn into an army of slaves for forced labor? Or is it to isolate that gene in order to use in the treatment of syntexis diseases?

There is a great need for wisdom and robust ethics to prevail, not only among common people but most particularly among scientists. We want this world to be populated by the sort of man who is merciful, God-fearing and intent on seeking good. Science is no longer confined within the bounds of the laboratory; it affects the whole society positively or negatively. Now, as society is involved in funding scientific research, it is entitled to have a say about what researchers claim to be doing inside these laboratories after the problems they are working on have been sufficiently explained. After all, it is society that stands to gain or lose when research work is put into effect.

Some Questions to Ponder about:

Which will bring about the end of man: too much knowledge or lack of it? Will genetic engineering and the human genome lead to man's happiness or change in the wrong hands into a weapon that could ruin his life and distort his attributes and behaviors? Will the next generation accuse us of issuing resolutions that tied down research or of neglecting to do so, which gave free rein to it? This latter contingency could have ugly consequences. We must beware of pursuing enthusiastic, short-term targets that might reflect negatively on future generations.

Some people may think that no one will be opposed to having strong, intelligent and handsome children through selections made possible by genetic technologies. But, if all individuals in a society had these qualities two results could develop:

- a - It could mean a return to eugenics which failed when fascist and Nazi governments issued laws to regulate it. Today, however, it would be the family who orders it and the physician who obliges by carrying out the order.

b - Compassion, kindness and sympathy would simply disappear as there would be no more handicapped, abnormally short or sickly people around. As society would be all chiefs with no Indians, individuals will fight each other in wars where survival would be only for the fittest.

Therefore, our scientists should stick to ethics when they set targets for their research programs and procedures for conducting them so that science may actually become God's way of showing His mercy to the humankind.

All these matters have been the main concern of IOMS since its inception. The Organization's policy has always been to study any biomedical innovation as soon as it appears in any publication within a carefully drawn up plan to convene seminars that gather together specialists in medicine, natural sciences, jurisprudence, philosophy, sociology, law, psychology and politics. Discussions are open, free and rational. Resolutions are made under no pressures of any kind. IOMS has no political leanings or economic interests as it is a non-profit organization funded by well known and declared sources. So, its resolutions are hailed by everybody concerned as well-balanced.

Last year, IOMS issued the Islamic Code of Medical Ethics which came in three parts:

Part I: The physician's conduct, his rights and duties towards his God, himself and community.

Part II: The world ethical guidelines concerning biomedical research from an Islamic viewpoint. Based on this, the IOMS set down the general principles and guidelines for the ethics of the medical profession such as the necessity to ethically justify its procedures and to periodically review its research plans and the importance of obtaining informed consent of subjects participating in experiments, among many other topics relating to medical and health research work.

Part III: This part comprises the Islamic views on medical and health innovations that have emerged on the international arena such as In Vitro Fertilization, surrogacy, organ transplantation, the onset

and end of human life, human genome, cloning and AIDS. Each problem was individually discussed and juridically designated.

The challenge here is not only ethical, but political as well. The political decision will determine the extent of our involvement in biotechnology if we are to step into a "post-human future". It will also determine the potential ethical abyss that such future could be holding in store for us.

The attempt to divide man up into organs and systems and further dividing each into still smaller and smaller particles until we reach the micro level has induced secular scientists to consider man in partial terms, which is different from the holistic view of theologians and philosophers.

There are those who believe that coming to know the human genome and being able to handle its defective genes will enable us to avert a lot of physical troubles and help us to lead a happy physical life. But is a healthy body sufficient to make us lead a happy life? Man is not just a body; he is also a spirit whose secret is known only to God:

"They will question thee concerning the Spirit. Say: 'The Spirit is of the bidding of my Lord. You have been given of knowledge nothing except a little'". (17:85)

He also has a self of various levels: it could be the blaming self, the contented self, or the reassured self. Man, that is, is a being of emotions: he loves and hates, he could be generous or miserly; happy or depressed; dauntless and confident or cowardly and timid.

Reducing man's ends simply into mere attempts to alleviate pain and maximize pleasure is utterly unacceptable. It constitutes a superficial look at an extremely complicated human nature that has defied full comprehension so far and is not to reveal its secret in the foreseeable future.

Will specialists of Medical Biotechnology succeed in what their predecessors failed to do, viz., control man's creation through selection of certain requested attributes? The revolution in biotechnology does not mean just advancement in genetic engineering. There is much more

to it than that. It is a revolution in basic biology which depends on progress in various other fields. It will also help elongate life expectancy with consequent demographic changes. This will in turn have great effects on political and economic decisions. Europe, America and Japan are approaching the dilemma of a high rate of senior citizens coupled with a low birth rate. When that happens, the process of decision making will be biased to old people. There may also come a time when we see societies with female majority. Decisions will also tend to cater more for women, which means completely different trends in every walk of life.

A society where the majority of inhabitants enjoy good health and longevity may not, after all, be successful and effective. Longevity may produce life in form rather than in substance; i.e. people who just move around but do very little with almost zero contribution to the country's GNP. A country with this kind of population will be no more than a big Old People Home.

All ethical slogans must be turned into obligatory resolutions and laws. This should be done on an international scale. If a country issues strict regulations while others choose not to do so, research companies unwilling to stick to these regulations will find an outlet in those neglectful countries and flock to them especially as laboratories and equipment for this kind of research are not as sophisticated as those required for nuclear research which can be easily monitored.

Initiation into ethical principles and commitment to them must start early at school and continue throughout subsequent educational stages up to university level so that when graduates get to be involved in political or scientific activities they can be well qualified to discharge their duties within an assimilated framework of deeply-rooted professional ethics. A scientist who has been educated in this way will be highly conscientious and methodical in his research work. He will never embark on a project unless he is inwardly reassured that the odds are more in favour of success and that its risks and complications do not warrant a decision not to go ahead with it. This way, we feel we are in safe hands.

In the meantime, there is a need for setting up ethics committees

formed from physical scientists, physicians, jurists, philosophers, sociologists and psychologists as well as representatives of the society to study each case by itself and take the suitable decisions. The committee should follow up new research and review old decisions in light of new results.

We should not be skeptical about scientists in biomedical and genetic fields or hastily accuse them of heresy as was the case in Europe during the Middle Ages. When Galileo at that time declared that the earth turned round the sun he was prosecuted and forced to recant his belief in the Copernican theory.

Research results must be taken seriously and studied carefully with open minds and hearts so that scientists may feel confident enough to be unreserved about the design, targets and ensuing results of their projects. Failing to do so will only force them to carry out their work in secret. In this case, we could wake up one day to a human catastrophe. The only other alternative would be to place a total ban on such scientific research and experimentation, which is virtually impossible.

Governments must shoulder their responsibilities in protecting people against hazardous experiments conducted without adequate guarantees of success or banned in other more responsible and rigorous countries. Societies must also balance freedom of science and speech against religious, ethical and political values.

Now, if the government of a certain country refuses to fund a certain research project, can the private sector take over the funding? Well, the answer is yes if refusal is attributed to lack of resources. But if it is justified by ethical or scientific reasons such as results might have adverse effects on society, the private sector should not be allowed to step in. The reasons for refusal should always be made public and circulated to all other countries, particularly the developing ones which do not have adequately qualified cadres to judge on such matters. Developed countries must provide this kind of protection against unscrupulous researchers.

Scientists everywhere should find the answer to this important question: when does life assume ethical value? The answer could be

crucial in such matters as abortion, euthanasia and experimenting on severely deformed embryos.

Developing countries which lack the qualified specialists or the necessary budgets to allocate to the above-mentioned ethical committees should seek the help of international or non-governmental organizations formed by groups of concerned ethicists and philosophers in addition to specialists in various branches of science. They closely monitor research centres and publish reports about the ethical aspects of every research program even when it is still in the bud. This has the added value of making researchers feel that they are working under the vigilant watch of hidden eyes.

It is true that developed countries encourage scientific research through abundant funds, state-of-the-art equipment and well qualified personnel. But it is equally true that these countries also have popular movements that are keen to see to it that ethical standards are observed. In an atmosphere of democracy, freedom of speech and transparency, any research project that turns out to be unethical or hazardous to public interest can easily get exposed. As such, developed countries are capable of issuing rigorous regulatory decisions and guidelines. Research companies working in the field of biomedical technology consider some of these regulations as an impediment to scientific progress. To evade them, they go to Third World countries where they can work freely as such countries lack the financial resources and the know-how to slam any restrictions. Besides, in return for lucrative offers exaggerated promises of benefits to those countries, the research companies obtain the necessary approvals for conducting their experiments there. Certainly, no official in those underdeveloped countries is allowed to even peep into or come near the laboratories. God only knows what tragic and scandalous procedures take place there.

Doesn't this situation create an ethical problem for the developing countries where land and people are so unethically exploited by research companies? That is why I'm saying that it is the moral duty of the major industrial countries to protect developing countries and

help them stand up to the greed and exploitation of companies working in the field of medical biotechnology.

The proposals I am putting forward here are easier said than done. One expects that major research corporations working in the field of medical biotechnology will not stand by and let governmental legislations and ethical regulations restrict their activities, which means dwindling profits. They will naturally put up all the resistance they can afford through strong lobbies in parliaments and government quarters. They would be supported by unscrupulous scientists who could supply them with the necessary palatable reports in order to secure the required approvals.

We have seen similar practices by the Mafia who gradually gathered wealth and strength until they expanded into a state within the State. They could buy their way into the upper echelons of the government and thus could get away with a lot of illicit transactions and activities. Along the same lines, the tobacco mafia as well as the mafia of pharmaceutical companies are trying to curb public protests and circumvent governmental restrictions.

But this should in no way discourage us. On the contrary, we should rather press on and persevere in our attempts to rein in those research companies and force them to comply with regulations and guidelines. We should be emboldened by what happened in the case of genetically manipulated foodstuffs. Most of these ran up against fierce opposition by many NGOs mindful of consumers' interests. Sales dropped as a result of these enlightened resistance.

We are faced by a multi-dimensional revolution led by greedy research companies, scientists with insatiable lust for more and deeper discoveries who are intoxicated with a dream to be in full control of Nature, and corrupt researchers who have the nerve to concoct research results in their pursuit of publicity and material gains.

Hopes are pinned on groups and world organizations who are striving to guide scientific activities and protect mankind. There are persistent and concerted efforts to study innovations in the fields of genetic engineering and medical biotechnology to ascertain that

nothing would go against man's dignity and the sanctity of human life.

In this introduction, I have expressed my personal views which do not necessarily reflect the official views of IOMS. I have opted not to comment on any of the papers presented to this seminar as this will be done by the participating eminent scholars. Their debates and discussions will be included in the seminar Proceedings.

I cannot conclude this introduction without paying tribute to the dauntless man who has been behind this great event right from the start. The decision to hold this seminar was his in the first place, braving any risks. He followed up the preparations and arrangements day in and day out, sometimes even by the hour, going through every minute detail to make sure that nothing is left to chance. I am referring, of course, to Dr. Abdul Rahman Abdulla Al-Awadi, President of IOMS.

I would also like to greet members of the Board of Trustees who approved this seminar and supported it in every way.

My thanks also go to the executive committee which has done a wonderful job of planning everything relating to the seminar and were always ready with advice and good counseling.

I would also like to express my deepest gratitude to my dear colleagues in the general secretariat for their sincere efforts and exemplary dedication. I am sure they feel rewarded when they see that their efforts have thus come to fruition. Let me also humbly add that such well-organized seminars have all the hallmarks of IOMS, thanks to the staff's love of their work and commitment to their duties.

Following this introduction you will find the full program of our seminar. I pray that our endeavors towards this worthy cause be crowned with success and apologize for any shortcoming. No Child of Adam is infallible; but the best one can do when one makes a mistake is to repent it. Praise be to Allah, God of all Being.

PROGRAMME

FIRST DAY
Monday, 6 February 2006

First: Opening Ceremony

- Recitation from Holy Quran
- Address by The Minister of Public Health, Egypt
H.E. Dr. Hatem Moustafa Al Gabaly
- Address by the Director of EMRO (WHO)
H.E. Dr. Hussain Al-Gezairy
- Address by the Director General of ISESCO
H.E. Dr. Abdul Aziz Al-Tewaijry
- Address by the President of IOMS
H.E. Dr. Abdul Rahman A. Al-Awadi
- Address by the Ex-President of CIOMS
H.E. Dr. John H. Bryant

Second: Plenary Lecture

- Human Genetic and Reproductive Technologies: Comparing Religious and Secular Perspective - An Islamic Perspective
Dr. Hassan Hathout
- **Tea Break**

FIRST DAY
Monday, 6 February 2006

Topic I
Humanity and Creation/The Natural World

First Session:

Humanity and Creation/The Natural World
The Islamic, Christian and Secular Perspectives

Chairman : Dr. Ibrahim Badran

Rapporteur : Dr. Abdul Aziz Al-Swailem

Speakers

- 1 - "Given into Your Hands" (Gen 9:2): From Gardener and Tender to Master and Contemplator of Nature
- **Dr. Bruce Foltz**
- 2 - Rethinking the Secular Perspective on Biology: Going Beyond the Monopoly of Materialism
- **Dr. Mustafa Akyol**
- 3 - Humanity and Creation/The Natural Disposition of the World.
- **Dr. Assaad El Sahmarani**
- **Break and Prayer**
- **DISCUSSION**
- **Lunch Break**

Second Session:

Creation of Human Being - Islamic and Christian Perspectives

Chairman : Dr. Ezzeddin Ebrahim

Rapporteur : Dr. Aida Al-Aqeel

Speakers

- 1 - "Creation and Man: a Christian View"
- **Dr. Cyril Tennant**
- 2 - Humanity and Creation: An Islamic Perspective
- **Dr. Jamal A. Badawi**
- 3 - Man's Creation in his Natural Form
- **Dr. Nasr Farid Wasil**
- **DISCUSSION**
- **Tea Break**

Third Session:

Creation, Control of Nature and Ethics - Islamic and Secular Perspectives

Chairman : Dr. Mohd. Haitham Al Khayat

Rapporteur : Dr. Maher Abdul Kader Ali

Speakers

- 1 - Human Genetics and Reproduction from the View Point of the Three religions.
- **Dr. Abdul Rahman Refai**
- 2 - Man, Instinct, Nature and Technology
- **Dr. Ammar Al-Talbi**
- 3 - Islamic Perspectives on God, Humanity and Nature
- **Dr. Muzaffar Iqbal**
- **Break and Prayer**
- **DISCUSSION**

SECOND DAY
Tuesday, 7 February 2006

Topic II
Genetics, Reproductive Technologies and the Family

Fourth Session:
Philosophy of Genetic and Human Reproductive Technology - Islamic, Christian and Secular Perspectives

Chairman : Dr. Abdul Rahman A. Al-Awadi

Rapporteur : Dr. Ali Yousuf Al-Saif

Speakers

- 1 - Pre-Implantation Genetic Diagnosis (PGD)
- **Dr. Lisa Lehmann**
 - 2 - Ethical Problems of Prenatal and Pre-Implantation Genetic Diagnosis
- **Dr. Mounir A.M.S. Farag**
 - 3 - Repercussions of human engineering and reproduction: The perspective of the three Revealed Books and the secular concept
- **Sheikh Mohd. Mokhtar Al-Salami**
- **DISCUSSION**
- **Break and Prayer**

Fifth Session:
Islamic and Professional Perspectives of the Ethical Issues of Reproductive Technology.

Chairman : Counsellor Abdullah Al-Essa

Rapporteur : Dr. Habibah Al-Chaabouni

Speakers

- 1 - Islamic Perspective of Ethical Issues in ART.
- **Dr. Gamal I. Serour**
- 2 - Assisted-Reproductive Technologies (ART)
- **Sheikh Mohamed Ali Al-Taskheeri**
- 3 - Human Genetics and Reproductive Technologies: How They Reflect on the Family
- **Dr. Saddiqa Al-Awadi**
- **DISCUSSION**
- **Lunch Break**

Sixth Session:

Genetics and Reproductive Technology - Islamic, Christian and Professional Perspectives

Chairman : Dr. Hussein Gezairy

Rapporteur : Dr. Hamid Ahmed

Speakers

- 1 - Christian Principles for Assisted Human Procreation.
- **Dr. Gerald R. Winslow**
- 2 - Human Genetics Reproductive Technologies: An Islamic Perspective.
- **Dr. Mohamed Ali Al-Bar**
- 3 - Genetics and Reproduction Technology from the perspective of Islamic Law
- **Dr. Abdul Sattar Abu-Ghuddah**
- **DISCUSSION**

THIRD DAY
Wednesday, 8 February 2006

Topic II
Genetics, Reproductive Technologies and the Family

Seventh Session:
**Reproductive Technology, DNA and Cloning - Islamic
and Professional Perspectives**

Chairman : Dr. Ted Peters

Rapporteur : Dr. Mohamed Ali Al-Bar

Speakers

- 1 - The Neglected Contributions of Islamic Civilization to Genetics and Reproductive Biology
- **Dr. Malik Badri**
- 2 - Islamic Perspective on Human Cloning, Stem Cell Research and Pre-implantation Genetic Diagnosis (PGD).
- **Dr. Aida Al-Aqeel**
- 3 - Contributions of Genetic Engineering Research to understand Islam as believe with facts in Quran and Sunna.
- **Dr. A. Farouk Gad**
- **DISCUSSION**
- **Tea Break**

Topic III
Social Impacts of Genetic and Reproductive Technologies

Eighth Session:
**Genetics and Reproductive Technology - Islamic,
Jewish and Secular Perspectives**

Chairman : Dr. Mamduh Gabr

Rapporteur : Dr. Salah Al-Ateeqi

Speakers

- 1 - Human Genetic and Reproductive Technologies - A Muslim's understanding of the Secular Perspective.
- **Dr. Shahid Athar**
- 2 - Reproductive Technologies: Jewish Values and their Impact on Public Policy and Social Structure in Israel.
- **Dr. Vardit Ravitsky**
- 3 - Human Genome: Social and Ethical Implications - An Islamic Interpretations
- **Dr. Hamid K. Ahmed**
- **DISCUSSION**
- **Break and Prayer**

Ninth Session:

A Right to Reproduce, Designing Children and Genetic Counseling - Islamic, Jewish and Secular Perspectives

Chairman : Dr. Gerald Winslow

Rapporteur : Dr. Abdulla Basalam

Speakers

- 1 - Reprogenetics and Genetic Counseling - Scientific and Ethical Perspective
- **Dr. Aly A. Mishal**
- 2 - Laboratory and Ultrasound Prenatal Diagnosis: Prenatal Genetic Diagnosis: Scope, Applications and Limitations in Arab Countries.
- **Dr. Hanan Hamamy**
- 3 - A Right to Reproduce: Equality Not Liberty
- **Dr. Muireann Quigley**
- **DISCUSSION**
- **Lunch Break**

Tenth Session:**Cloning, Immortality and Genetic Engineering - Islamic and Secular Perspectives**

Chairman : Dr. Abdel Aziz Saleh

Rapporteur : Dr. Abulfadl Mohsin Ebrahim

Speakers

- 1 - Genetic Engineering, Social Justice, and the Future of Humanity: Confluence of Religious and Secular Concerns
- **Dr. Farhat Moazam**
- 2 - Recent Research on "Telomerase" enzyme, and the concept of "immortality"
- **Dr. Omar Alfi**
- 3 - Human Cloning from the view point of Fiqh (Shariah) and Ethics.
- **Dr. S.M. Mohaghegh Damad**
- **DISCUSSION**

FOURTH DAY
Thursday, 9 February 2006

Topic IV
How and Where do we draw the lines?

Eleventh Session:
Human Being and His Creation: where we can draw lines - Islamic, Christian and Philosophical Perspectives

Chairman : Dr. Ajeel Al-Nashmi

Rapporteur : Dr. Aly A. Mishal

Speakers

- 1 - Expected Risks and Benefits of Genetic Research: Where and When We Draw the Red Lines
- **Dr. Ibrahim Badran**
- 2 - Where the Catholic Church Stands on Genetic Issues
- **Bishop Camillo Ballin**
- 3 - Our Humanness: Unalterable Essence and Changeable Actuality
- **Dr. Jaafar Sheikh Idris**
- **DISCUSSION**
- **Tea Break**

Twelfth Session:
Stem Cell Controversy - Islamic, Jewish and Christian Perspectives

Chairman : Dr. Gerald Winslow

Rapporteur : Dr. Malik Badri

Speakers

- 1 - The Stem Cell Controversy: Secular Form and Religious Substance
- **Dr. Ted Peters**

-
- 2 - Test-Tube Babies
 - **Dr. David Bleich**
 - 3 - Stem Cells and Cloning Research: Similarities and differences
 - **Dr. AbdulAziz Al-Swailem**
 - **DISCUSSION**
 - **Break and Prayer**

Thirteenth Session:
Stem Cell, Prenatal Diagnosis and Reproductive
Technology - Islamic Perspective

Chairman : Dr. Khalid Al-Mathkoor

Rapporteur : Dr. Shahid Athar

Speakers

- 1 - Islamic Medical Ethics Amidst Developing Biotechnologies.
 - **Dr. Musa Mohamed Nordin**
- 2 - Stem Cells and DNA: Modern Ethical Challenges
 - **Dr. Maher Hathout**
- 3 - Surrogacy: An Islamic Ethico-Legal and Social Perspective.
 - **Dr. Abulfadl Mohsin Ebrahim**
- **DISCUSSION**
- **Recommendations**
- **Closing Session**

**ADDRESS BY
DR. HATEM MOUSTAFA AL-GABALY**

Minister of Health and Population, Egypt

Address by
Dr. Hatem Moustafa Al-Gabaly

Minister of Health and Population, Egypt

The Address of His Excellency the Egyptian Minister of Health and Population Dr. Hatem EL Gabaly delivered on his Behalf by Dr. Hasan El Kola.

Your Eminence Professor Mohamed Sayed Tantawi the Sheik of AL Azhar Mosque, Professor Abdel Rahman El Awadi, Professor Abdel Aziz El Toweigry, Dr. Hasan EL Gazaery, Dr. John Bryant, dear attendees, distinguished scientists and thinkers. Good morning to you all. It is with great pleasure that I convey to you the regards of His Excellency Dr. Hatem EL Gabaly, the Egyptian Minister of Health and Population who would have liked to have the pleasure of attending this very important conference, but he is obliged to be out of Cairo today for urgent reasons.

It is undeniable that the incredible progress which has taken place in the techniques of genetics and human reproduction has produced great challenges in our modern world that pertain to important issues such as the use of human cloning and stem cells as well as what is called child design and creating a special world of our own and the terrifying concomitant social effects of all this in the future. Our world is witnessing today a confusion regarding the concepts of freedom and freedom of belief. It is witnessing assaults against what some groups hold as sacred. This proves there is a lot of misunderstanding regarding many of the concepts prevalent in our world today. It also shows the importance of this conference which comes at a critical time and which is deeply needed. We hope that your discussions and the findings which you reach will contribute to humanity's progress and to the right of human beings to have a dignified life in which all people are considered equal regardless of their beliefs, a world in which every human being gets his rights without any persecution against one race, group, or faith.

Asalamu alaikom

**ADDRESS BY
DR. HUSSAIN AL-GEZAIRY**

Director of EMRO (WHO),
Cairo, Egypt

**Address by
Dr. Hussain Al-Gezairy**

Director of EMRO (WHO),
Cairo, Egypt

Your Excellencies, Dear Attendees

I extend my greetings to you and welcome you in the regional office of the WHO for the Mediterranean region. I would also like to thank you for accepting the invitation of the WHO and the IOMS and the Islamic Organization for Education, Science, and Culture and the International Council for Medical Science Organizations to attend the conference on Heredity and Human Reproduction and their Ramifications and the views of Revealed Religions and Secularism on the issue. I also wish to offer my heartfelt thanks and deepest gratitude to the venerable Egyptian government and to Dr. Hatem EL Gabaly, the Egyptian minister of Health and Population under whose sponsorship this conference is held. I welcome all my colleagues who work at fellow organizations that are taking part in the conference, particularly, Dr. Abdul Rahman Al Awadi who played the major role in launching this event. I would like to seize this opportunity to shed light on his great efforts in establishing and sponsoring the Islamic Organization for Medical Sciences and all its achievements, most important of which are the conferences and seminars that the Organization held. They are over thirty international conferences and seminars which discussed different problems and issues that attended the great progress made in the field of biological sciences, and focused on adhering to moral principles. I would also like to extend my deepest thanks and appreciation to our colleagues and co-workers particularly those who work for the International Council for Medical Science Organizations and the Islamic Organization for Education, Science, and Culture.

I also thank all the participants and would like to express my appreciation for all their efforts in preparation for this conference, and

all the time they invested and the great distances which they travelled in order to attend.

Although the entire world has made amazing and unparalleled progress in the field of knowledge and communication, yet I do not hesitate to tell you that what humankind has achieved in the present day in the fields of science and technology has not awarded it the moral certainty and assurance to which it aspires. Neither has it prevented it from injustice, doing wrong, or trespassing against the rights of others. Nor has it prevented double standards and infringement against all human rights and transgressing against what man holds as holy. Many nations are deprived of even their most basic rights to live with dignity, and in taking part in any of the fields of scientific progress. They are also deprived of being treated on an equal par with the stronger countries which have monopolized the right to determine what is right and what is wrong, and control the fates of all living human beings.

For this reason we would like to resume the discussion which we started between the believers of revealed religions in the world. At the same time, we will not ignore non-religious viewpoints. The themes for our discussion and research will be of interest to all groups regardless of their opinions, qualities, and beliefs. Human nature, the first theme, is a common factor among all people. The issue of how we should deal with genes and reproductive technologies is relevant to all societies, and to every individual and family. Due to the moral, sociological, and psychological impacts of reproduction and gene technology, views must come to some form of agreement on some principles and constraints. Setting distinguishing lines between what is acceptable and what is not acceptable will be a creative and exciting task, but will also represent a touchstone measuring the capacity of each participant for tolerance, flexibility, and communication.

Dear Attendees

Our conference today is characterized by the sincere wish of each of us to listen to the viewpoint of others with objectivity and to accept any view which they find plausible and convincing. We would each

like to respond to the evidence and reasons advanced by others, while at the same time presenting the views which we deem to be right and useful to human beings. We would like to present our views gently, without bias or prejudice, and we would like to show proper respect for the beliefs of others and not to belittle the views of any group that happens to disagree with our own views. Civilized behavior, which is the hallmark of scientists and the faithful, requires us to respect the right of others to present their views and beliefs. I am confident that each of us will do his utmost to listen and discuss with an open heart and mind.

**ADDRESS BY
DR. ABDUL AZIZ AL-TEWAIJRY**

Director General of ISESCO,
Morocco

**Speech of
Dr. Abdul Aziz Al-Tewaijry**

Director General of ISESCO,
Morocco

Your Excellency Dr. Abdul Rahman AL Awadi, Your Excellency the Head of the regional office of the WHO, Your Excellency the Head of the International Council for Medical Science Organizations, Ladies and Gentlemen:

In the name of the Islamic Organization for Education, Science, and Culture, I would like to welcome all members of this gathering to the opening of this international conference on "Heredity and Human reproduction and their Ramifications: the Viewpoints of the Three Revealed Religions and Secularism" which is coordinated by the Islamic Organization for Medical Sciences, the Regional office of the WHO, and the International Conference for Medical Science Organizations. At the outset, I would like to convey to you the greetings of His Excellency, the General Manager of the Islamic Organization, Dr. Abdul Aziz AL Toueigry and his wishes for a very successful conference. I would also like to offer our deepest thanks to the Islamic Organization for Medical Sciences for its efforts in preparing for this conference. Special thanks go to everyone who hosted this conference and contributed to creating circumstances that would be conducive to its success as well as to all the experts for their fruitful contributions.

Your Excellencies, Ladies and Gentlemen

Science is currently making great strides on the path of progress. It would therefore be not exaggeration to say that the progress made in the past twenty five years is equal to the progress that was made in the entire history of humanity. In the field of heredity, great advancement was also made so that we have great hopes for a better future for human beings.

In our Arab and Islamic societies, scientific circles are amazed at the biological revolution and wonder about the means to keep up with

it and to benefit from its applications, and its tremendous scientific achievements. Only the few, however, examine its social and cultural effects and attempt to set moral and legal frameworks to control them. Such control would prevent future catastrophes, especially after what has been said about some scientific centers in the West applying biological technologies and cloning to human beings, and what has been mentioned about the possibility of manipulating human races after successfully discovering the human genetic chart.

Despite the great and continuous development in biological sciences, our Arab and Islamic world is in a state of legal stasis. However, all fields including science, religion, law, and sociology should work together to narrow, if not altogether eliminate the gap. Scientists should enlist the contributions of specialists in jurisprudence and religion in order to prove that Islam is a religion which is suitable for all times and places.

Your Excellencies, Ladies and Gentlemen

This is the second conference that the Islamic Organization organizes with other parties, for a previous conference was held in London from the 25-28 of January 2005 entitled: "The Technologies of Human Heredity: A Comparison of Religious and Secular Viewpoints". This conference was organized in cooperation with the Islamic Organization for Medical Sciences and the Society for Call to Islam and the Human Heredity Team. In this conference a number of subjects related to bioethics were studied from various religious viewpoints. Since these issues were of a sensitive nature it was necessary to encourage understanding and harmony through listening to other viewpoints and attempting to understand each other as such discussions require mutual respect. And today we are taking part in this second conference and is being held in Cairo with a number of important and distinguished scientists attending.

Research has proved that the revolution that has taken place in the field of genetic engineering has created new conditions and knowledge that have completely changed the results of blood research so that it is now possible through DNA tests to find out any persons DNA

fingerprints. These fingerprints carry all the genetic qualities of a person and stay with him his entire life. They are different from those of any other person. Scientific research has proved that the fingerprint can be found by examining the DNA of one of the body fluids such as blood, saliva, or sperm, or one of the body's tissues such as flesh, or skin, or any other substance made by the body such as hair or bone. These could be evidence which exonerates or incriminates a given person in all cases where there is a need for a person to be identified, particularly if the matter concerns a crime. It is possible to find out the real criminal in any crime by connecting the DNA fingerprint of the accused person and the DNA found at the site of the crime. Therefore, some lawyers have asked that the DNA fingerprint and blood tests be admitted as evidence in cases of proving parenthood.

Your Excellencies, Ladies and Gentlemen

Ever since the first experiments in cloning, the moral, religious, and legal positions concerning them have been the same the world over. It has been agreed that cloning technologies can be used on plants and animals, but that it is a crime to use them on human beings. All the religious institutions and authorities have agreed that human cloning is completely forbidden. They have suggested that anyone who performs human cloning should be severely punished according to religious law. This opinion can be found almost everywhere in the Islamic world and similar opinions were also advanced by the Catholic and the Orthodox churches.

Protecting our societies and their special features from all dangers is one of the top objectives of ISESCO. With the same goal in mind, the Islamic Organization has worked to analyze the moral implications of newly discovered technological and scientific facts, and to evaluate them in the light of Islamic moral principles and values. The Islamic Authority for the Ethics of Science and Technology was established as one of the organizations of ISESCO to evaluate scientific practices and research according to Islamic morals, values, and principles. This is done in order to shape public opinion regarding some important and sensitive moral topics. It was also established to coordinate, consult, and exchange opinions concerning the Islamic issues which are raised

from time to time. Additionally, the authority also aims at studying medical and biological practices in the fields of artificial insemination and cloning as clear from its successive agendas and activities which aim at raising awareness and fostering a sense of responsibility towards controversial moral issues. Therefore, it held a number of specialized conferences and participated in numerous international gatherings on these topics in an attempt to reinforce a complete understanding and to achieve agreement in scientific circles concerning numerous moral issues through publishing books and studies on this issue. The participation of ISESCO in organizing this important conference is part of this endeavor. Its aim is to hold a scientific, religious, philosophical, and social dialogue between Islam, Christianity, Judaism and secularism regarding some controversial medical issues and the moral implications which result from the application of new technologies in the field of genetic engineering.

Your Excellencies, Ladies and Gentlemen

Globalization has given rise to unprecedented change in our societies. Furthermore, the rapidly increasing pace of scientific development in our societies has helped bring people closer without discrimination between one religion and another. As religion plays a major role in our societies, ignoring it would lead us to make decisions that would be unacceptable to public opinion. Discussing the role of religion in understanding this unprecedented development will help the majority to be more accepting of these changes.

On a final note, I would like to offer my thanks and appreciation to the Arab Republic of Egypt for hosting this important international conference and for its hospitality. I would also like to thank everyone who helped make this conference successful and to thank the Islamic Organization for Medical Sciences for its close cooperation with us. Last but not least, I thank our partners: the Regional Office of the WHO, and the International Council for Medical Science Organizations, as well as the scientists who contributed to the symposium, and all the attendees. I wish them all success and hope they will make use of the information and expertise which they gain from the conference.

Thank you

**ADDRESS BY
DR. ABDUL RAHMAN A. AL-AWADI**

President of the Islamic Organization for Medical Sciences,
Kuwait

**Address by
Dr. Abdul Rahman A. Al-Awadi**

President of the Islamic Organization for Medical Sciences,
Kuwait

Dr. Ahmed Nazif, Prime Minister of Egypt,
Dr. Mohamed Sayed Tantawi, the Grand Imam,
His Holiness Pope Shenouda,
Dear Ministers and scientists,
Ladies and Gentlemen,

I would like to welcome you all in Egypt, the heart of the Arab world, and in this international conference held under the sponsorship of the four organizations. This conference is one of several conferences held by the IOMS. It derives its special importance, however, from the type of participants attending the conference as well as from the nature of the scientific material and its importance for both the present and future of humankind.

Its participants are representatives of the revealed religions, or venerable secularists. This is the first time that the IOMS holds a conference for such a unique and distinguished gathering. Moreover, the topic of the symposium is particularly important as it has to do with mans existence, and also because it will impact political decisions in numerous ways.

A clear message is being sent to decision makers in politics. The message is that people must take part in shaping their destiny. If scientists work day and night seeking knowledge in order to relieve the pains of the sick, and to provide cheap, safe, and effective medication for them. If they are trying to provide food that would keep them alive, and clothes to protect them from the cold in winter and the heat in summer. If scientists are trying to provide clean potable water for them, they are doing this in order to accomplish the main aim for which governments finance research from the money of the people. People want to see their hopes fulfilled and want to prevent scientific

achievements from falling into the hands of bad people who would use them for evil purposes instead of using them to do good. They want to prevent them from turning these achievements into means for human destruction.

I am afraid lest the voice of wisdom be replaced by the sound of bomb explosions, canon, airplanes, and weapons of mass destruction which would reap the souls of the poor, the sick, the old, children and widows.

Let us while we are gathered today raise our voices and call for people to stand together, and for the voice of wisdom to return, so that justice, love, and mercy prevail among all the peoples of the world.

If we are gathered here today in order to study the effects of the scientific achievements made in the second half of the previous century which made man the center of research, studies and applications, the twentieth century is certainly going to witness a much wider application of medical biotechnology.

Our meeting today is for the sake of good. Although we are followers of revealed religions and of secularism, and although there may be some differences between our beliefs, yet we all took the trouble of traveling from one end of the earth to the other for a noble aim which is protecting human beings and making their lives sacred; protecting their dignity and securing for them the greatest happiness and wellbeing. We are guarding against the misuse of medical biotechnology in a manner that would harm man who is Gods successor on earth. Every person in this auditorium has a veto which he will use the moment he senses even the slightest possibility for abusing man or destroying the sanctity of human life. Any such violation will be refused immediately.

This conference is looking for good and guarding against evil. If we imagine an opposite situation where a group of people have gathered in order to study the same topic, but with evil aims and intentions. If this imaginary group were trying to use this progress in order to destroy the world, then the face of science would become dark, for it would be the source of deadly weapons which would

destroy humankind. Over the course of history, it has been made amply clear that science has potentials for both good and evil. Whichever face you seek, you are going to find.

We have selected the topic of this conference with the utmost care as it represents a breakthrough which places man under the scientific microscope and attempts to study his components one by one. Heredity, genetic engineering, reproduction technology, and cloning have just broken into mans life. Some of them are, in fact, quite promising, and could lead to overcoming many of the problems which humanity faces. However, the problem is that these achievements may fall into the hands of weak souls who would use them for evil purposes.

We are facing dangers which threaten humanity and place man in jeopardy, especially that we are dealing with the issue of heredity. No one can predict what the results may be, for they may not appear right away, but may take some time. They could be destructive for the next generation or the one following it. If this happens, our own generation will be held responsible for this harm. We would all like our children to be smart, tall, and stunningly beautiful, but what if the reverse happens? Would it be the fault of the newborn baby? We would all be guilty, for he did not ask for any genetic change or improvement. No one asked his opinion, so who would be responsible?

We are in a new age of eugenics. Eugenics failed in the past when they were sponsored by fascist governments. Today, however such medical technologies will be within the reach of any family. Or is it going to be available only to the rich and not the poor? Are the rich going to use it as a tool to get rid of the poor? If cloning were permitted and a baby came to life by whatever means, official or unofficial, and he was the result of two of his fathers or of a husband and a wife, has anyone asked the baby if he would like to come to the world using this biological technique? If the nucleus was taken from the father, then who would be the father, the father or the twin? What would his relationship with his parents and society be like? How would society regard him? Would he be stigmatized?

These are just some of the problems, the research papers have many more, and we will discuss them together.

It would be quite naïve and superficial to regard man as a group of systems and organs, and to try to fix one of them if something goes wrong with it. Such a view would be erroneous, for a human being is not just a body; he is also soul, heart, and mind. All these work together, and if one of them suffers, the rest also suffer. A human being is not an inanimate being, or a machine. He has feelings of love and hatred, is a mixture of good and evil. How could we fix each of these when we do not know what it is and we do not know the factors which influence it.

This is why believers in religions, philosophers, sociologists, psychologists, and economists sensed the need to study all the dangers inherent in these technologies to come up with a scientific way to control studies and research and to guide them to the right path. By doing so the desire for knowledge would not override everything else and transform science into a giant that would enslave us.

We must control this giant, or else humanity will pay dearly for it, just as it did once before when the atomic bombs which were thrown on Hiroshima and Nagasaki in World War II. These atomic bombs represented at that time the height of technological achievement, and it was expected that they would bring great good. However, science fell into sin.

Today we are considering means of guiding these sciences to a normal course. This can only happen if we use good morals. Everyone here will try to present the opinions which he holds. Believers in religion will use sources which come from God, and will consider that if their efforts are for the sake of God, then they will be doing good, and if they are for the sake of the devil, then they will be evil. Let me speak a little about Islam and tell you that the prophet, peace be upon him, said that he came in order to complete moral principles. In the Quran, God commends the prophet's excellent morals and says that he was sent as a mercy to all people.

God ordered us in the Quran to believe in Him, His angels, His books, and His messengers "The Messenger believeth in what hath

been revealed to him from his lord, as do the men of faith. Each one (of them) believeth in Allah, His angels, His books, and His Messengers. “We make no distinction (they say) between one and another”. (Al Baqarah 285). Then he cautions us and orders us by saying “Say: “O People of the book! Come to common terms as between us and you: That we worship none but Allah”(Ali Imran 64). Then he orders us to argue all matters in a polite fashion “And argue with them in ways that are best and most gracious”(Al Nahl 125). All these are means of urging us to have constructive discussions so that love and peace would prevail and all people would enjoy happiness “To you be your way and to me mine” (Al Kafirun 6). The Quran makes clear the high status that man enjoys with God, for he is preferred to all other creatures “We have honoured the sons of Adam; provided them with transport on land and sea; given them for sustenance things good and pure” (Al Isra 70). God points out that He created man in the best image and ordered the angels to kneel before him. He also taught him all the names and ordered him to tell them to the angels, and when he told them their names, God said I know what you do not know.

Religions are characterized by dividing deeds into permissible ones and forbidden ones. Permissible deeds are good ones, while evil deeds are forbidden. This is made quite clear so that no one would try to make what is permissible forbidden, or what is forbidden permissible.

This is the case with all religions, and therefore we find that the followers of these religions are convinced that morals come from God. He is the one who sent them to us through His Messengers and prophets and we have to follow them. Secularism, on the other hand, makes history and reason the sources of its theories. These human interpretations may be right or wrong, especially that in the field of medical biology, it is not possible to predict the future. Alcoholism, smoking, and unbridled freedom are all forms of human interpretations. Aids and the rise in abortion rates among the unmarried are the result of unbridled freedom. This is due to the fact that secularist postulations and philosophies are based on the principle of utility, which I personally find opportunistic. Maximizing pleasure, happiness,

and material gains all focus on the present moment. However, the losses which might ensue from such behavior in the future could be much greater especially in the area of medical biotechnology. Human interpretations in the field of morals and ethics are influenced by personal beliefs and understanding and also by the circumstances of those who have set these theories. They may be easily influenced by political or economic pressure, or by personal whims.

Does human history support any of these trends? This is what we will find out in the coming few days.

Before I leave the podium, I will suggest on the basis of my simple vision and my long experience that this dialogue continue in order to study all the new results which might appear.

I also think that we are in need of an international moral organization that would clarify both the positive and negative effects of medical biotechnology, particularly in the Third World in order to protect its inhabitants from biotechnology companies which we can expect to operate in the third world where there is no organization or control and where the value of the human being is held in less esteem than in the West.

Before I close, I would like to thank our colleagues in WHO, ISISCO, and CIOMS for participating with us in this important international conference, and for their constructive contributions in facilitating this conference.

I would also like to seize this opportunity to thank ISISCO for first coming up with this idea last year. Due to the importance of the idea and the need for examining and highlighting its different aspects, we decided last year to continue our discussions in this conference.

I would also like to offer my deepest thanks and my gratitude to the hospitable Egyptian people and to President Mohamed Hosni Mubarak and Dr. Ahmed Nazif, the Prime minister of Egypt who kindly sponsored this conference because he believes in the importance of bringing all people and religions together in our cosmic village.

I would also like to extend my thanks to our brothers in the secretariat and the executive committee of the organization for their

support of the activities of the organization and their keenness on discussing them and providing useful and helpful suggestions.

To my sons and brothers in the secretariat of the IOMS and particularly Dr. Ali Al Seif, I offer my thanks for their indefatigable efforts and the perseverance they exercised in order to complete all the tasks they were assigned in the best possible fashion. I offer each and every one of them in my name and on your behalf profound thanks and deepest regard. May God reward them for their sincere efforts.

**REFLECTION ON CIOMS-IOMS
INTERACTIONS**

Dr. John H. Bryant

U.S.A.

Reflection on CIOMS-IOMS Interactions

Dr. John H. Bryant

U.S.A.

Human Genetic and Reproductive Technologies: Comparing Religious and Secular Perspectives.

Reflections on CIOMS-IOMS Interactions

John H. Bryant
Cairo, February, 2006

Historic Sequence

- International Conference on *Islamic Code of Biomedical Ethics*, Cairo, December 2004.
- International Ethical Guidelines – An Islamic Perspective – CIOMS and IOMS.
- Dr. Farhat Moazam and Dr. John Bryant, as participants were, indeed, intrigued by the emergence of the CIOMS-IOMS document.
- They returned to their home institutions with an interest in encouraging awareness of this collaborative approach to biomedical ethics that crossed religious and cultural lines.

Contemporary Bioethics and Muslim Ethics: Evolving Understanding of Contrasts and Similarities

Cairo, December 2004

John H. Bryant, M.D.
Farhat Moazam, M.D., Ph.D.
Institute for Practical Ethics
University of Virginia
January 28, 2005

The CIOMS Story

- *Council for International Organizations of Medical Sciences* – CIOMS – was founded under the auspices of WHO and UNESCO, 1949, and is now an NGO in official relations with WHO, located on the WHO campus.
- Revision of 1991 Intl Guidelines for Ethical Review of Epidemiological Studies – 2006.
- Joint CIOMS/WHO Working Group on Drug Development Research & Pharmacogenetics for Resource Poor Countries.
- CIOMS – WHO Working Group on Vaccines – vaccine vigilance.

CIOMS -- Activities

- 1970s -- 2000s. CIOMS, with WHO and many collaborators, prepared an evolving series of guidelines on how ethical principles should guide the conduct of biomedical research involving human subjects, particularly for developing countries.
- Numerous debates and controversies were taken into account in this process.

The CIOMS Story

- Consultations involving participants from many countries led to the publication of the *International Ethical Guidelines for Research Involving Human Subjects in 2002*, which included:
 - *General ethical principles*
 - *Preamble*
 - *21 Guidelines*
- Designed particularly for use of low-resource countries to ensure appropriate mechanisms for ethical review of research involving human subjects.

The CIOMS Story

- These reflections on the sequence of development of evolving versions of CIOMS Guidelines have lessons for us:
 - Ethical concepts, values and their applications to research are, and will be, continuously evolving.
 - Guidelines will have to change accordingly.
 - Those involved in these fields must be alert and responsive to the changing perspectives.

Islamic Organization for Medical Sciences

- IOMS and CIOMS have been interacting over the years.
 - 1988, Cairo: Health Policy, Ethics and Human Values – Islamic Perspective.
 - 1990s, Kuwait, conferences on Globalization and on Aging.
 - 2002, Cairo: International Seminar on Integration of Traditional Medicine and Modern Medicine.

Islamic Organization for Medical Sciences

- December 2004, Conference in Cairo – “Islamic Code for Medical and Health Ethics”
- Day 2: CIOMS International Ethical Guidelines – *an Islamic Perspective*.
- IOMS took remarkable steps with the CIOMS Guidelines, 2002.
 - Translated entirety into Arabic, and added:
 - General Principles of Professional Ethics
 - In Name of God, the Beneficent, the Merciful
 - Following each of the 21 Ethical Guidelines, *The Islamic Point of View*, is inserted.

GL 5: Obtaining Informed Consent: Essential Information for Prospective Research Subjects

- CIOMS GL 5
 - Before requesting an individual's consent to participate in research, an investigator must provide the following information in language or another form of commitment that the individual can understand. (26 items) Here are two examples.
 - #2. The individual is free to refuse to participate and will be free to withdraw from the research at any time without penalty or loss of benefit to which he would otherwise be entitled.
 - #3. The purpose of the research, the procedures to be carried out by the investigator and the subject.

GL 5: Obtaining Informed Consent: Essential Information for Prospective Research Subjects

- Islamic Point of View
 - It is a prerequisite for the validity of informed consent, which an investigator must obtain from the subject, that it should be given with full knowledge and understanding.
 - This rule is rooted in the fact that the validity of choice and consent, in the case where Islamic Law makes either a requirement, is contingent on knowledge of the matter in question; *no ignorance in such matters is allowed*.
 - If the common convention on this matter changes, *the Islamic ruling would consequently change*, because anything in Law that is based on common convention will change when that convention changes.

GL 12: Equitable Distribution of Burdens and Benefits in the Selection of Subjects in Research

- CIOMS:
 - Equity requires that no group or class of persons should bear more than its fair share of the burdens of participation in research. Similarly, no group should be deprived of its fair share of the benefits.
 - When burdens or benefits of research are to be apportioned unequally among individuals or groups of persons, the criteria for unequal distribution should be morally justifiable and not arbitrary.
 - In other words, unequal allocations must not be inequitable.

GL 12: Equitable Distribution of Burdens and Benefits in the Selection of Subjects in Research

- Islamic Point of View
 - The import of this Guideline is in harmony with the Islamic Law principle that calls for justice in all affairs of life. For God, the Most Exalted, says, “God enjoins justice.”
 - He also says, “God, the Most Supreme, has sent his messengers and books so that people may apply justice, which is the equity on which the Earth and Heaven are founded.”
 - Any method that brings out equity and justice is in harmony with, rather than in violation of, religious teachings.
 - Where indications of justice are clear and it can be seen wherever one turns, God's Law and Creed prevail.

Reflections on the Guidelines and Islamic Point of View

- The interactions of CIOMS Guidelines and the Islamic Points of View are exceedingly interesting and constructive.
- Each states its principles and applications with clear terminology.
- Each depends the appreciation of both its own presentation and that of the other.
- There remains ample room for further exploration of the complementarity of the meanings on the two sides.
- Surely this is an opportunity for a broader dialogue based on fresh perspectives between Muslim ethical discourse and contemporary bioethics.

Contemporary Bioethics and Islamic Ethics – Further Commentary

- Given the important contrasts between contemporary bioethics and Islamic ethics –
 - With subtle differences in the meanings of key words
 - With secular-religious contrasts in moral perspectives
 - With differing emphases on physician - patient relationships
- There is a place for mutually enriching reflections on fundamental aspects of the two approaches to ethics.

CONTEMPORARY BIOETHICS: DEFINING CHARACTERISTICS

- Conceived in the 1970s to address new dilemmas in medical practice and biomedical research; informed by larger social, cultural, and legal events underway in the US
- Grounded in secular, philosophical principles; reliance on supremacy of human reason
- Centered on self governance and individual rights; autonomous person as basic social unit
- Ethical theories generally satisfied with minimal obligations towards others
- Focus on the question – “is this *action* ethical?”

ISLAMIC (RELIGIOUS) ETHICS: BASIC CONCEPTS

- Muslim moral and ethical thought rooted in Revelation and complemented by human reason (*al-‘aql wa J-sha‘i‘ah*)
- Historically, jurisprudence (*fiqh*), and not theology or philosophy, has played the central role in establishing what constitutes ethical human conduct
- Rights of individuals are recognized but human obligations are emphasized; the family is the primary unit of society
- Those more privileged in life are considered to owe greater duties towards those less fortunate
- Emphasis on question – “is the *acting agent* a moral person?” (Virtue Ethics)

ETHICS vs. AKHLAQ/ADAB

- “Ethics for physicians” is translated in Arabic (and Urdu) as *Akhlaq al-Tabib*
- Historical and social construct of how Muslims comprehend *akhlaq* is much broader than the contemporary use of term “ethics”
- Individuals with *akhlaq* are those who are ethical in their interactions but also possess integrity, are polite, upright, noble, and compassionate.
- *Akhlaq* is thus intuitively understood as including both a virtuous *agent* and his/her ethical *act*

Further Steps in Promoting CIOMS-IOMS Interactions

- Farhat Moazam and John Bryant continue their discussions with ethicists at the University of Virginia on interactions of IOMS and CIOMS, in the interests of encouraging further discourse on these ethics-related issues.
- Meanwhile, with Dr. Moazam now Founding Chair of the Center for Biomedical Ethics and Culture, SJUT in Karachi, Pakistan, the arena for their discussion is extensively broadened.

Further Steps in Promoting CIOMS-IOMS Interactions

- They are distinctly interested in expanding the dialogue on cross-religious and secular interactions.
- They are exploring doing this through involvement of other universities and organizations such as the Institute of Medicine and National Academy of Sciences.
- Farhat’s interactions with other institutions regionally and internationally through her Center for Biomedical Ethics and Culture can also move the dialogue ahead.

Promoting Dialogue on Cross Religious & Secular Perspectives

- Given the dramatic interactions underway in this conference, the dialogue need not be seen as predominately CIOMS – IOMS, but would involve all interested parties.
- And the while the range of subjects that invite debate at this conference is extraordinary, the focus on comparing religious and secular perspectives remains.
- IOMS, therefore, can be seen as persistent in promoting international dialogue on matters of fundamental importance to the pursuit of peace and human well being.

Promoting Dialogue on Cross Religious & Secular Perspectives

- The matter of central importance is that people of different nations, religions, and ethical perspectives seek common ground on which they can persist with their faith-based and ethics-based commitments to the well-being of humanity, and to peaceful modes of seeking resolution of differences.
- IOMS is clearly in a leadership role in promoting acceptance of and participation in these processes.

REPORT ABOUT THE SEMINAR

Dr. Ahmed Rajai El-Gendy

Secretary General of the Islamic Organization for Medical Sciences
Kuwait

Report about The Seminar

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The Islamic Organization for Medical Sciences, based in Kuwait, in collaboration with the East Mediterranean Regional Office (EMRO) of the World Health Organization, based in Cairo, and ISESCO, based in Rabat, and CIOMS, based in Geneva, held an International Seminar in Cairo that spanned four days extending from February 6 to 9, 2006. The seminar focused on human genetic and reproductive technologies and explored the various religious and secular attitudes towards these issues. The participants were about 150 researchers of different nationalities who represented the three divine religions of Islam, Christianity and Judaism, in addition to secularism.

The interests and specializations of the participants covered a wide range of fields comprising theology, philosophy, sociology, medical sciences, pharmacology, history and bioethics.

Cairo was the venue of the seminar which was held under the auspices of His Excellency Dr. Hatem Al-Gabali, the minister of health in the Arab Republic of Egypt. Following a recitation of some verses of the Quran, speeches were given by Dr. Hasan Al-Qala, First Undersecretary of the health ministry, on behalf of Dr. Gabali; Dr. Hussein Al-Gazaeri, representing EMRO; Dr. Hamed Eid, representing ISESCO; Dr. John Bryant, representing CIOMS; and Dr. Abdul Rahman Al-Awadi, representing the Islamic Organization for Medical Sciences. After these ceremonial speeches the seminar held its academic sessions that continued for four days.

The Seminar's Objectives:

- 1 - To conduct an academic debate about the ethical aspects of the seminar's topics and the relevant views of the theologians, ethicists, philosophers and decision makers.

- 2 - To draw attention to the fact that the unprecedented scientific progress in the fields of genetics, genetic engineering and cloning involves high risks for humanity. Hence, the need for standing up to any attempt to use these technologies in a way that may bring harm to human beings.
- 3 - To emphasize the need for scientists working in these fields to adhere to the ethical basics which protect man and maintain his dignity and inviolability and to be committed to the principle that human life is too sacred to be tampered with.
- 4 - To find answers to the questions raised nowadays about the moral implications of genetics, genetic engineering, human genome and cloning.
- 5 - To convey an important message to the politicians and decision makers to the effect that science and its products must never be used against the interests of humans. They must be put to the service and benefit of mankind. What is equally important is that they should be accessible to everybody, rich and poor alike, as the ultimate goal is to alleviate human suffering and raise hope of recovery and improvement in the hearts of those afflicted by disease.

A full day was allocated to each of the seminar's four main topics:

Topic 1: Humanity and Creation/The Natural world:

- 1 - Religious, secular and philosophic views on the relationship between man the rest of God's creation. How far should human interference go in what is believed to be attempts at modifying or enhancing God's creation?; where should we draw the lines?; which biological aspects can be modified without risking such modification to be considered a sort of violation.
- 2 - How different faiths view Man's status; discussing the possibility that this status might change if changing human nature becomes feasible; does Man have a status whereby he is distinct from other creatures?; does humanity need special protection?
- 3 - The human embryo is accorded special care in the divine religions as well as in all ethical principles. What parameters are laid down

for man's status during the initial and final stages of embryonic growth?

- 4 - The concept of human dignity is so central that all religions and philosophical views have uniformly fore-grounded it. What is the nature of this dignity as seen by researchers from various cultures? To what extent will man's dignity and status be affected by the brilliant manipulations of biotechnology that aim to design human embryos with select attributes?
- 5 - The attitudes of various cultures towards science and technology. Are there indeed certain areas thereof that should preferably remain off-limit for investigation? If so, what are these areas? Is there a trend towards conservatism and another towards liberalism and keeping up with technological innovations? Perhaps the whole issue is one relating to methodology and how rigorous and explicit it should be.
- 6 - There is a difference of opinion over the use of genetic technology for treatment that aims to restore health or upgrade abilities to a level a little above the average or create new abilities. Therefore, it was deemed useful to bring up the issue and get to know the various attitudes.

Topic 2: Genetics, Reproductive Technologies and the Family:

Answers were sought to the following queries:

- 1 - Reproductive technology has become the order of the day. Will this lead to setting sexual activity apart from reproduction? How will such a state of affairs reflect on the family and the children?
- 2 - Offspring are a gift from God. Are parents at liberty to interfere in forming their nature and characteristics?
- 3 - The physicians' views of reproduction and infertility have greatly changed. Are childless couples allowed to seek assisted reproductive technology? What are the parameters within which the use of such technology is considered appropriate? To what extent does the use of reproductive technology change the nature of the relationship between parents and their children?

- 4 - Pre-natal and post-natal genetic diagnosis is a recent biomedical innovation. Does anything stand in the way of parents who desire to use pre-natal genetic diagnosis in order to have a child with a select combination of characteristics? Does this constitute a form of discrimination against the disabled as it may imply that their life is less valuable? What is the last word on the use of genetic screening during the initial or final stages of pregnancy to ascertain that the embryo or fetus is not affected by genetic or congenital abnormalities? What is the final decision on using such screening for sex selection? What is the demarcation line between severe and mild cases of disability? Are parents at liberty to have babies with select characteristics through the use of Pre-implantation Genetic Diagnosis (PGD) involving donor germ cells?
- 5 - Education and discipline are the time-honored methods whereby parents bring up their children. From a purely ethical point of view, are there fundamental differences between using these methods to enhance a child's competencies and abilities and using genetic technologies to achieve the same purposes? Are parents entitled to resort to genetic screening to find out if their babies may be suffering from late-onset genetic abnormalities which usually strike during puberty?
- 6 - The cloning technology came as a scientific and ethical shock. It was met by varying reactions ranging between off-hand rejection, cautious reserve and all-out support. Will reproductive cloning affect the family?

Topic 3: Social Impact of Genetic and Reproductive Technologies:

- 1 - The distinctive features of a good society; the ideal relationship between a society and its individuals; the areas that witness perceptual differences between religious and secular points of view in a society where individuals tend towards logical thinking and hold societal and individual interests in high esteem and give much value to personal independence and freedom. What is the actual weight of issues relating to social justice in ethical consideration?

- 2 - Genetic and reproductive technologies may reflect badly on the relationship between society and its individuals. Is it true that such technologies encourage fiercer competition among individuals, which implies greater injustice and less solidarity?
- 3 - Does selection of the baby's sex or characteristics infringe upon human dignity and human rights?
- 4 - Religions and ethical philosophies do not discriminate against people because of their gender, color, faith or genotype? How does this fact reflect on job opportunities and insurance services?
- 5 - Equal opportunity in accessing resources is a matter of paramount importance in all religions and ethical philosophies. Does inadequacy of resources lead to injustice in the availability of services, which sounds ominous to the less privileged classes of society?
- 6 - If put to good use, genetics and reproductive technologies are of great benefit. The problem is that sometimes they are misused as when they give rise to a new form of eugenics that aims to gradually rid society of the disabled and poorly-abled individuals. What precautionary measures should be taken to ward off such a contingency?

Topic 4: How and Where do we Draw the Line?

- 1 - Technology has got into man's life and imposed upon him patterns of behavior he never knew before. Therefore, it was necessary that the seminar draw the line beyond which technological developments and use should never go especially in the following areas:
 - Research on embryos and stem cells
 - Pre-natal diagnosis using X-rays
 - Genetic diagnosis for organ transplantation
 - Reproductive cloning
 - Treatment of germ cells using genes and genetic engineering technologies
 - In Vitro Fertilization (IVF)

Discussions and debates on these main topics continued for four days during which everybody expressed their views quite freely in a congenial atmosphere where the dominant spirit was one of brotherhood, friendship and mutual respect. The common objective was to sincerely seek the truth and readily acknowledge it once it is reached.

It was clear right from the outset that the matter under consideration could not be more serious as it dealt with Man, the most honored creature on earth, and the dangers he may be exposed to when he becomes a subject in scientific experiments that could have all sorts of results.

When tackling these scientific innovations, representatives of each divine religion obviously relied on the Scripture of that religion as their basic frame of reference, in addition to the traditions of the relevant prophet. But each participating theologian had his own way of understanding and interpreting the text of his respective Scripture and consequently his own judgments and juridical views about each of the fields under discussion. This explains the discrepancies between the views of various jurists and juridical schools within the same religion.

As for secular views, they were the outcome of individual judgments based on personal endeavor and not on any divine or prophetic frame of reference. The secularists' approach in reaching a decision is drastically different from that of theologians.

From a secular perspective, man is seen to have utilized his research and the resulting growth of his knowledge to control nature and harness its forces for his benefit. Reproductive technologies, for instance, have done human beings a world of good. To a great extent they have made available various solutions to the problems of infertility. Genetic engineering has managed to produce new types of plants and animals in greater quantity and better quality. This is not the result of random chance, but comes as the fruit of human incessant attempts to control nature. The accomplishments should not be a topic for discussion. What we may discuss are the ethical aspects of these innovations. But this should be done in the appropriate economic and social contexts. This way, we can properly deal with

these new technologies that only aim to improve production as well as reproduction.

Both secularists and theologians were agreed on certain issues. But the agreement was on the product and not on the process as the intellectual and ideological basis underlying the judgment of each party was naturally different.

It was noticeable that the rejection or approval concerning any issue put forward for discussion was exclusively based on three principles:

- 1 - Protecting the embryo
- 2 - Protecting human nature
- 3 - The principle of utilitarianism

The first two principles are predominant in the decisions of the Orthodox Church representatives. On a number of issues the Islamic and Jewish decisions were also mindful of these two principles. However, the majority of Islamic and Jewish decisions are based on the third principle: the thing at issue is approved only if it is beneficial to the greatest number of people. But the decisions stick to sound juridical rules in Islam and Judaism respectively. The jurisprudence in each of these two religions takes into account certain dimensions such as society, humanity, the future of the nation, etc. The Islamic Shari'a has its purposes of safeguarding faith, soul, mind, wealth and offspring. For instance, the Orthodox Church is strictly opposed to genetic engineering in any of its forms or practices because it involves changes in the sacred human nature. The Islamic Shari'a and Jewish law, on the other hand, have no objection to it whether it works on somatic or germ cells. Their contention is that man is God's vicegerent on earth; hence, everything in this universe is subjected to him. Man is urged to seek therapy, provided the means is not impermissible. A diabetic who is injected with insulin might just as well be injected with genetic cells that would help his body produce insulin, or with new genes that would help him overcome the problem once and for all.

Injecting germ cells into a patient's body may be objected to on the premise that it could lead to changes in the genetic constitution of

future generations considered to be sacrosanct. Even so, Muslim and Jewish jurists agree that reducing man to a mere constitution of genes is an unfortunate mistake. A holistic view of man will show that there is much more to a human being than just a body controlled by genes. Man is a unique system of fully integrated parts: body, self, mind and soul, all of which act together in full harmony and equilibrium that should be maintained. If any of these constituent parts gets afflicted with any ailment, it should be treated properly in due time.

Let's consider another example about protecting the embryo. According to the Orthodox Church, human life begins at the moment of egg fertilization. The fertilized egg now has a human genome which is different from that of the parents. It is the first seed of life which is ensouled by God. Therefore, the Christian law of the Orthodox Church vehemently prohibits any manipulation or experimentation involving the embryo because it is looked upon as a person entitled to all the rights of a full human being. Any act that may put the embryo in harm's way is equally prohibited.

Islamic and Jewish laws, however, consider the embryo in its initial stage of growth as a respectable being whose respectability increases day after day until the day of its ensoulment when it is 40 days old. On that day the embryo becomes a person and acquires full sanctity. This view held by Muslims, Jews and some Protestants makes it possible for researchers to utilize embryos during the period preceding ensoulment, especially if they are IVF embryos.

Muslim and Jewish jurists rejected the fear that "Man may play God". God is much greater than that. In the mean time, we are commanded to explore the earth and look around and into ourselves. This is an endeavor we are exhorted to carry out the outcome of which could be positive or negative depending on God's will; for everything in this universe is predestined. So it is not a matter of interfering with God's will; we always seek God's guidance and hope to succeed in what we do with God's help.

Much controversy was about the reasons why the Christian Church prohibits the use of reproduction technology and reproductive cloning. The reasons given were:

- 1 - This is not the normal way of reproduction ordained by God.
- 2 - In the book of Genesis we read, “God has created man in His image.”
- 3 - According to Christian interpretation, the image here is meant to be God’s image. It follows that we may not create an image of God, this can only be done by God Himself.

The secular side had a completely different view of this matter. According to this view, it is held that man has used his mental powers and good management to tame nature and change a lot of its ways. If control over nature reaches a point where nothing is left to chance, we can have healthy, intelligent and strong children. And why not? Who would not like to have children like that? It is also held that new discoveries and the observed developments in the universe may seem to be in direct contradiction to established theories. But the fact is that the apparent contradiction is not in the substance of these theories as much as it is in their interpretation. This line of thinking suggests that a new image of secularism is emerging.

On the religious front, the Islamic and Jewish views were not in agreement with the Christian arguments in terms of interpretation. They also opposed the secular view in terms of orientation. Muslim and Jewish jurists approved the use of reproductive technologies with conditions and regulations that were specified for each of these technologies. These conditions will be mentioned below in full detail under the relevant topic discussed in the seminar.

The Islamic side disagrees with the Christian view about the interpretation of the Biblical text that God has created Man in His image. A Quranic verse was cited in support of the Islamic point:

“It is He who forms you in the womb as He will.” (3:6)

The “form” here can in no way be understood to mean “the image of God”:

“Like Him there is not” (42:11)

“He is God, One, God the Everlasting Refuge” (112:1-2)

Therefore, the Islamic view asserts that “forms you in the womb as He will” means forming human beings in different shapes: some are

tall; others are short, white, dark, clever, etc. But all are created in the form of the first human being, viz., Adam.

So, getting children with the assistance of reproductive technologies does not imply trespassing into divine creation or attempting to play God.

On the other hand, the Islamic attitude differs from secularism in orientation, philosophy and perspective. In Islam, knowledge is from God. He (SWT) taught Adam the names, all of them. Man's success in discovering new things or acquiring new information is in fact success granted by God and achieved by man through God's guidance. God commands us to keep investigating every phenomenon in this universe in a bid to acquire knowledge that can be put to good use leading to man's happiness and prosperity. The only proviso is that this should be in line with the legal rules. Science violates these rules when it is exploited in producing weapons of mass destruction or in developing reproductive technologies to produce robot-like humans with specially designed qualities to carry out specific tasks. Science is also abused when assisted reproductive technology involves donor germ cells or surrogate mothers; or when a wife's egg is fertilized by a husband's sperm at a time when a marriage contract becomes invalid for one reason or another, such as divorce, or death of the one of the parties to that contract.

Concerning surrogacy, the Catholic Church was totally opposed to it whereas the Protestant Church allowed it. Islam is also against it. The Jewish stand on this issue is that surrogacy is to be rejected in principle, but can be allowed only if it is the last resort for getting children.

The secular representatives fully approved of surrogacy with no reservations whatsoever. Everybody was entitled to make use of the service without any regulatory measures.

In connection with the same topic, the following question was raised: why does Islam prohibit surrogacy and allow the services of a wet nurse? Another related question was: in the case of surrogacy, who is the baby's mother? Is it the woman whose egg is fertilized or the woman that carried the fertilized egg in her womb? Secular views

were divided on this matter, with some saying it is the former and others saying it is the latter. The matter stays in flux to date.

Islam has already resolved this issue. The Quran points this out categorically:

“...their mothers are only those who gave them birth” (58:2)

In another verse:

“...his mother bore him weakness upon weakness” (31:14)

This means unequivocally that the mother is she who has carried the baby in her womb and given birth to it. The philosophy of this resolution may be that it will put an end to any dispute between the wife who contributes the egg and the woman who substitutes for her in pregnancy and birth. It is this latter who goes through the painful processes of pregnancy and birth with all sorts of health disorders in between. She is the one who feels the unique affection of motherhood in her bones towards the baby when it was still an embryo feeding on her blood.

One of the reasons why surrogacy is not acceptable in Islam is that it may create a situation where poor women get exploited by rich couples; and Islam is strictly against any form of exploitation of a human being. Surrogacy could thus mean a return to slavery which has been abolished since Islam dawned on this world.

As for equating surrogacy with wet nursing, the two situations are not exactly analogous. A wet nurse is employed to give her breast milk to another woman's baby who needs it to survive. In Islam, five satiating supplies of the wet nurse's breast milk are enough to make her the baby's foster mother, as the milk would then get into the formation of the baby's flesh and bones. This results in the wet nurse's children becoming the baby's foster siblings. Legally, a male foster sibling is not permitted to marry a female one. These rulings have been mentioned as part of Islamic Shari'a.

Surrogacy is a different situation where a lump of cells resulting from a donor egg being fertilized by a donor sperm or a wife's egg being fertilized by a husband's sperm is implanted into the uterus of another woman (some jurists consider this only semi-adultery as the

main elements of full adultery do not obtain). The basis of adultery is the introduction of a donor sperm into the uterus of a woman who is not the legal wife of the sperm donor. That is why surrogacy is unacceptable in Islam.

Extramarital pregnancy was also brought up. The Orthodox Church considers it a wrong deed. But such a pregnant woman, according to the church, should be accorded full care and supplied with whatever she needs until birth is due. The question about the baby's lineage was however left unanswered.

On the other hand, Islam rejects such pregnancy altogether and considers the woman an adulteress.

The secular opinion on this matter is that it is acceptable, provided the pregnancy has not resulted from rape. In terms of lineage, the male sex partner who contributes the sperm is the father of the baby.

Still on the topic of surrogacy, Islamic jurists got into a serious argument about a hypothetical situation where a fertilized egg was implanted by mistake into the wrong uterus, i.e. the uterus of a woman other than the one who contributed the egg. Is the mistaken woman to be considered the mother of the born child? Is the born child to inherit his original parents in addition to the surrogate mother? Can the mother who contributed the egg ask to have her baby back since the surrogate mother had carried it by mistake?

The Protestant Church raised an important point. It does not sanction research on embryos without the informed consent of the relevant couples. At the same time, it does not object to the donation of fertilized eggs for implantation into the uteri of other women.

Some papers read in the seminar referred to a point that calls for extensive studies from a juridical perspective: who owns the genes? Is the owner to be paid in cash or in kind for them? Or is it that the genes belong to God and the whole of humanity as the gene owner does not have a hand in owning them?

Some Islamic fatwas were criticized for not being specific. It was found necessary to review the fatwas and resolutions that needed specific regulations so that they could be practically useful.

Much of the discussion on the seminar topics are still captured in tapes. These will soon be transcribed and the material would be edited and eventually published.

In the ensuing pages, the reader will find a summary of the various views on the topics put forward for discussion during the seminar's sessions.

The seminar schedule included a lecture on "Reproductive Technology: Jewish Values and their Impact on General Policies and the Social Structure in Israel". The issues dealt with were important and provided one with food for thought.

According to the lecturer, Israel is a Jewish State governed by secular laws. This apparent conflict of terms could have been disentangled by setting aside the religious aspect of the state. But Israel uses the Judaic culture as a general policy to be implemented by secular means. The Jewish law, for instance, does not permit donation of sperm, ovule or uterus. But Israel is the only country in the world that has adopted surrogacy and set down legislations for it.

It is well know in the Jewish law that it is the mother who passes citizenship on to the children. So, a person is considered a true Jew and consequently eligible to the Israeli citizenship only if his/her mother is Jewish.

But in order to put the slogan "Be fruitful and procreate" into effect, Israel allows donation of sperms and eggs by any man or woman respectively regardless of their nationality.

Despite secular trends in Israel, the Jewish heritage plays a very important role in the emotional life of every Israeli resident. Reproduction is looked upon as a noble and great objective. Therefore, the State extends its full care and support to any Jewish wife who wants to have a child through IVF technology. All required medical expenses and necessary sick leaves are granted on request without any delay until birth time and even after. Israel is the only country in the world which provides such services.

The State also unreservedly allows unmarried women to seek IVF technology and gives them the same care and support enjoyed by

married women. What is more, the IVF center presents the patient with an assortment of spermatozoa to choose what suits her most.

A married couple with infertility problems can request that a third party fertilized egg to be implanted in the wife's uterus.

The Jewish law exhorts the male Jew to beget one child at least of each gender. This shows that life in Israel is characterized by this exceptional emphasis on children. It explains why the Israeli government does everything in its power to encourage reproduction and remove all difficulties in the way such as high expenses in the case of assisted reproductive technologies. A special fund has been set up to finance all necessary health services required by wives who want to get pregnant by availing themselves of artificial fertilization technologies. There is no limit to what this fund can offer. Unmarried women are also entitled to benefit from these technologies using donor sperm with no strings attached. The point is, the barren wife is held in low esteem in Israel.

Widows, likewise, can have their eggs fertilized by the frozen spermatozoa of their deceased husbands or friends.

This accommodating system of health care in Israel has no place for supporting child adoption in cases where all ways of treating infertility fail, or when couples without infertility problems voluntarily opt for adoption instead of reproduction. This option is virtually unheard of in Israel.

It is an ideological call adopted by a secular state that has turned into a predominant public culture. The state is fully behind it and serves its purposes by issuing the necessary legislations so that it can become a fact on the ground regardless of any ethical implications.

Well, I have done my best to present the reader with a brief summary of the activities and events of this international seminar. It was not an easy job as topics and opinions range along an extensive spectrum from right to left; each opinion ready with an arsenal of arguments and justifications. When I started with this summary I had in mind the outline of a plan to do the following:

- 1 - Extract as closely as possible the various opinions from the papers

read and the discussions that followed. However, we were not able to get the religious and secular views on many topics because a number of researchers representing certain religions were not able to attend or failed to send their contributions.

- 2 - In writing down the various opinions, I sincerely and honestly tried to be quite objective and unbiased. But I would not be surprised to know there was an error here or there. After all, I am a human being; and humans are prone to make mistakes. The best are those who admit their mistakes and try to rectify them. If something turns out to be wrong concerning the expression of certain opinions, I assert it is the result of just being human and not of any predetermined or deliberate intention. I hope to receive corrections as soon as possible so that they could be included in the final version of this summary.
- 3 - During the discussions, some extremely controversial issues surfaced such as mixing genetic materials of humans with those of animals, and whether such a practice was legal. The seminar was not able to resolve this matter pending the preparation of accurate scientific information about those experiments: how they were conducted; what were the results? What are the repercussions? When this has been done, jurists would be in a position to form an appropriate legal opinion about such a practice. The Islamic Organization for Medical Sciences (IOMS) will soon embark on an intensive study of this subject. In a previous seminar the IOMS recommended that this technology be banned especially if the relevant experiments were conducted just for fun.
- 4 - An important dimension was missing in this seminar, viz, social justice, although, it was included in the seminar's main topics. Only one researcher, who happened to be secular, spoke about it. But no religious representatives wrote about it with the exception of some fleeting references in some papers. The point is, we are here talking about very advanced technologies that cost a fortune at a time when 800 million people starve to death, and around a billion suffer from lack of drinkable water. What about a measure of justice in distributing resources? Is it fair that expensive

scientific facilities are available only to the rich whereas the majority of the population, especially in countries of limited resources, cannot afford even the least expensive of them?

- 5 - The Islamic views included in this summary are those that were issued by IOMS in the wake of a series of meetings held especially to look into these innovations. The meetings gathered together physicians and specialists in Islamic philosophy, sociology and Islamic jurisprudence. The recommendations had been approved and ratified by various academies of Islamic jurisprudence before they were issued as official fatwas in the Islamic countries.

THE SUMMARY

In a plenary meeting at the beginning of the academic sessions Dr. Hassan Hathout gave the keynote lecture in which he presented an overview of the seminar's main topics. He said that Allah (God) is the infinite Being who originated the creation including planet Earth. Out of Earth, He created life, including human life. In order to replenish Earth and maintain life, individual lives have to come to an end. Man, however, is not only a body, but a combination of body and soul. This soul is a godly element harbored by the body. This is the philosophy of the three divine religions [Judaism, Christianity and Islam]. Human beings are the only autonomous race given knowledge, a concept of good and evil and the freedom to choose (within limits). Hence, it is inevitable that he be held accountable for whatever he does during his life. That is why human life is sacred.

Then, he turned to various topics of the seminar. He spoke of reproduction and reproductive technologies and the extent to which they can be legitimate. He considered them within legitimacy, provided they involve married couples to the exclusion of third party gametes.

Touching upon genetic engineering, He welcomed it if it keeps within the parameters of Islamic Shari'a. Otherwise, it is impermissible. Then he talked about cloning expressing reservations about it as it seems fraught with danger. Nevertheless, its use for purely research purposes can be allowed in the very early stages before body systems are formed, including the nervous system.

Concerning stem cell research on pre-implantation embryos, he said it could be justified if the aim was to save actual patients suffering from serious illness on the basis of the juridical rule of choosing the lesser of two evils.

I. Creation of the Human Being

Christianity:

The Bible depicts the human being as the crown of creation. He is distinct from all other creatures. God has created Man “in His image”, a phrase that aroused a lot of debate. Some interpret it as a reference to mind and will; others see that it means spiritual powers; still others say it means that everything in the universe is subjected to serve Adam and his offspring; hence, man’s responsibility to populate the Earth and thrive in it.

Islam:

God has created man from dry clay, black moulded loam. Man is fashioned in “*the fairest stature*”. What distinguishes a human being from all other creatures is the fact that he is endowed with intellect, will and a craving for knowledge. Man is more than a mere body; he is a combination of body, mind, spirit and soul. Deficiency in one of these constituent elements leads to disturbance of his system as a human being.

Secularism:

In secular literature, God is conceived of as an idea originating in the human mind. Life in this world is the only one acknowledged; that is, secularism does not acknowledge the Hereafter. So, they recommend utmost enjoyment of what life has to offer. To secularists, the end justifies the means; the creation of life is the function of the blind forces of nature. But this is how secularism was in the past.

A new secular school of thought has emerged which makes a point of reviewing the concepts and beliefs of old secularism in light of the new scientific discoveries about the origin of the universe and life. These discoveries have led some secular thinkers to reconsider the

material paradigm and come to terms with the theistic view that life is indeed designed by an intelligent Being.

II. Human Dignity:

Christianity:

Man's dignity begins at the moment of fertilization as ensoulment takes place at this same moment. With this ensoulment, the fertilized egg becomes a person with every right to inviolability as that accorded to a fully grown human being.

Islam:

The Quran has put man's dignity in the following words:

"We have honored the Children of Adam and carried them on land and sea, and provided them with good things, and preferred them greatly over many of those We created" (17:70)

Manifestations of man's dignity are:

- 1 - Ensoulment
- 2 - God has taught Adam the names, all of them. He has given him knowledge that angels know not.
- 3 - God ordered the angels to kneel down and prostrate themselves to Adam.
- 4 - God has made Man His vicegerent on earth and subjected to him everything in the universe.
- 5 - God has granted Man intellect, will, knowledge and love so that he may be distinct from all other creatures

A human being's dignity pivots on his value as a human being. Man should never be treated as an object or a commodity.

Research into the Quran, the Sunna and Islamic philosophy confirms man's dignity. Man has been created in the "*fairest stature*" (Quran: 95:4); this is the material aspect. Man is granted intellect and the competence to think logically and put his thoughts into words; this is the intellectual aspect. The Quran then refers to ensoulment as the most important source from which man's dignity is derived, this is the

spiritual aspect. Many studies have also been interested in the natural disposition man is created with. It is incumbent upon man that he should maintain the earth wherein he lives and desist from corrupting or polluting it. Man's dignity is realized not only by looking after the human race all the time and everywhere, but also by conserving the natural environment by all means and methods. The Quran says:

“Do not do corruption in the land after it has been set right”
(7:56)

Therefore, humans should befriend nature and sympathize with it rather than fight against and destroy it.

The concept of natural disposition mentioned in the Quran identifies that man's peculiarity makes it necessary that people be different both physically and psychologically. Moulding people into one and the same form and type is utterly rejected as it is diametrically opposed to human nature.

The ultimate purpose of man's creation is to worship God as mentioned in the Quran. But worship is not meant to stop at performing religious rituals. Islam has a holistic approach to the concept of worship. Any deed performed by a human being that aims to benefit oneself or others is considered a worship as long as it is done in good faith and within the acceptable limits specified by God.

Each stage of a human being's growth has its special rights and respect. The Islamic Shari'a elaborately details these rights and the moral duties of society concerning each stage. I will single out old age as there are many special juridical rules pertaining to worships when performed by old people. These rules take into account the physical deterioration characteristic of that late stage of man's life. The Quran emphasized this special care and love that must envelope our aging parents:

“Thy Lord has decreed you shall not serve any but Him, and to be good to parents, whether one or both of them attains old age with thee; say not to them 'Fie' neither chide them, but speak unto them words respectful, and lower to them the wing of

humbleness out of mercy and say, 'My Lord, have mercy upon them as they raised me up when I was little.'" (17:23-24)

This verse goes so far in preserving man's dignity as to prohibit even the uttering of the interjection 'fie' which denotes querulous impatience. How does this compare with assault, patricide or matricide?

Man's value and sanctity are also stressed in the Quran:

"Therefore, We prescribed for the children of Israel that whoso slays a soul not to retaliate for a soul slain, nor for corruption done in the land, shall be as if he had slain mankind altogether; and whoso gives life to a soul, shall be as if he had given life to mankind altogether." (5:32)

Islamic Shari'a also considers euthanasia equal to suicide, which is prohibited in Islam. Whoever helps with euthanasia is considered an accomplice in murder or an inciter to it.

The sanctity of man when dead is not less than his sanctity when alive. Now, if aggression against a corpse is prohibited in Islam, there is all the more reason why it should be prohibited against the living. Man is the edifice of God; cursed be he who brings it down.

Secularism:

Whereas all thinkers and theorists representing the divine religions were agreed on the general principles of the dignity, high value and sanctity of human life, the secular side had different views that were not in conformity with the religious perspective.

Secularists hold that dignity means simply that a human being should lead a decent life, i.e. he should be healthy and strong in body, soul and mind. If any of his organs is impaired with adverse effect on him in the form of deteriorating physical, psychological or mental health he'd better die in dignity, according to some participating secularists. This "dignified death" as they call it could take place on the request of the person concerned or on a decision by the Medical Authority. Legislations that actually permit such actions have actually been issued in some countries.

III. What is the Starting Point of Life?

Christianity:

According to the Catholic Church and some followers of the Protestant Church, life begins at the moment of egg fertilization. The embryo is fully entitled to all human rights because it has a genetic map that differs from the parents' genomes. Besides, God has breathed of his spirit into it.

The Protestant and Anglican Churches, however, have their reservations about the Catholic view. They hold that life begins once independent life is possible. At this point, the unborn baby should be regarded as a person made into the image of God. Before this, the embryo is only a potential human being and must be treated with care and respect.

The Jewish Law (Halakha):

An embryo less than forty days old is not regarded a person with the status and sanctity of a human being.

Islam:

There is a division of opinion. Life begins at the moment of fertilization, according to some jurists. Others say that it begins when the fertilized egg is attached to the wall of the uterus. The dominant view is that life begins with ensoulment which occurs at the 40th day of conception, according to an interpretation of the Hadith on the "forties", while others put it at 120 days from conception. The consensus of opinions is that following fertilization the embryo becomes entitled to care and respect that progressively develop to full sanctity.

IV. Reproductive Technologies

The Test-Tube Baby:

The Catholic Church completely rejects this technology for the following reasons:

- 1 - This method of reproduction does not conform to the time-honored normal way.
- 2 - Insemination is impermissible for the same reason.
- 3 - The procedure of this technology involves the fertilization of a large number of ovules to produce many embryos from which only two or three are implanted in the patient's uterus. This means that a surplus of embryos is left behind and must be discarded. This renders the whole process unacceptable as it allows a baby or two to develop and get born at the cost of other babies.

Nevertheless, some followers of the Catholic Church view the whole thing from another angle:

- 1 - Reproduction is the most important purpose of marriage. This is in full conformity to the biblical doctrines which urge Christians to get married and have children in order to populate the Earth.
- 2 - The Bible commands Christians to seek treatment from diseases. Isn't infertility a disease that requires treatment? Using reproductive technology is only one way of doing just that.
- 3 - Infertility is an affliction suffered by the infertile. It is our moral duty to make them happy.

Hence, this group of Catholics finds nothing wrong with the use of IVF (test-tube-baby technology).

On the matter of extramarital pregnancy, the Catholic Church say that if a girl conceives extramaritally, it constitutes an individual situation which is regulated by an ethical principle and not by the personal circumstances of this girl. What is at stake here is a new life we have no right to terminate in order to save the girl's reputation. In the mean time, we do not put the girl on trial. On the contrary we should extend to her special care and show full understanding when dealing with her. Therefore, in saying that extramarital pregnancy is wrong we are in fact condemning the incident, not the wrong-doer.

Islamic Shari'a condemns pregnancy outside legal marriage and categorizes it as a case of "adultery". The penalty is differently determined according to whether the adultress is married or a virgin

young girl. However, the born baby is entitled to lineage. The punishment of the guilty mother is deferred until she gives birth and completes the appropriate nursing period.

The Protestant Church allows IVF technology on condition that no third party (sperm, ovule or uterus) is involved. A faction of this church's followers had their reservations on this matter and was in agreement with the view of the Catholic Church. [The condition concerning exclusion of third party gametes is still under consideration as will be shown below]

The Anglican Church:

The Anglicans say that the Fall of Adam and Eve means that some of their children will be created with diseases that can be cured. Infertility is one of these diseases. Therefore, the Anglican Church accepts reproductive technology with the proviso that it be used by legally married couples. No third party should be involved.

The Jewish Law:

The Bible considers having a baby through IVF technology unacceptable because it is not the natural way of begetting offspring. Judaism does not postulate such natural laws. Consequently, it holds that this technology should only be judged by the extent to which it may violate the Torah prohibitions. In the absence of any explicit prohibition of such a technology, humans are at liberty to make use of knowledge in their endeavor to overcome the hurdles of nature.

The Jewish law is bent on supporting any method that proves effective in curing people from their diseases even if it deviates in varying degrees from the ideal situation. Human life is sacred; hence, elimination of disease is an ordinance of God. On the other hand, there are those who find that the test-tube baby technology is incompatible with ethical principles although there is nothing against it in the Jewish law if it is the last resort in seeking offspring.

Opinions are divided on insemination. According to one point of view, it is impermissible as it involves the destruction of the first seed.

Others find it acceptable as it will be used in fertilizing eggs and producing embryos.

Islam:

Muslim jurists are agreed on allowing the use of IVF technology if it does not involve third party gametes and if it takes place while the marriage contract is valid. They view this technology as a means of treating infertility and not as an arrogant interference into the acts of God. As everything is predestined, success as well as failure in curing infertility is a manifestation of God's will.

V. Surplus Embryos**Catholic Church:**

In principle, the Catholic Church prohibits external fertilization. Therefore, natural fertilization that takes place inside the uterus does not leave behind any surplus embryos. In other words, in terms of Catholic doctrines, the problem does not exist in the first place.

Protestant Church:

Since the Protestant Church accepts IVF technology, their stand on surplus embryos is to permit their use in research or their donation to infertile couples who want to have children on the only condition that no payment in cash or in kind should be made in return.

The Jewish Law:

In the opinion of some Jewish jurists, the destruction of surplus embryos is unacceptable. Others find nothing wrong with this if it is done before the embryo reaches its fortieth day. The whole problem would not exist if one ovule only was fertilized.

Islam:

In the third seminar held in 1987, IOMS opted to go along with the majority opinion on surplus embryos which legalizes their use for medical purposes, provided it is so regulated as to guard against

mixing lineage and undermining human dignity. The wording of the recommendation approved in that seminar is as follows:

“Concerning fertilized ovules, the ideal situation is that there should not be any surplus embryos. This can be achieved if biologists carry on researching feasible methods of keeping unfertilized ovules in a way that would make it possible to fertilize them at a later stage. But if a surplus obtains, the majority opinion is that these embryos have no legal sanctity whatsoever before they are implanted into the uterus. Consequently, getting rid of them is quite permissible.

According to a different point of view, the fertilized ovule is the first stage in the life of a human being who is honored by God (SWT). Of the options of destroying it, utilizing it for scientific research or letting it to die naturally, the last one seems to be the least condemned as it does not constitute deliberate aggression against life.

There was a unanimous agreement on emphasizing the fifth recommendation (concerning surrogacy) issued by the seminar on “Reproduction from an Islamic Perspective” which was held in 1983. According to that recommendation, surrogacy is totally prohibited. It was also recommended that all possible precautionary measures should be taken against using a fertilized egg in illegal pregnancy. There was also emphasis on the fourth recommendation issued by the same seminar that warned against experiments meant to change God’s decreed nature of things and creatures. This is the worst form of exploiting science for evil and corrupt purposes. That seminar had recommended setting down certain regulations for scientific experiments.

But the question that must be addressed is this: what if a fertilized egg was implanted by mistake in the wrong uterus? Is the right couple (who contributed the germ cells) entitled to claim custody of their baby? If not, is this baby to inherit his/her foster mother in addition to his/her biological parents?

VI. Surrogacy

Catholic Church:

The church was totally against it.

Protestant Church:

The Church allowed the technology on condition that both sperm and ovule should be contributed by the couple concerned, i.e. without involvement of a third party. This condition, however, can be reconsidered under specifiable circumstances. If the mother who contributes the ovule is in no position to conceive or give birth, owing to certain health disorders or because she has no uterus, the fertilized egg may be implanted in the uterus of a surrogate, provided she does not get paid for the service and agrees to sign a contract waiving the right to claim custody of the born baby. This means that in this case the mother of the baby is the woman who has contributed the ovule, which contravenes both Jewish and Islamic Laws.

The Jewish Law:

Using a woman to be a surrogate mother and then forcing the baby she has carried and given birth to, with all the suffering entailed, out of her custody in return for a payment is a blatant contempt of motherhood and a grave insult to human dignity.

Who is the Mother?

According to Jewish Law, the mother is the woman in whose uterus the fertilized egg has been implanted. The citizenship of the born baby is determined by that of the mother who has carried and given birth to it.

There are those who believe that the mother is the contributor of the fertilized egg, since it is prohibited to destroy the life of the embryo from the moment of fertilization. The baby's new citizenship is determined at the moment the wife's egg is fertilized by the husband's sperm.

Islam:

Surrogacy is prohibited in Islam. If a baby is born by a surrogate mother, the ruling is that its mother is the one who carried and gave birth to it, in application of the verse:

“... their mothers are only those who gave them birth.” (58:2)

VII. Genetic Engineering

Christianity:

The Protestant Church is not opposed to the practice of seeking medical help for restoration of complete health. However, the church is against attempts to change God’s creation. The church is fully aware of the difficulty of drawing the demarcation line between restoration and change: what is seen as restoration by one person may be interpreted as change by another. Color blindness and thalassaemia are cited as evidence of such a confusing situation: the former is not a serious disease; rather it is a problem one can live with. But the latter is fatal and must be treated without delay. A color blind person, however, may take this impairment as a very serious matter because it makes him ineligible, for instance, to certain vacancies. So, from his point of view, color blindness is as serious as the next disease. Personal views and interpretations about restoration and change vary from one person to another in the same way.

The majority of the Orthodox Church followers are full of apprehensions with regard to genetic engineering manipulations that aim to introduce changes into the genetic structure of embryos. To them, it verges on man arrogating to himself the work of God. The matter might even slip into even greater risks. Such changes may end up causing more damage to the embryo than what is already there. Therefore, the church is strictly opposed to any engineering of the embryo’s genome because it is considered a violation of something sacred in human nature (this is one of the basic principles underlying the stance of the Orthodox Church and that of some Protestant Church followers on such innovations).

Some followers of the Orthodox Church are quite permissive about

genetic engineering. They consider it an inevitable step in the advancement of science. Not only do they allow changes in the genes of somatic cells, they also approve of interfering with germ cells. On the other hand, the Catholic Church bans genetic engineering but encourages genetic therapy

The Jewish Law:

Consulting a variety of sources and contexts, it has turned out that the Jewish law insists that modern technologies, particularly those relating to reproduction, cannot be decisively permitted or prohibited; i.e. the same ruling cannot be applied to all of them. It is necessary to look into each case separately to evaluate it and analyze the results of the method used in applying a particular technology. Both the technology and the method followed in applying it should be allowed in order for them to be considered appropriate and approved by the Jewish law.

The Jewish law is comfortable with the view that Man is the custodian and steward of Nature. Genetic engineering, like any other approach to medical treatment, looks unobjectionable to Jewish law as long as it is utilized for the benefit of mankind.

Applications to Animals and Plants:

When God created the main simple and complex laws of nature during the six days, there was still a place for more “subcreation”. Man has created hybrid animals and plants that did not exist in nature before. But we should never overlook the fact that these creative activities take place within nature; i.e. using things that already exist in nature, and not outside it. But some followers of Judaism believe that Torah doctrines prohibit the introduction of the genes of a species into the body of another species because it disrupts procreation in the resulting hybrid. This amounts to depriving it of achieving the divine purpose of multiplying

Some Jews consider that producing a hybrid animal constitutes a plain violation of biblical doctrine. But this should not be taken to mean that the activity is blemished or unethical. It is only that Jews

are prohibited by the Jewish law from getting involved in activities of this kind.

We should not lend any credence to the wide spread accusation of man playing God or interfering with the acts of God. Furthermore, there is nothing in the Jewish law against tampering with nature and creation.

The main concern of genetic engineering is to make people better than they are, just like treating disease. Inasmuch as this technology seeks to introduce noticeable changes in nature, it runs counter to all prevalent trends in American laws and ethical orientation. The Catholic Church, likewise, stands firmly against these attempts because it never wavers in curbing scientific ambition to change creation.

The Jewish law does not object to the use of somatic cells in the human body or in embryos. Neither is it against change through germ cells. This is just like the situation where a diabetic is either injected with insulin or with cells that enhance the secretion of insulin. Thus, the genetic structure in the human body gets improved.

The Jewish law also allows a couple to have a genetically engineered baby if they have another child who needs bone marrow transplantation. Pre-implantation genetic diagnosis for HLA matching (immunologic compatibility) permits a pregnancy to be planned where the baby will be a potential donor for an affected sibling who needs bone marrow transplantation. The genetic analysis selects among the healthy embryos those that will match for the affected sibling. Thus the medical team can be 100% sure that the two children will be immunologically compatible and the transplant will not be rejected.

What is proscribed by the Jewish law is the mating of two different species. But gene therapy whereby a defective gene is replaced by another is not impermissible.

Secularism:

A group of seculars see that man has the right to interfere in anything and change everything. A person is entitled to choose what suits him/her most to live with. A father, for instance, may want to have a baby with specific colors for the skin and eyes. From a secular

point of view, there is nothing whatsoever wrong with that. They grant that genetic engineering may undermine man's dignity, but insist that its technologies should be made accessible to everyone who wants to make use of them. It is not acceptable that society should insist that every child be born with the same genetic constitution of his/her parents and grandparents; it is a sort of violation of human rights.

Islam:

Genetic engineering is allowed to be utilized for prophylactic or therapeutic purposes whether through altering genes or injecting them into a patient's cells. A gene from a certain being can also be inserted into the body of another with a view to obtaining a large amount of this gene's secretion for therapeutic purposes. But genetic engineering technologies applied to germ cells should be banned as they may run the risk of developing into illegal practices.

The seminar underscores the necessity for governments to make genetic engineering services accessible to citizens of limited income as they cannot afford the progressively increasing costs of such services.

Islamic jurists are against the use of genetic engineering for evil or belligerent purposes. Strictly prohibited are attempts to mix genes of different species in order to produce freaks, either for the perverted pleasure of doing such a thing or for sheer scientific curiosity.

Islamic jurists are also against the use of genetic engineering as a policy of eugenics through the manipulation of the genetic structure of individuals. Any tampering with the genotype of a person or interference with his/her legal qualification for responsibility is juridically unacceptable. The jurists also warn against the monopoly of scientific advancement by a minority whose greatest objective is to make the highest profits, which leaves the poor with meager or no opportunities to benefit from scientific achievements. In this respect, the jurists hail and strongly support plans by the UN to set up research centers for genetic engineering in the developing countries. The plans include training and qualifying local cadres of young scientists and supplying the centers with the necessary facilities and equipment.

The Islamic jurists are agreed that nothing legal stands in the way

of using genetic engineering technologies in the field of agriculture and animal breeding. But they are apprehensive about recent warnings of potential, long-term dangers of such applications that threaten man, animal, plant or environment. So, they emphasize the necessity for the food industry of animal or plant sources to keep the public adequately informed about which products are genetically engineered and which are a hundred percent natural. This way, consumers will be aware of what exactly they are eating. The seminar calls upon nations to be alert and watch for such information. The best thing to do in this regard is to implement the resolutions and recommendations of American Food & Drug Administration (FDA), the World Health Organization (WHO), and the Food & Agriculture Organization (FAO).

VIII. Pre-implantation Genetic Diagnosis (PGD)

This controversial issue was the subject of long and deep discussions that took a large portion of the seminar's time due to wide differences of opinion. The technology is used to screen the embryos produced in vitro for sex determination and detection of mutant (faulty) genes. Pre-natal genetic diagnosis is used with natural pregnancies. The question put forward for discussion was: what are the views of divine religions and secular representatives about the issue of sex selection?

Christianity:

As previously mention, the Orthodox Church does not acknowledge the IVF technology. As for screening, the church has its reservations. Although genetic tests are not in contradiction of moral principles, they are not accurate enough, which may lead to wrong decisions. Now, as a result of screening, only the embryos without genetic defects are transferred for implantation in the uterus. The defective embryos are then discarded. A question was raised: Is it ethical to discard the defective embryos?

Prenatal genetic diagnosis could be hazardous to the embryo, either because of the method used or because the tests themselves may lead

to embryonic deformities. This is severely condemned by the Orthodox Church.

Prenatal genetic diagnosis may result in discovering that the fetus is affected by an abnormality which is incurable to date. Such a contingency is certain to throw the whole family into confusion and depression before the birth is due. It might even drive the family to resort to abortion, which is not allowed by the Orthodox Church. For these reasons, the church does not sanction prenatal genetic diagnosis.

For the same reasons, the Catholic Church is opposed to PGD on the premise that we should not reject a human being because he/she turns out to be different from what we have expected.

The church is also adamant in banning research on embryos inside or outside the uterus even if science and society stand to gain much from such research.

The Jewish law:

As a public policy, the Jewish tradition considers PGD an exceptional matter in view of its close link to abortion, although the Jewish law does not look upon pre-embryonic development as human life. At any rate, the use of PGD is left to the discretion of the couple in their capacity as guardians of the embryo and the parents who want to forestall having a baby with a serious genetic disorder. If the method applied is such that the baby may be put in harm's way, even if the parents believe in good faith that it will not, the practice is considered in violation of the Jewish law and can be blocked by any Jewish court.

Islam:

PGD meant to detect genetic abnormalities is permissible in Islam taking into account the importance of applying ethical criteria approved by the committees on the Ethics of Medical Professions. The members of these committees are specialized in medicine, biology and Islamic jurisprudence. The criteria include desisting from illegal fertilization methods.

PGD should be used for non-trivial reasons. A couple may have a

known risk of serious genetic disorders such as frequent abortions or embryos affected by genetic or congenital abnormalities. The medical team should strike a balance between the risk of harming the embryo during the process of diagnosis and the extent to which the disease or disorder is sufficiently serious to warrant procedures to avoid it partially or completely.

Concerning the eggs fertilized in the laboratories of assisted reproduction centers:

- a - The fertilized eggs are not to be considered human, with all the rights entailed, until they are implanted in the mother's uterus.
- b - Research on these embryos is allowed, within the above-mentioned legal regulations, if the purpose is to diagnose and study genetic diseases and abnormalities. The same applies to the surplus embryos left over at the IVF centers.
- c - The medical team can decide not to transfer to the mother's uterus any fertilized eggs if they are certain that these eggs are affected by one or more genetic diseases.
- d - There is nothing against gene therapy involving the substitution of healthy genes for mutant (faulty) ones in the embryo to prevent affection by specific genetic diseases, provided good genes are not manipulated to produce a designer baby with select characteristics such as height and color of hair, skin, eyes, etc.
- e - PGD used for sex determination is not prohibited unless the purpose is sex selection without a substantial medical reason. The consensus on sex selection was explicit rejection especially if the practice is adopted on a national scale as will be detailed below.

The Secular Point of View:

The embryo is just a ball of indistinguishable living cells. Embryos can thus be screened to choose the best for implantation into the uterus. It stands to logic that we should not bring harm to ourselves by having babies we have ascertained to be affected by incurable genetic diseases.

But this matter is prone to breed certain situations which are not

obvious for all to see at the present time. Systematic elimination of faulty genes may lead to the emergence of societies with a new type of racism that can be called “health racism” which will discriminate against a minority of people with genetic or congenital disorders.

In a society where only healthy embryos are transferred for implantation into the uterus, there is the bleak possibility of there being no moral duties towards the disabled or at least towards the embryos affected by genetic disorders.

The technology of embryo screening which allows the luxury of choice will also encourage sex selection with the concomitant increase in abortion, as is evident in India and China, when the coming baby turns out to be female.

Nevertheless, the majority of participants approved utilizing PGD for non-trivial reasons - in families with a known risk of having babies who would most likely be affected by serious genetic diseases, and in societies where specific genetic diseases are wide-spread. This technology can also be invaluable for couples planning to get married. Premarital medical counseling can be the magic wand in warding off future reproductive problems.

IX. Sex Selection

This technology can only be used when fertilization takes place in the laboratory (in vitro). If conception occurs naturally, there is no place for applying the screening procedure as the embryo already exists in the mother’s womb.

PGD helps the medical team to identify the sex of the coming baby. This is essential for couples at risk of having children with X-linked diseases. The embryos produced by IVF technology are screened. Only embryos with the desired sex are transferred into the uterus.

The Jewish Law:

It prohibits sex selection in cases where the prospective parents are not at risk of having babies with X-linked diseases. Any other reason for sex selection is considered too trivial to entail PGD. This

technology is also allowed by the Jewish law to be used in the following cases:

- 1 - If one of the parents has an X-linked disease and the couple are keen to avoid having a baby with the sex prone to that disease.
- 2 - To avoid having a baby with a late-onset disease.
- 3 - If medical tests confirm that the couple are carriers of a certain mutant gene, such as Tay-Sachs disease, which is prevalent among the Jews. The risk that such a couple may have a baby affected by this disease is as high as 100%. In this case, the medical team should perform a prenatal genetic diagnosis. If the fetus is found to have the disease, abortion is the only way out. The couple are then advised to refrain from further attempts at reproduction. If only one or the other of the married couple carries the faulty gene, the medical team should inform the couple that the risk of having affected children is 1: 3600. The parents should also be advised to get their children medically tested even if they are not affected by the disease.

Abortion:

According to the Jewish law, abortion is unjustified by fear of having babies with congenital abnormalities or mental disabilities. There is a consensus among the Rabbis on not allowing abortion after the 40th day into pregnancy unless this pregnancy jeopardizes the mother's life. Abortion because of sex selection is categorically impermissible.

Sex Selection:

In the Jewish doctrine, there are many arguments against practicing sex selection on a wide scale. If this takes place for one reason or another, society should insist on taking the necessary measures to guarantee a balanced male-to-female ratio among born babies.

Islamic Attitude towards Sex Selection:

All juridical views are agreed that sex selection on a national scale is unacceptable. At individual level, however, opinions were divided. A

group of participants said there was nothing against attempts through available medical means to gratify a couple's legitimate preference for a particular gender. Other jurists were of the opinion that permitting this technology unreservedly would eventually lead to imbalance of the ratio of males to females.

As for sex selection prompted by fear of having a baby with X-linked disease, the consensus was to permit it on the basis of the juridical rule of choosing the lesser of two evils.

X. Research on Embryos

The Orthodox Church:

The matter was rejected in principle as the church prohibits in vitro fertilization, as was previously mentioned. Research on embryos produced by natural pregnancies is also completely prohibited even if it has promising results for scientific advancement or tangible benefits for the whole of society.

The Protestant Church:

So far, the church has not approved of such research. But debate is going on concerning research on surplus embryos at IVF centers or embryos of natural fertilization. The church is inclined to leave it to the owners of surplus embryos to decide on this matter.

On the other hand, the church permits donating surplus embryos to infertile couples wishing to have children, on condition that no payment in cash or in kind is made in return for that.

The Islamic View:

The participating jurists allowed research on surplus embryos if the objective is the worthy one of trying to find a treatment for incurable diseases. Meanwhile, Islam strictly prohibits donating embryos to be implanted in uteri other than that of the contributing mother.

XI. Stem Cells and Cloning

The extensive and exhaustive discussions on that seemingly controversial issue ended up with a sharp division of opinion. Whereas a

group of participants were optimistic about the unprecedented methods of treatment that stem cells will hopefully make feasible especially in cases of problems pertaining to some organs such as the heart, the kidneys, the pancreas, etc., another group were unrelentingly opposed to this technology. They considered it unacceptable in terms of its methodology as well as its results. What is more, they also considered it a form of interfering in God's will.

Stem cells can be obtained either from embryos or from adult persons. The latter source has been the subject of intensive research, but the results do not seem to be promising due to the paucity of cells that can be secured from this source in addition to the difficulty of getting them.

Stem cells reside in the spinal marrow, blood and spermatozoa. They are distinct from other cells in that they produce nothing but blood, i.e. they do not produce other tissues. But stem cells residing in the spermatozoa produce only sperm.

Embryonic stem cells are the focus of researchers' interest because of their great potentials in terms of the fast rate of their division. Besides, they have the advantage over adult stem cells that their immune system has not grown yet. So, they are not rejected by the recipient body.

For the use of stem cells to work, three conditions must be met:

- 1 - The cells must be firmly entrenched in the host tissues.
- 2 - They must become of the same tissue type.
- 3 - They must renew these tissues.

The most controversial issue with regard to stem cell research was the source from which they can be obtained. The most important of these sources are:

- 1 - Embryonic cells at their preliminary stage of growth. This is a very rich source.
- 2 - Embryos resulting from abortion which may be deliberate, or the result of pregnancy problems, or spontaneous.
- 3 - The umbilical cord blood.

Discussions centered around which of these sources are the most appropriate. The Orthodox Church does not approve in principle of using embryos produced in vitro for this purpose as the whole technology is impermissible in the first place. The church was also against deliberate abortion unless it is carried out under the pressing need to rescue the mother from a potential risk if the pregnancy continues to term. According to this church, the sanctity of the embryo begins at the moment of fertilization.

Manipulating human genes may have the laudable purpose of improving man's health, but it does risk violating something sacred in human nature. Orthodox theologians are apprehensive that such technologies might put it in the scientist's head that he can play God and brag about improving on Nature. We have to disillusion the whole society: we cannot improve ourselves through genetic technologies, especially cloning and stem-cell treatments; we ought to savor the value of everything granted to us by nature. And that includes our shortcomings.

The same meaning came in a Presidential Statement of Policy issued on August 9, 2001 in which doing research on stem cells was declared acceptable, providing it continued to be on the same areas with which it had actually started. This statement was issued following a meeting between President George W. Bush and the late Pope John Paul II.

Some Catholics have a utilitarian view of stem-cell research. They not only fully support the technology for the benefits it could render to thousands of patients, they even condemn those who oppose it and criticize them for lagging behind in supporting it. They go so far as to blame the death of those who could have been cured on such opposition.

The Jewish Law:

"To be or not to be" is a well-established principle in Judaism. It means that Man must assist God in reforming and changing to the better a dilapidated world. This provides a theological basis for supporting scientific research in general and medical research in

particular. Jewish theology holds that God is not through yet with the process of creation. In order to perceive God's will, we must look forward to the future, never backward to the past.

Stem Cells

The Jewish law, as mentioned before, does not consider an embryo under 40 days of age as a person. So, it does not oppose using such an embryo as a source of stem cells for scientific research. This is not looked upon as waste of life or even abortion. Therefore, research on stem cells must be fully supported. This decision is confined now to the stem cells taken from the embryos produced by IVF, on the assumption that they are available in the amount required for sustained research. In case the amount dwindles, the decision is to be reviewed in a bid to see if there are other sources that could be considered acceptable.

Concerning abortion, the Jewish law permits it before the 40th day of the embryo's development. An embryo of 40 days and more is considered a human being deserving the sanctity commensurate with that status. Hence, abortion at such a stage of pregnancy is prohibited unless it is necessitated by fear for the mother's health.

Islamic Stand on Stem Cells:

Stem cells are the original, primitive cells at the pre-differentiated stage in the embryo's development. They have two important abilities: they can multiply easily and fast, and they can differentiate, that is, take a course towards being organ cells such as brain cells, heart muscle cells, kidney cells, etc.

Scientists have recently managed to identify and isolate these cells. The next step is to speed up their multiplication for the purpose of using them in the treatment of certain diseases that were previously thought to be defying cure. Scientists are increasingly hopeful that stem cells will be quite effective in the treatment of congenital disorders and some other diseases such as cancer, millituria, kidney failure, hepatic failure, etc. Stem cells can be obtained from several sources:

- 1 - The human embryo at an early stage of development (the blastoma stage) known as the differentiating stage. The surplus embryos at the IVF laboratories are the main source of these cells. An embryo produced by the fusion of a donor sperm with a donor egg can also serve the same purpose.
- 2 - Embryos resulting from abortion at any stage of pregnancy.
- 3 - The umbilical cord blood.
- 4 - Children and adults.
- 5 - Therapeutic cloning: a somatic cell is taken from an adult; the nucleus is removed and transferred to an egg from which the nucleus has been extracted. The resulting embryo becomes the source of stem cells.

In this respect, the resolution issued by the Academy of Jurisprudence at Jeddah included the following clauses:

First: Researchers are allowed to obtain stem cells, multiply and use them for therapeutic purposes or for conducting permissible scientific research if the sources of these cells are approved such as:

- 1 - Adults, provided they give their informed consent and are reassured that there is no risk involved.
- 2 - Children, if the parents' or guardians' informed consent is secured and the process is carried out for a legitimate cause. There should be guarantees that the children will not be put in harm's way.
- 3 - The umbilical cord, upon securing the consent of the couple concerned.
- 4 - Embryos resulting from inadvertent or medically necessitated abortions. In the latter case, the reason must strongly be based on justifiable diagnosis. Moreover, the couple's consent must be secured. The resolution issued by the Jeddah-based Academy of Islamic Jurisprudence in its 12th session contains all the cases in which abortion is legally permitted.
- 5 - Surplus embryos left over from the process of artificial fertilization if available and if the contributing couples are willing to

donate them. It should be reiterated here that these embryos must never be implanted into the wrong uteri.

Secondly: Stem cells are not to be collected and utilized if the source is unacceptable. Examples of unacceptable sources are:

- 1 - Embryos or fetuses resulting from deliberate abortions which are medically unjustifiable.
- 2 - Embryos resulting from deliberate fertilization of a donor egg with a donor sperm.
- 3 - Reproductive cloning.

Abortion

Abortion is the expulsion of a fetus from the womb before it is able to survive. It could be spontaneous, resulting from miscarriage, or deliberately induced. Jurists often call the latter case an act of dropping, ridding, throwing away or repudiating.

The IOMS Stand on Abortion and its Legal Reasons:

In its first seminar on Reproduction which was held in 1983, IOMS adopted the following juridical view concerning abortion:

“Abortion is permissible before ensoulment, provided it is urgently required for justifiable medical reasons.” The adoption of this view was emphasized in its second on “Human Life: its Beginning and End” held in 1985. The fourth seminar on “Health Policy: Ethics and Values” held in 1988 did not issue any recommendations, although researches on abortion were intensively reviewed. Here is an excerpt from the report on the 1983 seminar on “Reproduction”:

“The seminar has reviewed juridical antecedents and found unanimity of opinion on prohibiting abortion after ensoulment, that is, after four months. The review also showed that opinions were divided on abortion before ensoulment. Some jurists said it was utterly impermissible; others saw it was only reprehensible. A group of jurists prohibited abortion after 40 days from conception; others allowed it before that with difference of opinion about the necessity of there being a justifiable excuse.

Consulting contemporary data on medical facts included in the reviewed researches, the seminar came to the following conclusions:

“The embryo is a human life since conception. This life is fully entitled to respect in all of its phases, especially after ensoulment. It should not be exposed to an act of aggression such as deliberately induced abortion unless it is medically called for. Some participants were of the different opinion that abortion could be allowed before the completion of the 40-day period, especially when called for by an urgent excuse.”

An excerpt from the report on the 1985 seminar on “Human Life” reads as follows:

“When pregnancy stabilizes, it is entitled to respect as agreed and becomes the subject of certain juridical rules. If the embryo develops to the phase of ensoulment (after 40 days in the opinion of some jurists, or 120 days in the opinion of others) its sanctity becomes greater with other juridical rules applying to it, most important of which are those relating to abortion expressed in the 7th paragraph of the recommendations of the seminar on Reproduction.

The Secular Views on Stem-cell Research:

Researchers are at liberty to utilize surplus embryos as well as aborted fetuses before the formation of the spinal marrow, whether the abortion is deliberately induced or consented to by the married couple. Embryos or fetuses of miscarriage are naturally the more acceptable source. In all cases, no payments should be made.

Some questions, however, went without satisfactory answers. Among these were the following:

- 1 - In terms of justice, will donors of embryos and fetuses be beneficiaries of returns on such research?
- 2 - How will the Third World peoples benefit from these researches, and how much? What are the scientific and financial returns on these researches?
- 3 - If stem-cell research creates a market for women's ovules, how far will women's health be adversely affected by over-ovulation?

- 4 - Will the Third World women be exploited as mass “ovulators” for the First World’s biologists?
- 5 - Will scientific research end up being an area of economic exploitation?

XII. Cloning

In this technology, the process of fertilization through the fusion of egg and sperm is replaced by the process of nuclear transfer. The nucleus of the ovum is removed. It is then replaced by a nucleus from a somatic cell taken from another body. This was the process applied in producing the first sheep clone “Dolly” by the English biologist Ian Walmet in 1997.

Cloning is of two types: therapeutic and reproductive. In the former, stem cells are collected to multiply and be utilized in producing tissues of various organs. Alternatively, they may be injected into certain organs to produce new tissues which replace old, damaged ones. In the latter, the technology aims to create a human clone using the same process applied in the case of the first sheep clone “Dolly” and subsequent other creatures.

Reproductive cloning has been condemned and rejected by all divine religions because it constitutes a grave violation of man’s dignity. Children produced through this technology have not been consulted about this. They do not know exactly who they are or what relations they have to the other members of the family. On top of being socially stigmatized, they may permanently suffer from certain deformities, attributes and diseases brought about by this technology.

The secular view:

Reproductive cloning should be banned to safeguard human dignity. The ban, however, should not cover research on animals on the hope that it might lead to new ways of treating incurable diseases.

The Jewish Law:

There are no theological problems concerning reproductive cloning

of animals. This means that the Jewish law approves of asexual procreation.

But this does not apply to human cloning. It is only allowed under some highly pressing need, such as a child with cancer who needs an identical twin to save him. The Jewish law warmly welcomes therapeutic cloning for the wonderful solutions it will offer to many hopeless cases.

The Islamic View:

Islamic jurists were unanimous in completely rejecting reproductive cloning. The above delineation of the Islamic stand on stem-cell research adequately covers the Islamic view on stem-cell cloning.

The participating jurists were all for animal and plant cloning, as it will provide man with greater supplies of meat, milk, vegetables and fruit. The only reservation is to make sure that the technology does not render these edible stuffs hazardous to man's health as new cloned fruits, for instance, might give rise to certain diseases such as allergy, or affect man's health in unpredictable ways.

XIII. Mixing the Genes of Different Species

The process of hybridization is as old as man's use of plants. He would mix some plants with others to produce certain new hybrid plants. But after the breakthrough in knowledge about the structure and characteristics of genes, a new technology has emerged whereby some animal genes are transferred to plants to let them have new properties such as the ability to resist certain kinds of insect or extremely low degrees of temperature. Some researchers are having it in mind to study the impact of certain medications on the brain cells. Certain genes are also injected into the bodies of mice to see how their behavior would change and the nature of such changes. There is even a trend now towards mixing animal genes of different species to come up with animals that have new characteristics and shapes never known before.

The Christian View:

Christians are against such practices because God has created these species with distinct features and characteristics for each of them.

As for Judaism and secularism, their representatives did not discuss the matter or express their attitudes towards these researches.

The Juridical Point of View and its Legal Reasons Adopted by IOMS in its 12th Seminar in 1998:

The IOMS approves the use of genetic engineering in the area of plants and animals, but the following should be taken into account:

- 1 - Genetic engineering manipulations of genes in animals and plants could lead to unknown and unpredictable sorts of harm to man and environment in the long run.
- 2 - Consumers must be transparently informed about the food stuffs they buy; whether they are natural or genetically engineered.
- 3 - We should implement the recommendations about food stuffs issued by the US Food and Drug Administration, the World Health Organization and the Food & Agriculture Organization. The seminar called for establishing NGOs for the protection and enlightenment of consumers.

The need may arise for holding a special seminar on the potential dangers of the genetic engineering applications as there are no regulations in the scientific community to prevent extreme cases of toying with the genes of animals to satisfy the idiosyncratic curiosity of certain researchers.

Human life as well as the environment may also be jeopardized as some freaks with manipulated and mixed gene structure may carry an alien, unexplored gene.

In the final session of the seminar, the participants expressed their gratitude to IOMS and the other collaborating organizations. They promised to promptly contribute to any future seminars that make it possible for scientists and scholars across the world to meet, listen to each other and exchange views in a friendly and auspicious atmosphere. Then, this 2006 seminar issued its concluding statement.

PLENARY LECTURE

**HUMAN GENETIC AND
REPRODUCTIVE TECHNOLOGIES:
COMPARING RELIGIOUS AND
SECULAR PERSPECTIVE -
AN ISLAMIC PERSPECTIVE**

Dr. Hassan Hathout,

U.S.A.

Plenary Lecture
Human Genetic and Reproductive Technologies:
Comparing Religious and Secular Perspective
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Prelude

Islam is the third of the monotheistic Abrahamic religions viz. Judaism, Christianity, and Islam. Rather than a separate religion, Islam considers itself to be the continuum and culmination of God's word sent through a long series of messengers and prophets, some of whom are mentioned by name in the Old Testament and the Quran. The Quran says: "The same religion He (God) enjoined upon you as the one He enjoined upon Noah, and that We sent by inspiration to you (Muhammad) and that We enjoined upon Abraham, Moses, and Jesus that you should steadfastly uphold the faith and break not you unity therein" (42:13). If Islam is the faith, the word Muslim refers to the person who believes in it and the Quran describes Abraham and all prophets as Muslim. The word Muslim means a surrenderer (to the will of God). It derives from the root "salam", which means peace and is one of the beautiful attributes of God.

Patriarch Abraham was the common father of Moses and Jesus (through Isaac) and Muhammad (through Ishmael). Abraham was the first to find God through an intellectual process even before he was assigned as prophet. His mind rejected that the idols, which people created, could be the ultimate Creators. He considered bigger and bigger elements of nature but found that even the largest of them, the sun, obeyed delicate and precise rules and wondered who set those rules. He came to the conclusion that there must be a primary Creator not preceded by another creator to create Him, in other words, whose age is infinity. The idea of infinity did not put him off, for he perceived that the human being, being a finite being, cannot know what infinity is (modern science still does not know what infinity is

and yet recognizes it and refers to it by a special ∞ , and this in our math classes and not religion classes). This ultimate God is One for if more than one, then none can be infinite. This one God has a name in various languages (not the English language, where we make do by using the uppercase G when writing the word God). For linguistic limitations, we refer to God using the pronoun He but this does not bear any gender connotations.

Humanity

Those amongst us who believe in God also believe that He created the Universe. Within the Universe is the Planet Earth. Planet Earth entails more than the visible material component that we feel and touch. There are other items that are not material, but have been known and even measured by special methods and instruments devised by the human brain. Examples of these are gravity, electricity, magnetism, light, sound, etc., etc....This list is probably far from complete and scientific progress is striving day by day to reduce our area of ignorance and increase our repository of knowledge. Mankind is endowed with an intrinsic avidity to pursue knowledge and, according to the Quran, the pursuit of knowledge is a religious dictate. In the Quran, we read verses like: "Say go about on earth and find out how He started the creation" (29:20) and similar verses and injunctions by the Prophet Muhammad. In Islam, there has never been a conflict between science and religion, for the pursuit of science is a religious requirement.

As our scientific endeavors realized, the edge between matter and energy seems to have become blurred or porous. But let us ponder on the matter of Earth for a while. Traditionally, we consider the smallest part of matter to be the atom. This, in part, is made of protons and electrons. Atoms obey atomic laws. Atoms combine to form molecules, which interact and unite following molecular or chemical laws. Molecules become more complex until we reach that complex molecule that can split into two halves, each of which is capable of replenishing itself to become a complete molecule. This is the DNA molecule,

which furnishes the basis of “life”. Chemistry then proceeds to biology.

All life on Earth derives from Earth itself. Individual life lasts for a limited span and goes back to Earth, or else Earth would be consumed in making living individuals and there would be no more earth for them to live on. Life on Earth is like a fountain that takes water and gives it back. When we consider human life, we find out that it has gone beyond the stages alluded to, of atomic, chemical, and biological life. Homo Sapiens share biology with living beings up to higher animals, but somehow enjoy any extra component that cannot be an expression of biology and can therefore be described as suprabiological being housed in a biological container, which is the living human body. This extra component is what we, the believers in the Abrahamic faith, refer to as the Spirit. Its origin is not earthly but we believe it is from God and was instilled by Him into our earthly organism. Those whose life revolves mainly around the needs and desires of their earthly component (simple or sophisticated) are not the typical example of humanity as humanity should be.

Sometimes the calls of the body and those of the Spirit do not coincide. The human being then experiences the debate between the two sides, and through a built-in mechanism has to make his free decision to follow either. This freedom is the essence of humanity since the human being is the only creature that does not automatically respond but by making choice. This is the nobility of humanity. This freedom, however, represents only one face of the coin, the other being “accountability”, which, even if evaded in this life, will await him after death in a second life (the hereafter), where justice will be done and balance restored. The human being is not a perfect being nor was he meant to be. Our hopes, therefore, are focused on God’s forgiveness rather than His justice and one’s best chance of achieving it is for one to be himself a forgiver during his life.

To help the human being to achieve this happy outcome, God sent a long chain of messengers from amongst the people to act as role models and reminders along human history. The last link of the chain

is Moses for the Jews, Jesus for the Christians, and Muhammad for the Muslims. Mohammad's message has kept the name of Islam and recognizes Judaism and Christianity as divine messages even though Jews and Christians do not reciprocate. Islam calls them the "People of the Book", recognizing the Torah and the Bible and the rule concerning them in a Muslim majority society is "They have our rights and owe our duties".

The scripture of Islam is the Quran. It was revealed in little passages over twenty-three years describing previous events, proving and calling for the worship and abidance by the One Creator, describing a system of ritual worship, scanning the range of human behavior, delineating the good and the bad, and outlining the basics of a legal system (something like a constitution). Muslims believe that Quran is not Mohammad's composition but composed by God Himself and relayed to Muhammad by Angel Gabriel. Muhammad then read it to his followers making the verbal equivalent of quote and unquote, starting with "God says" and ending with "God spoke the truth". This would be immediately committed to memories, as well as written on available writing material. The Quran would therefore be the only scripture preserved in its original form, word-to-word and letter-to-letter. Any other rendering or translation would not be the Quran, and would be human language as opposed to divine language. Before his death, Muhammad gave the final formatting of the Quran in the form of a book consisting of one hundred and fourteen (long or short) chapters or surahs comprising six thousand two hundred verses. It was revealed along the twenty-three years of the prophethood of Muhammad. Unlike the Torah and the Bible, the Quran does not narrate a chronologically continuous history (except in the Surah named Joseph), but rather meaningful spotlights and commentaries on events interspersed with rulings and admonitions. A thorough command of the language, the history of the events and the application of the Quran by the Prophet to real life would be necessary to understand the Quran. Jumping at rulings without knowledge of the language and the circumstantial background is a pitfall that many Muslims and non-Muslims are apt to fall into.

The Sharia and the Derivation of Rulings

Linguistically, the word Sharia means “the way”. In religion, it refers to the sum total of God’s address to His eligible worshipers instructing them on regulating their life in this world in a way that leads to their success and happiness both here and in the hereafter.

“The goals of the Sharia” are the protection and preservation of Life, Mind, Religion, Ownership, and Procreation (family). Each of these is serviced by branching groups and subgroups practically covering all aspects of life on this earth.

The sources of the Sharia are primarily the Quran and the religious teachings and doings of Prophet Muhammad. Seeing that the texts are finite but the evolving life situations along the millennia are boundless, “Analogy” is another source of the Sharia matching issues mentioned in the Quran and the tradition of the Prophet with new comparable issues. “Ijmaa” or unanimity of the scholars in one region is also a source of the Sharia. Other ancillary sources are the rulings of previous recognized faiths. Other juridical instruments to derive rulings have been devised such as:

- 1 - The choice of the lesser of two harms if both cannot be avoided.
- 2 - Necessities overrule prohibitions.
- 3 - Avoiding harm takes priority over bringing good.
- 4 - Public interest overrules private interest.
- 5 - Rulings of previous God-sent religions.
- 6 - Judgments of the companions of the Prophet.
- 7 - Doing no harm.
- 8 - Harm is not to be repelled with harm.
- 9 - Where the welfare of the people resides, there resides the statute of God. This is considered the rule of all rules in matters on which other invocations are silent.
- 10 - Human needs are divided into essential, necessary, and complementary. They are attached relative priority (including budgetary priority) upon this order.

11 - The principle of precautionary preventive approach (Sadd al-Thara'ey).

Following these guiding principles, Islamic jurisprudence evolved and survived over the ages. Human issues are categorized into Necessities, Needs, and Complimentaries and priorities should be allocated in that order. Upon this, the science of Jurisprudence started and continues until this very day. Various schools of thought called the "mathahib" have been formulated and the door is still open. The difference between the "mathahib" entails no enmity and is considered to be an expression of God's mercy.

Life: Reproduction

Since an individual life has only a limited span, in order for life to continue on Earth there should be a process of reproduction. There are many forms of reproduction on planet Earth. The simplest perhaps is simple fission such as in bacteria. Other simple forms are budding and fragmentation. Going up on the scale of life, sexual reproduction occurs. Male and female gonads might be harbored in the body of the same organism, which is then called hermaphrodite. Higher up on the scale of life, sexuality appears and we have male and female individuals producing spermatozoa and eggs, respectively. The meeting of sperm and egg might occur outside the body such as in toads and fish. In higher forms of life, this meeting occurs inside the female body but then, the new embryo is encased in a calcium shell and led outside as an egg that has to be kept warm by the mother (usually) lying over it until the chick is mature enough to prick its way to the outside world. In more sophisticated beings, the pregnancy has to remain inside for a longer period and then it is born. In the animal kingdom, the newborn has matured enough to be able to move about and seek its mother's milk. In the human being, the sperm travels up for a long distance along the female genital tract to meet the ovum and fertilize it. The fertilized egg then descends while growing by cell division until it reaches the uterine cavity in the form of a blastocyst, whose outer layer digests its way to get implanted inside the endometrium. The blastocyst displays an outer layer from which the placenta would be

formed, establishing vital nutritious, excretive, and respiratory connections with the mother while the inner cell mass gives the body of the baby.

Modern times have shown the possibility of reverting back to reproductive mechanisms in lower species. In-vitro fertilization displays the meeting of ovum and sperm outside the human body. Cloning is the ability to go back to asexual reproduction. Neither of them is a novelty in nature but the new thing is the ability to apply them in human reproduction.

After this lengthy introduction, we would like to focus the light on some reproductive issues that, in modern history, have caught interest and stirred debate. The literature and the internet already contain a plethora of discussions and debates over those issues and it is not our intention here to present extensive quotations and references. Our goal is to try to depict what we believe is the Islamic stand on some of those issues. With my colleagues of other faiths (or no faith), I do not intend to have a debate. The goal is to have a clear understanding about what each of us believes. Mutual understanding is the basis of peace and harmony rather than similar understanding. I expect to find a lot of commonalities between all of us but I do respect our differences. But I also want to make it clear that belief in God is an axial point, for it makes a difference whether you refer to a higher authority for guidance or merely depend on the human mind as an ultimate authority. In this respect, I would like to add that the human mind is far from being a perfect instrument. Everyday we gain further knowledge, which means the previous day, we were that much short. The pursuit of scientific research is a confession that there is so much that we are ignorant of. We cannot, therefore, be confident of deriving perfect conclusions using an imperfect instrument. And yet, our most precious attribute is the human mind, working within the eternal truths of divine religions. Of course, there are those amongst us who do not recognize a divine being or divine guidance. If they are honest about it, we cannot blame them but perhaps, we pray for them. This issue, however, is not within the terms of reference of this conference.

Human Life: The Abortion Issue

In our belief, a human life is different from other forms of life because it harbors a divine component. It is this component that elevates a human life over other forms of life, even that of angels. The Quran relays that when God created the human being, He ordered the angels to prostrate themselves to him: “When I (God) have shaped him (man) and blew into him of my Spirit, then prostrate yourselves to him” (15:29). This is the basis of the “sanctity of human life” that the Abrahamic faiths endorse. Commenting on the murder of Abel by his brother, Cain (the two sons of Adam), the Quran says: “On this account, We decreed upon the Children of Israel that whoever takes a life for no other reason than manslaughter or corruption in the earth, it will be as though he killed all mankind. And whoever saves a life from death, it will be as though he saved all mankind” (5:32).

This principle led Muslim scholars to reject both abortion and euthanasia. The rejection of abortion, however, came in stages. At the time in history when the pregnant woman’s feelings of the quickening of the fetus meant the beginning of life, abortion before that was acceptable by some scholars. Later, the date was shifted forward to the time when distinct fetal organs could be seen. Later on, and since the time of the great scholar Al-Ghazali (over a thousand years ago), it was concluded by him that life begins when the male element fuses with the female element and is deposited in the site of pregnancy. Life proceeds through an imperceptible phase until the baby’s movements are felt by the mother, beginning the perceptible phase. Al-Ghazali maintained that interrupting this would be an offense from the beginning. The degree of the crime of abortion, however, is not absolute from the beginning of the pregnancy but is rather incremental. This is because, in Islam, the blowing of the Spirit into the pregnancy is not tantamount to the beginning of life but occurs on the one hundred and twentieth day of pregnancy. This is upon the teaching of Prophet Muhammad: “The one of you is collected in his (or her) mother’s abdomen for forty days as a nufta (the mass ensuing after fertilization), then as an alaq (a leech-like object) for forty days then as a modgha (morcel) for forty days, then the angel is sent to

blow the Spirit into him”. This blowing of the Spirit is the demarcation between biological human life and eligible human life. The offence of procuring abortion in Islamic jurisprudence is not equal for both phases. Whereas the punishment for procurement of abortion in the first phase entails a ransom equal to one-tenth of that paid for killing an ordinary human being, it is a full ransom after 120 days as well as whatever punishment is deemed appropriate for the aggression. Both before and after the blowing of the Spirit, the pregnancy is respected as life and has established rights. For example, if a woman criminal is sentenced to death and is proven pregnant at any stage, then the execution shall be postponed until she delivers and nurses the baby. If a man dies, leaving a wife pregnant at any stage, then his legacy will not be distributed amongst his heirs before keeping aside the share of the unborn until he is born alive.

The question of defining the beginning of life became more acute with the abortion debate that erupted in the seventies of the last century. Abortion opponents maintained that life begins at its beginning. Abortion protagonists maintained that life began later on. Terms like pre-embryo were coined to facilitate abortion rights. Later on, terms like “pro-life” and “pro-choice” became well-known slogans and the battle is still raging.

In January 1985, the Islamic Organization for Medical Sciences held in Kuwait its conference entitled “Human Life: Its Inception and End as Viewed by Islam”. To identify the beginning of human life, we proposed five postulates namely:

- 1 - It should be an identifiable and clear-cut event.
- 2 - It should be able to grow, for growth is a feature of life.
- 3 - Unless its growth is interrupted, it should produce the subsequent stages of human embryo, infant, child, youngster, and young, middle-aged, and then old person, if God grants him (or her) long life.
- 4 - It is not preceded by a phase that can grow into a human being.
- 5 - It should have the collective hereditary traits of the human race in general, and at the same time, of a specific individual who is

different from all individuals from the beginning of creation till the end of time.

These criteria are exhibited by the fertilized ovum. But then came the question of an ovum fertilized outside the human body. Obviously, this will never be able, on its own, to progress to a human being unless it is implanted into the lining of the uterus. The conference, therefore, concluded that implantation is the defining point, at which the pregnancy should be given full recognition and protection. An individual's life, therefore, begins at the establishment of the fetomaternal unit.

Sacrificing the life of the fetus, however, is permissible if the continuation of the pregnancy threatens the life of an ill mother, for the mother is the root and the fetus is the offshoot that should be sacrificed to save the root if both cannot be saved. Permissibility of abortion if the fetus is proven to be inflicted with gross abnormality incompatible with tolerable life is also recognized.

Apart from the individual (micro) level, the question of abortion seems to impact public (macro) life. It is a significant component of the culture of cheapening human life (with war, crime, euthanasia, etc...). In this respect, I would like to quote an example that I encountered during my medical life in the Middle East. In this part of the world, the doctor is named "the wise man" and is often sought for help other than medical. A couple once solicited my intervention in a dispute with their son. When I admonished the young man, who was quite religious, and reminded him of the Quranic saying that God couples obedience to Him with kindness to the parents, the young man snapped in objection, saying, "I owe them nothing, doctor. When they married, they decided to have two children only and they aborted the four pregnancies that came after my elder sister and myself. Had I been number three, they would have killed me as they did the rest." This was a time when I pondered whether the spread of abortion in our times has contributed to the weakening of family ties and the generation gap we now witness.

The abortion issue, at least in part, is not isolated from the phenomenon of extra marital sex. It also puts in question the

judiciousness of free sex outside marriage, since any relation between two where the results are not equally shared by both, cannot comply with justice. In a background of sexual permissiveness, the female is the loser all the way, whether deserted or aborted or landed with no legal father to her child that she is forced to support as a single mother or give away for adoption. This is why religions regard the relation between man and woman as more than sexual pleasure and more than biological reproduction and take it up to individual pairing off, reciprocal legal rights and a spiritual bond. The family is the unit of humanity. Mutual rights and obligations between husband and wife and between them and their children are clearly spelt out in the Quran all through life and beyond. These are called God's rights. Marriage is a recognized institution; initiated by contract heralding both legal and spiritual aspects. God says in the Quran: "Amongst His signs is that he created for you from amongst yourselves consorts that you find tranquility with, and laid love and compassion between you" (30:21). This and no other way is the only acceptable venue. The Quran says: "God made for you consorts from amongst yourselves, and out of your consorts made for you children and grandchildren, and gave you of His bounty, do they then propose to endorse vanities and deny the blessings of God?" (16:72).

Other forms of family such as modern times have suggested are not what Islam prescribes. My readings in the Bible and the Torah coincide with this. Revisionist voices have been heard in modern times but Muslims stick to the Quran.

In-Vitro Fertilization

Widely known as test-tube baby technology, this was achieved in the 1970's beginning with the birth of Louise Brown in England and since then, has become commonplace. It is certainly a departure from the natural course of events but the departure is only minimal. Due to obstruction of the conduit that leads the ovum and sperm to meet, a detour is taken. The ovum is taken outside the body and exposed to sperm and when they fuse, the fertilized egg is lodged into the uterus to pursue the course of a natural pregnancy. The results have attested

to reasonable safety of the procedure. The procedure is Islamically acceptable provided it is performed between husband and wife, during the span of their marriage (not after divorce or widowhood, since both signify the end of the marriage contract), and without the interference of a third party in the form of a donated sperm, donated ovum, or a surrogate uterus (since none of these is included in the marriage contract, a contract essentially between two people only).

However, another problem ensued from the application of this new technology. Since a number of ova are aspirated from the ovary and exposed to sperm, more fertilized ova are produced than actually introduced in the uterus in the hope of implantation. If one or more are successful in initiating a pregnancy, the remainder will be unneeded. If none are successful, there will be another trial in the following cycle, using another three. The question of surplus fertilized ova has been a matter of debate in several countries. Some countries ruled that exposed to sperm is the number of ova to be put into the uterus if all were fertilized. If the trial is unsuccessful, the whole process is to be repeated on further cycles. This is more costly in time and expense. In the majority of cases, the unneeded fertilized eggs left over after a successful pregnancy are either thrown away or cold-stored in limbo awaiting future use or natural death even after a very long time. The fate of such surplus ova was discussed in one of the conferences of the Islamic Organization for Medical Sciences with divided opinion but obviously, they were not given the status of a full human being.

Genetic Engineering

The Islamic ruling on genetic engineering was proposed at the conference of the Islamic Organization for Medical Sciences in Kuwait on the fifteenth of October 1998. It was regarded as a kind of plastic surgery or transplantation surgery at the molecular level. It was deemed permissible only when applied to prevent or alleviate disease or to prepare medicine to be used to combat human illness. It is not permissible if the aim is to produce human beings with an enhanced or reduced physical or psycho-mental features. It is also permissible to

produce an adequate supply of restorative medicine to be used by humans, to be produced by other species in which the desired human gene producing these drugs is incorporated. Any application that interferes with the personality of the human being or his/her individual personal responsibility is not acceptable.

A difference was made clear between the freedom of scientific research and pursuit of knowledge on the one hand and its admissibility in the applied field and endorsement as a commercial product. Not all that can be achieved should be allowed into widespread application.

The application of genetic engineering in animal husbandry and agriculture is already underway, but we should be on the lookout for any untoward results even over a very long period of time. The public should be alerted that such products are the outcome of genetic engineering.

Transgenic genetic engineering, i.e., the formation of one creature including genetic material from two different species, is taken very seriously, as understood from the Quran. When Adam and Eve disobeyed God by eating from the forbidden tree succumbing to Satan's temptation, they repented and were forgiven but sent to Earth to populate it in accordance with God's instructions. Satan, however, sought God's permission to follow Humanity to Earth and pursue testing them and tempting them to do things that are displeasing to God. Among these things Satan mentioned: "And I shall order them to change the creation of God" (4:119). The creation of new forms of life hitherto unknown in Nature certainly falls under this category, and an exception can be made under the juridical rule: "Dire necessities overrule prohibition". Other indications than saving life and alleviation of suffering are, therefore, impermissible whether it is for fun and especially if used to prepare bombs containing virulent bacteria hitherto unknown to mankind.

Cloning

The idea of cloning should be taken very seriously. It takes reproduction back to the asexual type of the most primitive forms of

life. It bypasses the long age-old complexities leading to sexual reproduction through a male and a female. This is in flagrant distinction from God's scheme as expressed in the Quranic verse: "From amongst His (God's) signs is that He created for you, from amongst yourselves, consorts, that you might have tranquility with them, and he led love and compassion between you" (30:21). Another verse of the Quran says: "God made for you from amongst yourselves consorts, and through your consorts He made for you children and grandchildren and gave you out of His bounty. Do they then believe in vain things and deny the blessings of God?" (16:72).

The bleak prospects of mammalian cloning have already shown evidence by the very high incidence of abortion until a clone is successful. Abortion signifies severe anomaly, but nonfatal lethal abnormalities might linger to express themselves sooner or later in life.

It is already known that a human cell nucleus contains in its chromosomes a number of injurious genes. At fertilization, these might be overpowered by their healthy alleles on the other gamete. Perpetuation by cell division of the complete nucleus of a somatic cell (rather than fusion of a male and a female haploid nuclei) means deprivation of this protective function of the union of male and female gametes.

The human race has acquired patterns of societal life that have matured over large spans of time. Family ties and blood relations have been established and settled over millennia. The unit of humanity has come to be the family made of a man and a woman. If human cloning is allowed, these traditional relationships will crumble. Is a clone of a woman to be regarded as her daughter or identical twin? Terminology like son, daughter, mother, aunt, cousin, niece, etc., etc... will cease to exist as we have always known them. It will look like a "brave new world", but certainly not what we have achieved and what is described in our religious texts. It is our conclusion that human cloning should not be allowed and that non-human cloning may be allowed for research purposes, and it should not proceed to the applied (commercial) before observation over a large number of generations enough to ensure its safety.

Stem Cell Research

When a sperm and an ovum fuse together (fertilization), a fertilized egg is produced. This begins to divide, ultimately giving the full human body. In the very early phases of division, the daughter cells are “totipotent” and each may be capable of starting off as if it were the mother cell to give a complete individual. Later generations of cells, which cannot give a total body but can, under special treatment, be directed to produce certain tissues or organs. They are, therefore called “multipotent” or “stem cells”. Later generations cannot do that because they have been already committed to produce only specific tissues.

The question of stem cell research revolves around utilizing them to produce tissues or organs to replace their defunct counterparts in a sick person.

Stem cells can be procured from adult blood or placenta and umbilical cord blood but these are helpful in the treatment of only a limited number of illnesses. Stem cells recovered from the early embryo hold the promise of curing or alleviating a wider range of known diseases so far defying our therapeutic acumen.

The ethical dilemma is obvious since procuring these cells entails destroying a living embryo. The debate has been raging in the United States about the feasibility of using surplus fertilized eggs that are leftovers in the field of in-vitro fertilization. These are usually destroyed immediately or stored in deep-freeze for possible future use. It then became obvious that such future use is practically a rare event, especially when it was shown that after the storage period, they are amenable to a high incidence of pathogenic mutations. In 2001, Senator Bill Frist in the U.S.A. called for allowing the use of stem cells procured from in-vitro fertilized eggs produced during the course of treatment of infertility for purposes of research. He laid ten principles for that viz.: 1, Ban embryo creation for research; 2, Continue funding ban on derivation; 3, Ban human cloning; 4, Increase adult stem cell research funding; 5, Provide funding for embryonic stem cell research only from blastocysts that would otherwise be discarded; 6, Require a rigorous informed consent process; 7,

Limit the number of stem cell lines; 8, Establish a strong public research oversight system; 9, Require ongoing independent scientific and ethical review; 10, Strengthen and harmonize fetal tissue research restrictions.

Following the debate closely through the lens of Islamic jurisprudence, I find myself in support of the conclusions of Senator Frist. In this respect, I feel encouraged by certain Islamic juridical principles viz.

- 1 - As we already explained while discussing abortion, a fertilized egg in-vitro will never proceed to form a complete human being unless implanted in the uterus. That was why the I.O.M.S. conference of 1988 took the view that the inviolability of human life begins at implantation.
- 2 - Whereas Christian scholars' opinion puts one cutoff line defining human life and that is at fertilization, Islamic jurisprudence recognizes an incremental approach. Although interrupting human life is a crime since implantation, the crime is suddenly aggravated in degree at the one hundred and twentieth day of pregnancy when it is considered a full crime. The punishment for each is different. This is because although Islamic jurisprudence considers that life begins at the beginning, Ensoulment or Instillation of the Spirit occurs at one hundred and twenty days from beginning of the pregnancy. The teaching of Prophet Muhammad in this respect was: "Each one of you is assembled in his mother's tummy for forty days as a Nutfah, then as an Alaqa for forty days, and a Mudgha for forty days, then the Angel comes and blows the Spirit into him (or her) and writes down his future age, life, happiness, or misery". The definition of the Spirit remains unknown to us and in Quran, God (Allah) addressed the Prophet: "They ask you about the Spirit, say the Spirit is an affair of my Lord, and of knowledge you have only been given a meager amount" (17:85). The Spirit remains in the ultra-scientific field.
- 3 - A juridical principal states that "we should settle for the lesser of two evils if both of them cannot be avoided". It would seem that

sacrificing non-implanted fertilized ova for the purpose of saving from death or suffering large numbers of existing full-blown human beings would therefore be justified. After all, it is acceptable to sacrifice human lives in a just war in order to repel disproportionate evil.

- 4 - A somatic cell (e.g. skin cell) can form a pregnancy if its nucleus is removed and inserted into an emptied cytoplasm of a sex cell (ovum) and as it divides, it is inserted into a female uterus and implanted, where it grows to a full fetus. Yet, we cannot confer “sanctity of life” on a skin cell. As a matter of fact, such a cloned cell is currently being tried as a source of stem cells without resort to the use of fertilized eggs. This would, of course, void the whole debate, although scientists should be on long-term watch for undesirable consequences.

It seems to us that one of the difficulties in this debate is the tendency of the two sides to make absolute decisions.

1 does not equal 1000

But 1/1 equals 1000/1000

To consider the numerator and ignore the denominator would be grossly misleading. One always has to look to both sides of the coin. It is somewhat upsetting to see the issue relegated to the realm of politics. On so many occasions, politics proved itself inconsistent and shifting between idealism and utilitarianism. It was interesting though sad to see more politicians so caring about innocent human life in an ovum and so careless about innocent human life in a military invasion.

Thoughts and Afterthoughts

To my thinking as a Muslim, it seems that tackling the issues we have been discussing would be too fragmentary and too reductionist if isolated from the radical question. To us Muslims and, I believe, to members of the Abrahamic faiths in general, Man has a role in the creation distinct from other creatures. The human race, in our belief, is assigned the task of being God’s vicegerent on Earth. This is despite the fact that Man has an earthly component dragging him down and a

Godly (spiritual) component lifting him up. Man is endowed with a built-in autonomy that enables him to make choices out of his own free will. He is also endowed with the concept of good and evil and because he is given freedom of choice (within limitations), he will face inevitable accountability. To pass this test, God provided Man with guidance carried by human messengers (prophets) as recurring reminders along human history. Some eternal milestones concerning good and evil have been delineated by God, otherwise the incomplete and suggestible human mind might miss its way and seriously be misled.

It is not surprising, therefore, that a secular person might often think differently and reach different conclusions. In our world, people do not represent one monolithic pattern in their way of thinking or in their patterns of belief or disbelief. This is a fact of life and we should accept it. There is a difference between loyalty to one's own beliefs and displaying them on the one hand, and fighting over them on the other. And yet, being all human, and with the accumulated acumen of knowledge humanity has acquired, there will be practically so much in common whatever ideology we profess.

One of the trends humanity is lately pursuing is a disturbed balance between the spiritual and the material components in human life with an obvious unequilibrium between idealism and utilitarianism, in favor of the second. Whereas we raise our children warning them against selfishness, we later, in adult life, practice selfishness under the names of patriotism, racism, classism, etc., etc....

The voices raised in praise of humanity and human life are certainly eclipsed by the fact that the industry of death has become the most profitable industry in our present-day world as evidenced by a comparison between the budgets for peaceful endeavors and those for military ones.

Until very recently, medical sciences were regarded as a unidirectional human endeavor espousing only healing and mercy to rich and poor, to friend and enemy. When the first atomic bomb was dropped over Hiroshima, Oppenheimer (the father of the atomic bomb) said, "Today, physics has fallen into sin." We thought that medical sciences were immune to that, until sobering news were out about bacteriologi-

cal and toxicological warfare. Until the twentieth century, the idea of a war as an inevitable evil was tolerated on the assumption that war was confined to the fighting forces only. This was superceded since the Spanish War in the 1930's and through the Second World War and the subsequent wars including Korea, Vietnam, and other conflicts. Not only human life was involved, but also other living beings, plantations, and even soil.

Scientific progress aiming at elimination of human suffering and disease is certainly a ray of hope in this sea of darkness but even this bright picture is presenting some worries. The new achievements will entail a high cost for treatment. Patent rights have already become an issue and it seems that medical scientists are moving from their age-honored "ivory towers" to "golden towers". Monopoly is a reasonable idea but it should not exceed its limits. Expensive treatment should not be the privilege of only the rich and the question of equity should not be beyond the law. One feature of modern times is "limited resources". If we all subscribed to the concept of a large but one human family, it should follow that in dispersing resources medications that would save the lives of the many, should be given priority to those helping the few, even if such medications lag in the way of being profit-makers to the industry. If humanity can transcend that profits are not to be measured in terms of dollars perhaps that would be a shift in the right direction. "Thou shall not live on the dollar alone!"

People of conscience, especially those of faith, should join forces to create a counter wave against this rampant, selfish, materialistic, utilitarian philosophy in favor of a human attitude guided by compassion and love and human togetherness. Humanity should transcend the concept of You and I, to the concept of "We"!

Topic I:
**Humanity and Creation/
The Natural World -
The Islamic, Christian
and Secular Perspectives**

**First Session
Monday, 6 February 2006**

Chairman : Dr. Ibrahim Badran

Rapporteur : Dr. Abdul Aziz Al-Sweilem

Speakers:

1 - Dr. Bruce Foltz

2 - Dr. Mustafa Akyol

3 - Dr. Assaad El-Shmarani

**FROM GARDENER AND TENDER
TO MASTER AND CONTEMPLATOR
OF NATURE**

H. Tristram Engelhardt, Jr., and Bruce V. Foltz

U.S.A.

From Gardener and Tender to Master and Contemplator of Nature

H. Tristram Engelhardt, Jr. , and Bruce V. Foltz***

U.S.A.

Abstract

Genesis first presents Adam as the vegetarian gardener of Eden, which he is given to tend and cultivate (Gen 2:15). But there occurs subsequently, after the Flood, a dramatic transformation in man's relationship to nature. In His covenant with Noah, God gives all living things into the hands of Noah's sons, so that fear and dread of humans fall upon all animals (Gen 9:2-3), for man is no longer to be a vegetarian. But although animals are put into the hands of Noah and his sons, human nature is not. A traditional Christian approach to the use of somatic and germ-line genetic engineering differs importantly with regard to the obligations that humans possess with respect to their own nature, versus the nature of other living beings. On the one hand, Christians know that their nature, unlike the nature of any other living being, has been taken on by Christ in the Incarnation, and thus is joined eternally to God. Thus, they may not so re-engineer themselves that their biological being would become different in kind from the biological nature taken on by Christ. They know as well that the differences between the sexes are ontologically normative: traditional Christianity is committed to a gender essentialism that may not be set aside through genetic engineering. The passages in Genesis emphasizing humans being created as male and female (1:27; 5:2) are affirmed by Christ in His account of marriage (Mark 10:6). On the

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other hand, Christianity has endorsed the beneficent and prudent reshaping of life on this planet. Through selective breeding mankind came to flourish with the development of new varieties of animals and plants. Such beneficent recasting of life on earth is therefore not proscribed to humans. Though on the one hand humans are forbidden to reshape their human nature radically or to set aside the differences defining the sexes, on the other hand they are at liberty, indeed in some circumstances morally obliged, to employ human somatic and germ-line engineering in order to cure disease and, as long as it does not become an all-consuming project, even to the extent of overcoming some of the common morbidities that have afflicted humans since the Fall. At the same time, this ancient Christian orientation has always been cognizant that the beauty of creation is intended by its Creator to serve as an iconic expression of the divine glory, and it must therefore be concerned to question interventions in nature that would significantly obscure or subvert this capacity of creation. Within the boundaries of these constraints, traditional Christianity has no grounds to categorically prohibit the prudent application of somatic and germ-line genetic engineering on humans, and even less to prohibit in principle its use with plants and animals.

I - What the Sons of Abraham Have to Teach: Confronting Secular Culture with Competing Assessments of Truth

When assessing human genetic and reproductive technologies, the foundational contrasts between traditional religious and secular perspectives are striking. These two perspectives are separated by what Ludwik Fleck (1896-1961) termed different thought-styles (*Denkstilen*), set within fundamentally different communities of thought⁽¹⁾ or to borrow the concept Thomas Kuhn (1922-1996) developed from Fleck, they are separated by different paradigms.⁽²⁾ That is, those monotheis-

(1) Ludwik Fleck, *Entstehung und Entwicklung einer wissenschaftlichen Tatsache* (Basel: Benno Schwabe, 1935); *Genesis and Development of a Scientific Fact*, ed. T. J. Trenn and R. K. Merton, trans. F. Bradley and T. J. Trenn (Chicago: University of Chicago Press, 1979).

(2) Thomas Kuhn, *The Structure of Scientific Revolutions* (Chicago: University of

tic religions that acknowledge Abraham--namely, Judaism, Christianity, and Islam--approach issues bearing on genetic engineering and reproductive technology within an understanding of reality that is radically and fundamentally at odds with that of the secular world.⁽¹⁾ There are stark contrasts with respect to matters of metaphysics, epistemology, axiology, and the sociology of reliable experts, and it is important at the very outset to point them out.

This identification of paradigmatic contrasts enlists insights from Fleck and Kuhn (who respectively addressed medicine and the natural sciences) in order to lay out fundamental moral and bioethical differences separating religious and secular perspectives. These paradigmatic differences can be summarized under four headings.

Metaphysical differences--traditional Jews, Christians, and Moslems understand nature, as well as human persons, as creatures and therefore to be appreciated only in relationship to their Creator. For example, the beauty displayed everywhere by creation must be understood as meant by its Creator to be seen as pointing to the glory of God, for otherwise we become vulnerably idolatrously worshipping the elements of creation as if they were gods themselves. Moreover, the good things of the world that God has given us must be used as the Creator has instructed us to use them, lest they become instruments of chastisement to us rather than blessings. This appreciation of the relationship of man and nature as embedded in a created order and therefore determined by the Creator cannot be acknowledged within the ambit of a secular perspective that is blind to the existence of God and therefore ignorant of the relationship between created reality and the Creator.

Chicago Press, 1962; 2nd ed. enlarged, 1970). In the course of this paper, Kuhn is seen through a further development of Margaret Masterman's distinction among metaphysical paradigms, construct paradigms, and sociological paradigms. Margaret Masterman, "The Nature of a Paradigm," in *Criticism and the Growth of Knowledge*, eds. Imre Lakatos and Alan Musgrave (London: Cambridge University Press, 1970), pp. 59-89.

- (1) The religions to which this contrast appeals are characterized as traditional in order to identify them as remaining un-recast by the Enlightenment and similar secular/cultural forces.

Epistemological differences--traditional Jews, Christians, and Moslems understand that in addition to both empirical knowledge and discursive philosophical reflection, there is also knowledge gained through a relationship to God. In part, this knowledge will be regarded as grounded in a past revelation, as in the case of the Torah, the Bible for most Christians, and the Koran. In part, it will be understood as ever present through grace.⁽¹⁾ And in part, too, and

- (1) The appreciation that theological knowledge is grounded in a noetic experience, a union of the knower and the known, in particular a union mediated by the uncreated energies of God, marks the theology of the Christianity of the first thousand years and that of Orthodox Christianity today. Western Christianity has been characterized by a generally robust faith in reason, which has its roots in the metaphysical and theological synthesis of the Western High Middle Ages. In contrast, the Orthodox Church in what is equivalent to the 9th Ecumenical Council, the fifth council held in Constantinople (A.D. 1341, 1347, 1351), supporting St. Gregory Palamas (A.D. 1296-1359), affirmed an epistemological perspective that maintained the centrality of noetic knowledge. This Council implicitly recognized that without such knowledge one is left trapped in a sphere of immanence, as occurred with Western philosophy as it passed through David Hume (A.D. 1711-1776) and Immanuel Kant (A.D. 1724-1804) on its way to post-modernity.

A summary of the character of noetic knowledge is provided by the Holy Mountain's (i.e., Mount Athos') declaration affirming the noetic empirical character of Christian epistemology.

The intellect [*nous*] perceives one light, and the senses another. The senses perceive sensible light, which manifests sensory things as sensory. The light of the intellect is the spiritual knowledge inherent in intellection. Thus sight and intellect do not perceive the same light, but each operates to the limit of its nature in what is natural to it. When saintly people become the happy possessors of spiritual and supranatural grace and power, they see both with the sense of sight and with the intellect that which surpasses both sense and intellect in the manner that - to use the expression of St. Gregory of Nazianzos - 'God alone knows and those in whom these things are brought to pass'.

Sts. Nikodimos and Makarios, *The Philokalia*, trans. and eds. G.E.H. Palmer, Philip Sherrard, and Kallistos Ware (Boston: Faber and Faber, 1988), vol. IV, p. 424.

This understanding of knowledge leads to the recognition that the Holy Spirit, through Whom the Bible was inspired, inspires the Church even now in all she does. One might consider, for example, a remark of St. Silouan the Athonite (A.D. 1866-1938):

even prior to revelation in word and scripture, it may come from nature itself which, when rightly regarded, can lead us from the visible creation to the invisible Creator. As a consequence, traditional Jews, Christians, and Moslems will advance moral claims regarding the proper use of human genetic and reproductive technologies, which will be grounded in and framed by knowledge claims inaccessible to secular moralists. This point is emphasized by the ancient Christianity of the first millennium that remains alive in Orthodox Christianity, and which recognizes that to know rightly one must worship and act rightly.⁽¹⁾

Suppose that for some reason the Church were to be bereft of all her books, of the Old and New Testaments, the works of the holy Fathers, of all service books - what would happen? Sacred Tradition would restore the Scriptures, not word for word, perhaps - the verbal form might be different - but in essence the new Scriptures would be the expression of that same "faith which was once delivered unto the saints" (Jude 3). They would be the expression of the one and only Holy Spirit continuously active in the Church, her foundation and her very substance.

The Scriptures are not more profound, not more important than Holy Tradition but, as said above, they are one of its forms - the most precious form, both because they are preserved and convenient to make use of.

Archimandrite Sophrony, *Saint Silouan the Athonite*, trans. Rosemary Edmonds (Essex: Monastery of St. John the Baptist, 1991), p. 87.

- (1) The Orthodox Christian theological epistemological position does not accept the views that developed in Roman Catholicism and that came to affirm broad possibilities for natural-law reflections. Traditional Christian moral reflection appreciates that one can only recognize the norms for right action if one engages in right worship. For this reason, one must bring St. Paul's account of the connection between right worship and right moral insight (see, for example, Romans 1:18-27) to one's interpretation of the second chapter of Romans. Failing to read the second chapter of Romans in light of the first chapter of Romans will tempt one to read into St. Paul's account a moral epistemology that does not require right worship and right belief for rightly-oriented moral knowledge, thus denying the connection between asceticism and rightly-ordered moral knowledge. In Western Christian contexts, this has led to the second chapter of St. Paul's letter to the Romans being frequently misinterpreted so as to conclude that secular reason can disclose canonical moral norms, even if the knower does not believe, worship, and act rightly. In Romans, St. Paul writes, "for when the Gentiles, not having the law, by nature [*phusei*] practice the things of the law [*nomon*], though they do not have the law, they are a law unto themselves. They show the work [*ergon*] of the law written in their hearts, to which their own

Axiological differences--traditional Jews, Christians, and Moslems understand that, in addition to concerns regarding the good, the right, and the virtuous, there must be a central focus on the pursuit of the holy. In part, this will be the case in that Jews, Christians, and Moslems recognize the importance of not simply pursuing the good, the right, and the virtuous, but doing so *because* of a recognition that these are God's requirements.⁽¹⁾ This is the case because, in varying

conscience [*syneideseos*] also bears witness" (Rom 2:14-15). St. John Chrysostom in his gloss on this text indicates that St. Paul is speaking only of those Gentiles who, though not Jews, worship the true God. "But by Greeks he [St. Paul] here means not them that worshipped idols, but that adored God, that obeyed the law of nature, that strictly kept all things, save the Jewish observances, which contribute to piety, such as were Melchizedek and his, such as was Job, such as were the Ninevites, such as was Cornelius.... For the conscience and reason doth suffice in the Law's stead" (Chrysostom, Homily V on Romans 1:28, in Philip Schaff (ed.), *Nicene and Post-Nicene Fathers*, First Series. [Peabody, MA: Hendrickson Publishers, 1994], vol. 11, pp. 363, 365). St. John in his commentary recognizes the essential place of right worship as a condition for rightly-ordered moral knowledge. In summary, Orthodox Christianity emphasizes that one must read the natural theological claims of St. Paul in the second chapter of the Epistle to the Romans in terms of the points St. Paul develops in his first chapter. More generally, Orthodox Christians appreciate nature as an icon of the Creator. One does not look for traces of the Creator in nature. Instead, one looks through nature to see the Creator.

- (1) For Christians, the first and greatest commandment restates the command in the fourth book of Moses: "Love the Lord your God with all your heart and with all your soul and with all your strength" (Deuteronomy 6:5); "Jesus replied: 'Love the Lord your God with all your heart and with all your soul and with all your mind.' This is the first and greatest commandment" (Matt 22:37-38). This centrality of focus on God means, as Moses Maimonides (A.D. 1135-1204) understood, that one is required not only to act morally, but to do so in obedience to God. Moses Maimonides, for example, states: "Anyone who accepts upon himself the fulfillment of these seven mitzvoth [the seven laws of Noah] and is precise in their observance is considered one of 'the pious among the gentiles' and will merit a share in the world to come. This applies only when he accepts them and fulfills them because the Holy One, blessed be He, commanded them in the Torah and informed us through Moses, our teacher, that Noah's descendants had been commanded to fulfill them previously. However, if he fulfills them out of intellectual conviction, he is not a resident alien, nor of 'the pious among the gentiles,' nor of their wise men." *Mishneh Torah*, Hilchot Melachim UMilchamotehem, viii, 11 (Moses Maimonides, *Mishneh Torah*, trans. Elyahu Touger [New

degrees, traditional Jews, Christians, and Moslems reject Plato's position developed in the *Euthyphro*, namely, that God is compelled to approve of the good, the right, and the virtuous simply because they are such, without reference to God (and that it cannot simply be that the good, the right, and the virtuous derive their goodness, rightness,

York: Moznaim Publishing, 2001], p. 582). Maimonides stresses that a righteous heathen will only have a portion in the world to come (i.e., be saved) if that non-Jew (i.e., bnai-Noah) not simply observes the laws given to Noah but also recognizes them as divinely revealed. In his commentary on the *Mishneh Torah*, Hilchot Melachim UMilchamotehem, viii, 11, Rabbi Touger explains, "Thus, there are three levels in the gentiles' acceptance of their seven mitzvot: a resident alien who makes a formal commitment in the presence of a Torah court; 'the pious among the gentiles,' individuals who accept the seven mitzvot with the proper intent, but do not formalize their acceptance; and a gentile who fulfills the seven mitzvot out of intellectual conviction" (Maimonides, p. 583). A gentile who acts rightly and virtuously, but only from philosophical insight or intellectual conviction, and not out of the recognition that such behavior is required by God, will have no share in the world to come. For a further discussion of these issues, see Stephan Schwarzschild, "Do Noachites Have to Believe in Revelation?" *The Jewish Quarterly Review* 52 (April, 1962), 297-308, and "Do Noachites Have to Believe in Revelation?" *The Jewish Quarterly Review* 53 (January, 1963), 30-65. Moses Maimonides's position was rejected by the modernist Benedict Spinoza (1631-1677). "Maimonides ventures openly to make this assertion: 'Every man who takes to heart the seven precepts and diligently follows them, is counted with the pious among the nations, and an heir of the world to come; that is to say, if he takes to heart and follows them because God ordained them in the law, and revealed them to us by Moses, because they were of aforesaid precepts to the sons of Noah: but he who follows them as led thereto by reason, is not counted as a dweller among the pious, nor among the wise of the nations.' Such are the words of Maimonides, to which R. Joseph, the son of Shem Job, adds in his book which he calls 'Kebod Elohim, or God's Glory,' that although Aristotle (whom he considers to have written the best ethics and to be above everyone else) has not omitted anything that concerns true ethics, and which he has adopted in his own book, carefully following the lines laid down, yet this was not able to suffice for his salvation, inasmuch as he embraced his doctrines in accordance with the dictates of reason and not as divine documents prophetically revealed." Benedict de Spinoza, *A Theologico-Political Treatise*, trans. R.H.M. Elwes (New York: Dover, 1951), p. 80. Both Orthodox Christians and Orthodox Jews recognize that one must first and foremost love God and obey Him as Lord, with the result that secular morality is never sufficient. Also, the law working in the hearts of the Gentiles (Romans 2:15) is not that given to Moses, But that given to Noah and his sons.

or virtue from their relation to God.). Traditional Jews, Christians, and Moslems recognize that it is impossible to understand created being outside of an appreciation of the Creator, so that any attempt to understand the good, the beautiful, the right, and the virtuous outside of an appreciation of God, that is, of the Holy, will always be substantively one-sided and incomplete. Or to put the matter more strongly, the good, the beautiful, the right, and the virtuous as elements of created being are always distorted when understood apart from the Creator.

Sociology of moral knowledge - traditional Jews, Christians, and Moslems understand that the class of well-educated, thoughtful, and reflective individuals who examine issues of morality and bioethics without reference to God and his requirements does not exhaust the class of individuals who can give guidance regarding the use of human genetic and reproductive technologies. To the contrary, an adequate account of the proper use of human genetic and reproductive technologies will require theological knowledge, such that technological development without theological guidance will be dangerous.

Paradigmatic differences separating religious and secular moralities and their respective bioethics are grounded in foundationally different metaphysical, epistemological, axiological, and sociological understandings, which constitute a profound gulf, a defining otherness. Even when the same terms are used and seemingly the same conclusions are reached by the religious and the secular, the terms and conclusions themselves are embedded in profoundly different interpretive contexts. Though an Aristotelian, a Newtonian, or an Einsteinian physicist can speak of space, time, mass, and energy, these terms have in each case profoundly different intentions and extensions. So, too, though secular and religious moralists may use the same terms, they will do so with different meaning.

Another way to appreciate the profound cleft separating religious and secular approaches to human genetic and reproductive technologies can be garnered by recognizing how differently the disparate groups appreciate what it is to inhabit the cosmos. On the one hand, traditional Jews, Christians, and Moslems will recognize reality as

coming from God’s creative act, and as being under the control of a sovereign God. On the other hand, a secular approach must regard the universe as coming from nowhere, going to nowhere, and for no apparent purpose. Unlike Immanuel Kant, who in his *Critique of Practical Reason* (1788) advanced the existence of God as a postulate of pure practical reason, that is, of moral rationality, secular moral thought today embraces agnosticism as its postulate of practical reason. As a consequence, traditional Jews, Christians, and Moslems will regard secular moralists as lost in the cosmos, in that secularists do not appreciate that

- 1 - reality is a creation of God;
- 2 - God has established norms that all humans must obey; and
- 3 - God will judge all according to their obedience to those norms.

A traditional Jew, Christian, or Moslem will therefore consider all moral questions raised regarding human genetic and reproductive technologies from within a paradigm radically at odds with those of the secular world. Again, as will be explored in detail later, although the conclusions may at times seem similar, their meaning will be determined by disparate metaphysical, epistemological, axiological, and sociological frameworks.

II. The Servant of God: Both Sovereign Master and Humble Contemplator of Nature

In articulating a traditional Christian understanding of the practical constraints set on human genetic and reproductive technologies, one will need first to determine what firm, constraining norms exist. These norms include at least the following points:

- 1 - Traditional Christianity affirms gender essentialism, so that one may not set aside the differences between males and females.⁽¹⁾

(1) Orthodox Christianity affirms Christ’s restatement of Genesis: “But from the beginning of creation, God ’made them male and female’” (Mark 10:6). As St. Paul emphasizes, man “is the image and reflection of God; but woman is the reflection of man. Indeed, man was not made from woman, but woman from man. Neither was man created for the sake of woman, but woman for the sake of

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- 2 - All human sexual and reproductive activity must be set within the marital union of a man and a woman.⁽¹⁾
 - 3 - Innocent human life, including human embryonic life, may not be taken.⁽²⁾
 - 4 - The human body as taken on by Christ in the Incarnation may not through genetic engineering cease to be the normative character of humans.
 - 5 - Though one may opt out of asceticism or health reasons be a vegetarian, the usual life of humans affirms the killing for animals for food, thus recognizing the blessing given by God to Noah and his sons.⁽³⁾
 - 6 - One should always act with prudence so as not to cause more harm than good, and one should never use medicine and the biomedical sciences in a way that this endeavor becomes an all-

man" (I Cor 11:7-9). It is for this reason that St. Paul affirms the authority of men in the church and in the family. "Let a woman learn in silence with full submission. I permit no woman to teach or to have authority over a man" (I Tim 2:11-12); "Wives, submit to your husbands as to the Lord. For the husband is the head of the wife as Christ is the head of the church, His body, of which He is the Savior. And the wife must respect [*phobetai*] her husband" (Eph 5:22-23, 33). It is because of this order between men and woman that Christianity has no priestesses. It is out of recognition of this order that St. John Chrysostom affirms "And from the beginning He made one sovereignty only, setting the man over the woman." "Homily XXXIV.7 on First Corinthians xiii.8," in *Nicene and Post-Nicene Fathers*, First Series, ed. Philip Schaff (Peabody, Mass.: Hendrickson Publishers, 1994), vol. 12, p. 205.

- (1) St. John Chrysostom, for example, emphasizes that reproduction is to take place through the fleshy union of man and wife, and not through an asexual process, thus among other things ruling out cloning. See St. John Chrysostom, "Homily XX on Ephesians."
- (2) The traditional Christian prohibition of abortion does not depend on the ensoulment of the embryo, but simply on the killing of the embryo. See St. Basil's Letter 188.
- (3) Canon 51 of the Eighty-five Apostolic Canons, affirming the covenant with Noah, forbids vegetarianism arising from squeamishness or "abhorrence" of meat as "blaspheming the work of creation," and in this way it affirms the covenant with Noah.

consuming obsession, yoking the sciences to human passions and turning the pursuit of life in this world into an idol.⁽¹⁾

- 7 - We must, at the same time, remain mindful that God created nature not only to satisfy bodily needs, but also to stimulate and sustain spiritual energies as well, and above to allow us “to grasp the Creator through his creation, seeing him reflected in created things as the sun is reflected in water, since in their inner being they are in varying degrees images of the primal cause of all.”⁽²⁾ Interventions in nature that either singularly or collectively obstruct the capacity of creation to serve as an image (*eikon*) of God should be approached cautiously and prayerfully.

Within these constraints, Christians should be able to engage in promising human genetic and reproductive technologies, including human genetic germline engineering. For example, there should be no reason *in principle* to forbid the removal of disease- and disability-causing genes, not only in a particular person’s somatic genes (i.e., through somatic genetic engineering), but also through the person’s germline (i.e., through germline genetic engineering) in all that person’s descendants. There should not even be a prohibition in principle against the remediation of our fallen nature, as long as this is undertaken within the above-mentioned constraints. As St. Basil says, “Each of the arts is God’s gift to us, remedying the deficiencies of

(1) For a discussion of the dangers of becoming so engaged with medicine as to render the preservation of earthly life into an idol, see St. Basil, *The Long Rules*, answer to question 55.

(2) St. Theodoros the Great Ascetic, *Theoretikon*, in *The Philokalia*, trans. G.E.H. Palmer et al, (London: Faber and Faber, 1984), p. 45. As it is stated by St. Maximos the Confessor, “We do not know God from His essence. We know him rather from the grandeur of His creation and from the His providential care for all creatures.” St. Maximos even presents this injunction to know God from nature in Trinitarian form: “From created beings we come to know their Cause; from the differences between created beings we learn about the indwelling Wisdom of creation; and from the natural activity of created beings we discern the indwelling Life of creation, the power that gives created beings their life-the Holy Spirit.” St. Maximos the Confessor, “First Century on Love,” p. 64, and “First Century of Various Texts,” p. 180, both in Palmer et al, op cit.

nature....”⁽¹⁾ Thus, it might even be in principle licit to act to restore to humans the nine-hundred-sixty-nine-year lifespan of Methusaleh (Genesis 5:26).

On the other hand, the arts must at the same time be seen as properly conforming to an internal limit imposed by the Creator. In the words of St. Peter of Damaskos in the *Philokalia*, it is “God’s [own] goodness and wisdom, His strength and forethought, which are concealed in created things, [and which] are brought to light by man’s artistic powers.”⁽²⁾ We are not, then, at liberty to dispense and dispose of God’s gifts capriciously or in defiance of His goodness, wisdom, strength, and forethought, nor in order to merely serve our passions, since the passions inevitably distort our understanding of the good. Traditional Christians have always taught that the passions have an inherent capacity to distort all things, including their own tendency to distort and conceal. But if the arts must be limited in this way, what is the meta-art, the science of sciences, that would provide the discernment required for their wise use? It is not, according to traditional, patristic Christianity, an art that can be learned naturally like other arts, by teaching and practice, nor is it an algorithm of discursive rationality. It would consist rather in the spiritual vision (*theoria*) that can be gained through the grace of God from a proper purification (*katharsis*) of the soul, which in the Orthodox tradition would entail fasting, prayer, confession, holy communion, and all the other sacraments of the Church. And individual decisions regarding the specific use of these technologies should, like all important decisions of life, be made in prayerful consultation with a spiritual father.

This humble and masterful and prudential approval of genetic interventions would apply, and with fewer constraints, to the genetic modification of plants and animals. To choose one example, St. Basil the Great is affirmative of agricultural interventions that go beyond merely tending the garden. Of course, here too one would need to

(1) Saint Basil, *Ascetical Works*, trans. Sister M. Monica Wagner (Washington, DC: Catholic University of America Press, 1962), p. 330.

(2) St. Peter of Damaskos, “A Treasury of Divine Knowledge,” in *The Philokalia*, trans. G.E.H. Palmer et al, (London: Faber and Faber, 1984), p. 137.

proceed to the production of genetically-modified organisms with prudence and care, with an eye toward unintended consequences, and with attention to their cumulative effects.⁽¹⁾ One should act only when one has good grounds to hold that these actions will result in more benefit than harm, and practically speaking this will usually mean that we will err on the side of caution rather than risk.

III. A Non-Luddite but Nevertheless Traditionally Christian Conclusion

There is nothing in the understanding of traditional, Orthodox Christianity that would warrant a categorical prohibition of the use of genetic technologies, to amend either humans or other organisms. The same is the case with regard to medical interventions to augment human reproduction: interventions are not just permissible but may be laudatory, so long as they do not interfere in the normative, fleshy union of husbands and wives in producing children, and so long as they do not involve killing human embryonic or fetal life.

But on the other hand, such genetic interventions should surely be set within some important constraints and concerns that may at first glance resemble secular issues regarding technology and the environment, but which can really be understood only within the non-secular perspective that gives them force and meaning. To comprehend these traditional concerns, and to see more clearly how much they differ from the seemingly related sensitivities that draw upon secular views of nature, the understanding of created nature in traditional Christianity will need to be developed more fully.

Already in the early chapters of Genesis, it is made clear that the place of man in nature is by no means merely “natural” and “environmental,” if for no other reason than that the trees of Eden are characterized not only as “good for food,” but even prior to this as

(1) Experience has shown at the “macro” level of ecology that unforeseen, unintended consequences of human interventions can be massive and irreversible, such as with the introduction of rabbits into the Australian sub-continent, where they have no indigenous predators. Common prudence would dictate that the possibility of such consequences also occurring at the “micro” or genetic level be taken quite seriously.

“beautiful to the eye” and “pleasant to the eyes to look upon and beautiful to contemplate” (Gen 2:9, 3:7).⁽¹⁾ The trees of the garden were made for man, and made expressly for man to eat. But there is a second reason that they are created, and that they are created for man, one that is at least as important, and this is in order for us to take delight in their beauty. Why is it important that we should do this? This question can only be answered correctly by those who are already engaged in right worship, and the results of such a properly educated “seeing” are recounted throughout The Old Testament and Apocrypha where a host of inspired witnesses (such as King David the Psalmist and Job) recount how the glory, i.e. divine beauty, of God as it is manifested in creation can lead us toward the Creator Himself.

That this apprehension of the divine glory in creation needs to be rooted in right worship is clear from the contrast with neighboring peoples, such as the worshippers of Baal, who did indeed sense the beauty of God in nature, but not in a way that raised them up to praise and give thanks to the Creator, but instead lowered them to the confused status of idolaters, slavishly bound to the elements of creation. And most definitively in the Gospels, Christ’s teaching presents repeated examples of how to see God in nature: how within the sight of a roadside flower or a swallow circling overhead, we should at the same time have a lively sense of the Heavenly Father who clothes the lilies of the fields and feeds the birds of the air. So experienced, nature would have something of the transparency that it held in paradise, where creation was always experienced as presenting its Creator.

Likewise, in his commentary on the Six Days of Creation (*Hexaemeron*), St. Basil the Great maintains that the world was created not just for our consumption, but also for our *contemplation*. Looking at the good things offered up by the sea—not only things to be eaten for food, but luxuriant treasures such as coral and pearls—he ponders: “What object of luxury was not given to man? Some to supply his needs, and some to make him contemplate the marvels of

(1) *The Septuagint with Apocrypha: Greek and English*, Sir Lancelot C. L. Brenton trans., The Revised Standard Version translates the Hebrew as “good for food,” “pleasant to the sight,” and “a delight to the eyes” (Gen. 2:9, 3:6).

creation.” So too, St. Basil announces his overall intention in writing his great reflection on creation by stating candidly: “I want creation to permeate you with so much admiration that everywhere, wherever you may be, the least plant may bring to you the clear remembrance of the Creator.” But if this purpose of creation is so fundamental, why should we need commentaries such as his to assist us? Aren’t our natural faculties adequate to apprehend God in nature? St. Basil answers this plainly: “I am going to lead you, like strangers, through the mysterious marvels of this great city of the universe. Our first country was in this great city, whence the murderous demon whose enticements to slavery enslaved us expelled us [from this, our native city.]”⁽¹⁾ We have, then, become strangers in our own homeland, and a contemplative vision of the divine glory as it is manifested in creation has become strangely alien to most of us, much of the time.

Thus, if we are to retrieve this contemplative vision of God in nature, the soul must be cleansed or “scoured” (St. Athanasios), so that it might be once again be pure enough to reflect the Divine Light. And accordingly, a rich tradition of counsel concerning the practice of contemplating nature (*theoria physike*) arose in the early centuries of Christianity, seeing it not just as a monastic sideline, but as a spiritual norm. During this time, it came to be understood that through prayer, fasting, and repentance this birthright of paradise could, at least to some preliminary extent, be reclaimed and we could once again learn to see the eternal *Logos* everywhere within the inner *logoi* of creation. Not only did a consensus arise affirming the principle that most people will first be able to experience the divine energies in nature before they can gain a more direct experience of God, but as this central Christian tradition unfolded, it became clear in the writings of key figures such as St. Maximos the Confessor (7th Century) and St. Symeon the New Theologian (10th Century) that we could find in this *theoria physike* a decisive indication of the true role of man in creation.

Our relation to nature, it was understood, was not intended to be primarily that of consumer, and even less to subject nature to human

(1) Saint Basil the Great, *The Hexaemeron*, in *Nicene and Post-Nicene Fathers*, Second Series, ed. Philip Schaff (Peabody, Mass.: Hendrickson Publishers, 1994), vol. 8, pp. 94, 76, 82..

passions. But on the other hand, it was meant to be something much greater than that of a simple tender or herder or gardener—a greater role that was anticipated in God’s injunction to Noah to be nature’s master, and even before this, and perhaps even more explicitly, it was revealed in the ancient injunction to Adam that he be the Namer of “every living thing.” (Gen. 2:19). The titles of Namer, Master, and Contemplator of Creation all point to the position of man in creation as the singular interface, the peerless intermediary between the visible and the invisible: as the only being who belongs to both orders, and who was thus alone created to exercise a cosmic priesthood through apprehending the invisible Creator within creation, and thus (as St. Maximos saw it) to unify the visible and the invisible, the natural and the supernatural, earth and heaven. This will, no doubt, be fully exercised only at the end of time, within the New Jerusalem, when all things will be made complete and new. But even now it stands before us as our ownmost destiny and ideal.

This human status, of course, renders us capable of tremendous power over nature, but at the same time this very subordinate role of nature allows us to exercise very harmful effects upon it as well. Our dealings with nature, then, require not only natural prudence, but prayer and watchfulness (*nepsis*) that we remain cognizant of this, our high calling. More specifically, this ontologically hierarchical status means that we should be concerned to preserve and to perceive the capacity of creation to serve as an image (*eikon*) of the Creator. This does not, however, require us to regard wild nature as the sole arena for fulfilling this calling, although it will doubtless play a significant role. More generally, it will involve transforming nature, but doing so in a way that serves to better reveal its image-character, as when the refining of precious metals discloses a splendor that had previously been hidden beneath the earth, or when the deliberate hybridization of corn slowly revealed the rich possibilities hidden in the small, shriveled ears of Pre-Columbian corn. But is it possible to overstep the God-given potentialities of a species, to distort them to the point of deformity, even to the point of mocking their true Creator? This may, perhaps, already be the case in certain varieties of fruit whose very savor has been sacrificed to the convenience of shipping and marketing, a hybridization that took place well before the rise of genetic engineering. Or with miniature dogs who have been bred (once again, “naturally”) to be so small that their

lung capacity will no longer sustain vigorous activity. Surely it is possible to alter nature so thoroughly and so systematically that it begins to falter and fail as an image of divine goodness and providence, either locally or globally, even turning instead into a caricature made demonic as it reflects back to us our own unruly passions. These are concerns, then, that will arise for traditional Christians as they are aware of their proper role as beneficent, and ultimately priestly, masters and consecrators of nature.

Thus, although some of these concerns and considerations of traditional Christians may appear similar to more secular sensitivities, they are in fact quite different from them, both in their motives and in their implications, due to their foundation in right worship. For example, the attempt to “see” God in creation will be utterly different from *neo-pagan environmentalism*, which regards nature as sacred, and thus as inherently sacrosanct, and consequently must regard human agency in nature as essentially undesirable, if not as outright sacrilege and desecration. In sharp contrast is the view expressed by the Russian philosopher and Orthodox priest, Fr. Pavel Florensky, who maintains that it was only when Christianity had exorcised nature of the dark gods of paganism that a genuine “sense for nature” - indeed, “an unprecedented being-in-love with creation”-could fully emerge, a sensibility that had in fact been missing from among the pagan Greeks and Romans who, unlike the romantic neo-paganism of today, had the good sense to seek ritual protection against such menacing and demonic beings.⁽¹⁾

These concerns also differ from the interrelated, reductionistic views of “*deep ecology*” and *scientific environmentalism*, both of which regard humanity as no than one (mostly deleterious) component of the “ecosystem.” It is possible, of course, to see man merely mechanically, merely chemically, or in a merely “ecosystemic” way, but all these radically fail to see how humanity stands above nature in a decisive

(1) Pavel Florensky, *The Pillar and Ground of Truth*, trans. Boris Jakim (Princeton: 1997, Princeton University Press), p. 210. Even Plutarch, himself an ordained priest of Apollo, conceded that “these feasts and sacrifices were instituted only with the aim of placating and appeasing the evil demons,” i.e. the personages and powers of the Greek pantheon and their kin. Plutarch, *On the Disappearance of Oracles*, XIV, 417d, cited in Florensky, p. 529. And Hesiod too, in his *Works and Days*, focuses upon prudential advice concerning how to most effectively mollify the gods, who are seen as more menacing than venerable.

manner, and thus (like the neo-pagan models) they regard the human arts (or *techne*) as essentially invasive and undesirable.

Finally, the view of traditional Christianity is also different from the “*stewardship*” model, at least as it is embraced by some secular thinkers who wish nonetheless to find some support for their views in the Bible. But in fact the Greek and Hebrew words for “steward” occur rarely in scripture, and when they are used (such as in Luke 16:2-4) the stewardship in question relates to spiritual realities (such as the “kingdom of God” and “the law and the prophets”) rather than to the order of created nature. The “stewardship” model, which would regard humanity as a mere proxy and caretaker for the divine owner—somewhat like the sisters Lampetia and Phaethusa, guarding the cattle of the jealous sun-god Helios—maintains both too much and too little. Too much, to the extent that it underestimates both the “grandeur of creation” and the loving providence of the Creator, by suggesting that either creation or Creator stand in some essential need of us as managers and functionaries. Too little, in that it fails to see that human beings, who are created “in the image of God,” for this reason stand ontologically higher than the rest of creation: both as masters toward whom living creatures stand in fear and dread, and as priestly consecrators joining together heaven and earth through their priestly, noetic apprehending of “the glory of God hidden in creation.” This latter calling, for which we strive, but which is fully assumable only within the cosmic city of the New Jerusalem, would perform a kenotic or self-emptying reversal, an humble reciprocation and anticipation, that is nonetheless fully in keeping both with human mastery and with godlike *kenosis*. For man was created, in the words of St Anthony the Great, “in order that, by apprehending God’s creatures, he might contemplate and glorify Him who created them for man’s sake.”

Traditional Christian moral concerns, it should now be clear, are not set within the same frames of reference that drive many secular, anti-technological and pro-environment criticisms of genetic and reproductive technologies. This is as one would expect it to be: Christians see the world from moral, epistemological, and axiological perspectives that are quite different from those of secular worldviews.

**RETHINKING THE 'SECULAR
PERSPECTIVE' ON BIOLOGY:
GOING BEYOND THE MONOPOLY
OF MATERIALISM**

Mustafa Akyol

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Rethinking the ‘Secular Perspective’ on Biology: Going Beyond the Monopoly of Materialism

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Abstract

Our ideas about the future of life are undoubtedly linked with our beliefs about its past. The way we explain the origin of life will have an impact on what we regard as right or wrong about it, and thus, bioethics.

As for the origin of life, Judaism, Christianity and Islam accept and assert a theistic view - that life is created by God. Modern science, on the other, has adopted the materialistic view that regards life as a product of the blind forces of nature. The clash between the two views has been a major bone of contention in the past two centuries. Hence comes the "science vs. religion" dichotomy.

But in the recent decades, unexpected scientific discoveries about the origin of the universe and life have led some scientists to reconsider the materialist paradigm and its core theories such as neo-Darwinian evolution. The overwhelming evidence for design in nature suggests that the a secular perspective on biology may well end up accepting the theistic view; that life is indeed intended and designed by an intelligent Being.

It is truly a wise decision of The Islamic Organization for Medical Sciences to bring together Muslim, Christian, Jewish and secular perspectives for this remarkable symposium. The wisdom is, of course, based on the obvious: We need to develop a common ethical standard, at least commonly accepted acceptables and unacceptables in the area of bioethics and you can build these only through dialogue. Yet I think through dialogue we can achieve something even further, even more fundamental: The reconciliation of the Muslim, Christian, Jewish and secular perspectives themselves.

Actually the first three are already quite "synoptic": they are based on the common premise of theism - the idea that there is a God who created the universe and all living beings, including, of course, we humans. Human life is regarded as the handiwork of the Almighty God, and, consequently, it has a purpose and every human being has divinely ordained rights. When one accepts a Creator of life, he also would accept it is only the Creator which has the right to take it back.

Judaism, Christianity and Islam accept and assert this theistic view of life, and although they might have differences in details, their basic doctrine converges on it.

It is the secular perspective which might differ and has done so throughout the ages. Unlike the aforementioned theistic religions, the secular perspective is not based on any religious text, and therefore it does not have to take theism and its creation account as its premises. The tools of the secular perspective is, not the Bible or the Koran, but objective human knowledge and experience. In the modern world, this basically means modern science.

However, this does not mean that the secular perspective is destined to disagree, let alone clash, with the theistic perspective. Science is the study of the natural world and this is a value-free and premise-free enterprise. Of course science has some basic premises, such as that there is a thing called natural world and one can study it, but besides from that, science is neither theistic nor atheistic.

Or is it?...

* * *

Many people would agree on the statement that science should be neither theistic nor atheistic, but there are others who disagree. They actually think that science is inherently atheistic, and, moreover, that it is a fatal weapon against theistic beliefs. And some of them are quite frank about this. One such case is the famous Nobel laureate Steven Weinberg from the University of Texas. In accepting an award from the Freedom From Religion Foundation, Weinberg said, "I personally feel that the teaching of modern science is corrosive of religious belief, and I'm all for that! One of the things that in fact has

driven me in my life, is the feeling that this is one of the great social functions of science - to free people from superstition." When Weinberg's idea of science triumphs, then "this progression of priests and ministers and rabbis and ulamas and imams... will come to an end, [and] we'll see no more of them. I hope that this is something to which science can contribute and if it is, then I think it may be the most important contribution that we can make."⁽¹⁾

One can find many quotations like this from prominent figures in modern science such as Carl Sagan, Richard Dawkins or Daniel Dennett. The common attitude among these scientists is to define theism as superstition and to argue that it is refuted by science.

However, as I mentioned before, science has no inherent hostility to theism. Moreover, it was actually theism that fostered modern science. Much of the forerunners and makers of Western and Eastern sciences were Muslim, Christian or Jewish believers who regarded nature as God's handiwork.

This theistic framework of modern science was challenged in the 19th century, when theories of Darwin, Spencer, Marx, Engels or Freud attempted to explain the universe, the natural world and human nature as the product of purely random and purposeless material forces. Such theories, at least for a time, prevailed over the pre-existing theistic explanations and beliefs. Hence came Friedrich Nietzsche's famous assertion, "God is dead."

The gist of the "God is dead" idea was the equation of science with materialism. The latter is a philosophy which argues that the material world is all there is and there is simply nothing beyond. Also known as naturalism, materialism envisions the universe as a closed system of material causes and effects and leaves no room for an immaterial cause, mind or purpose that might influence the universe.

Since the 19th century many scientist take materialism as granted and see it anonymous with science itself. The very widely accepted

(1) Steven Weinberg, "Free People From Superstition," *Freethought Today*, April 2000, <http://www.ffrf.org/ftoday/2000/april2000/weinberg.html>

definition of science implies that: It is defined as the quest for finding natural causes for all natural phenomena.

But there is problem with this definition: It is based on an unproven premise; that the whole natural world is the product of purely natural causes. Perhaps the natural is really the product of purely natural causes; but perhaps it is not. Science should not make an *a priori* decision and, instead, should try to find out the truth.

Scientific materialists like Steven Weinberg - who is looking forward to see the end of all religions - will tell us that science has already found the truth by explaining all natural phenomena by natural causes. However, in the recent decades, modern science has revealed two unexpected discoveries that give good reasons to challenge Dr Weinberg and all other scientific materialists.

* * *

One of those discoveries is the Big Bang cosmology.

Before the Big Bang, the common view about the universe was that it was eternal and static. This, of course, was compatible with materialism that denied any beginning, in other words, a creation of the universe.

It was Georges LeMaitre (1894-1966) who discovered that creation. A monsignor in the Catholic Church, he studied physics, and in 1927, proposed that the universe is expanding. This thesis, which was confirmed by later discoveries, meant that the universe was smaller back in time and that at the very distant past, it was just a single point, a primordial atom that had contained all the matter in the universe.

It wasn't hard for scientists to realize that this primordial atom, also called singularity, is a theoretical construct and that in fact matter and time as we know them came into existence from nihility with the Big Bang, some 17 to 15 billion years ago.

It appears that Big Bang cosmology is driving science to theological conclusions. In the oft-quoted words of astronomer Robert Jastrow, the mysterious abruptness of the universe's beginning means, "science will never be able to raise the curtain on the mystery of

creation. For the scientist who has lived by his faith in the power of reason, the story ends like a bad dream. He has scaled the mountains of ignorance; he is about to conquer the highest peak; as he pulls himself over the final rock, he is greeted by a band of theologians who have been sitting there for centuries.”⁽¹⁾

Moreover the “bang” was unimaginably, ingeniously fine-tuned, down to the smallest detail. Physicists have begun to recognize this fact since the 1970’s. They noted that the physical, chemical and biological laws of the universe, basic forces such as gravity and electro-magnetism, the structure of atoms and elements are all exactly as they have to be for human life. This is called the “anthropic principle”, that is, every aspect of the universe is designed with a view to human life.

Of course this again points to an immaterial cause beyond the universe. As astronomer Fred Hoyle famously stated, “a commonsense interpretation of the facts suggests that a super intellect has monkeyed with physics, as well as chemistry and biology, and that there are no blind forces worth speaking about in nature.”⁽²⁾

* * *

While teleology - the view that there is a purpose and design in nature - has returned back to physics, it is on its way in biology, too.

In the recent decades, modern science has demonstrated that living beings are imbued with ingenious architecture, databases, and operating systems that construct, repair, and replicate themselves. This amazing design of the biological world challenges the Darwinian theory of evolution, which argues that life is the product of the blind forces of nature such as natural selection and random mutations. The challenge is raised by the new scientific theory called Intelligent Design, which is creating a lot controversy right now in the US.

In a nutshell, Intelligent Design is the theory that argues life on Earth is the product of natural laws, chance *and* intelligence. Darwin-

(1) Robert Jastrow, *God and the Astronomers*, 1978, p. 114-116.

(2) Fred Hoyle, "The Universe: Past and Present Reflections", *Engineering and Science*, November 1981, pp. 8-12.

ism, on the other hand, accepts only the first two causes, because, according to materialist philosophy, intelligence does not exist unless it evolves over time from mindless matter.

Therefore Intelligent Design and Darwinism are mutually exclusive theories. They both try to explain the origin of biological designs, but in different ways. Actually Darwinians also acknowledge that there is design in nature, but they argue that this is only apparent design. Richard Dawkins began *The Blind Watchmaker*, his influential restatement of Darwinism, with the observation that "Biology is the study of complicated things that give the appearance of having been designed for a purpose."⁽¹⁾ Dawkins does not consider the possibility that living organisms give that appearance because they actually were designed, because he thinks that the Darwinian mechanism of natural selection is enough to design all life forms on Earth.

But is natural selection really that powerful? The proponents of Intelligent Design don't think so and they base their argument on Darwin's own criterion for falsification. "If it could be demonstrated that any complex organ existed which could not possibly have been formed by numerous, successive, slight modifications," said Darwin, "my theory would break down."⁽²⁾ ID theorists, such as biochemist Michael J. Behe, apply this criterion to complex biochemical systems such as the bacterial flagellum or blood clotting and explain that they could not have been "formed by numerous, successive, slight modifications" - because they don't function at all unless they are complete. This means that they are "irreducibly complex" and thus they cannot be explained by natural selection or any other known natural mechanism.

Since there are no known natural mechanisms to explain the origin of biological complexity, we are justified to infer that they give the appearance of having been designed for a purpose because they *were* designed for a purpose. This is the basic tenet of the Intelligent Design theory and today it is pushing for a major paradigm shift in modern biology.

(1) Richard Dawkins, *The Blind Watchmaker*, 1986, Penguin: London, 1991, reprint, p.1.

(2) Charles Darwin, *Origin of Species*, 6th ed. University Press, 1988. p. 51.

The re-discovery of design and thus purpose in the natural world has immense consequences. The most profound one is the unraveling of scientific materialism and atheism.

An interesting indication of this phenomenon is the fact that the most famous atheist in the academic world over the last half-century, Professor Antony Flew of England's University of Reading, now accepts the likelihood that a Deity brought the universe into existence. Flew's paper, "Theology and Falsification," which grew out of a 1950 presentation to the Socratic Club, had set the agenda for modern atheism for decades. Now, in a remarkable evolution, Flew accepts the existence of a God who "possesses most of the usual defining characteristics of omnipotence, omniscience, immateriality." His new-found "theism" is the product not of a personal conversion, but of reasoned analysis of the latest scientific data.

"What I think the DNA material has done is show that intelligence must have been involved" in the origination of life, he states. "The enormous complexity by which the results were achieved looks to me like the work of intelligence."⁽¹⁾

This is a manifestation of what I meant in the beginning of this paper when I said that the secular perspective in biology could indeed agree with the theistic perspective. One does not necessarily need to start with religious texts to see that life is intended and designed. One just has to start with a dogmatic faith in materialist philosophy for *not* being able to see that.

Once such dogmatisms are left behind and we all agree on following the evidence wherever it leads, we can see that the "secular perspective" on biology ends up reaffirming the theistic perspective; that there is really a Creator who made the universe and the living beings.

And from that premise, which we can define as a self-evident truth, we can start building a common view of human nature and destiny.

(1) Roy Varghese and Christopher Hitchens, "Does Modern Science Undermine Atheism?" *The American Enterprise*, April/May 2005.

**HUMANITY AND CREATION /
THE NATURAL DISPOSITION
OF THE WORLD**

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Humanity and Creation/The Natural Disposition of the World

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First Axis:

1 - What, in the view of different faiths, is the proper relationship between human beings and other creatures? To what extent are we allowed to be creative? And to what extent can created beings be modified and ameliorated by humans? Which biological features are considered modifiable and which inviolable?

Man is the core of this universe because he is the intelligent being endowed with mental powers and sentimental equipment that enable him to interact with his surroundings, adjust to them and explore them to the best of his abilities. He is also capable of securing the necessary means and methods that would assist him in communicating with others, overcoming obstacles and rectifying shortfalls.

Animals, including the chimpanzee, have no intelligence. They only have skills necessitated by physiological drives and material needs. But Man has what enables him to go beyond space and time and always come up with innovations.

Therefore, it is only natural that all faiths, whether divinely revealed or humanly posited, should look upon man as a higher being placed in a leading position. On the other hand, they consider animals, plants and all other created beings that permeate the vast universe as subservient to man; he can utilize them in satisfying his needs and creative endeavours. But all this should be done in ways that maintain ecological and natural equilibrium. Tampering with the rigorous rules of this universe and the delicate equations on which this equilibrium is based can only bring harm to people as well as to all living beings on earth; and man is not entitled to do this. The basic principle, then, is that there are guidelines, rules and purposes that underline and control man's handling of what is subjected to his service.

As for the relationship between humans and non-humans, perspectives agree on broad lines but vary in the details. In the Book of Genesis of the Old Testament a concept which is adopted by both Judaism and Christianity is expressed by the following quotations:

And God said: " Let us make man in our image after our likeness; and let them have dominion over the fish of the sea, and over the fowl of the heavens, and over the cattle, and over the whole earth, and over every creeping thing that creepeth on the earth. And God created Man in his image, in the image of God created he him; male and female created he him.

And God blessed them; and God said to them, Be fruitful and multiply, and fill the earth, and subdue it; and have dominion over the fish of the sea, and over the fowl of heavens, and over every animal that moveth on the earth. And God said, Behold, I have given you every herb producing seed that is on the whole earth, and every tree in which is the fruit of a tree producing seed: it shall be food for you; and to every animal of the earth, and to every fowl of the heavens and to everything that creepeth on the earth, in which is a living soul, every green herb for food. And it was so."

(GEN 1: 26-30)

In the Book of Genesis itself, woman is stigmatized as seductive and consequently placed at a lower rank. We read:

" And Man said, The woman, whom thou hast given [to be] with me, she gave me of the tree, and I ate."

(GEN 3:12)

" To the woman he said, I will greatly increase thy travail and thy pregnancy; with pain thou shalt bear children; and to thy husband shall be thy desire and he shall rule over thee"

(GEN 3:16)

The Old Testament also raises the Jews above all nations: " For a holy people art thou unto Jehovah thy God: Jehovah thy God hath chosen thee to be unto him a people for a possession, above all the peoples that are upon the face of the earth"

(Deuteronomy 7:6)

Such texts involve attitudes of discrimination that serve as the basis of racism resulting in the emergence of Zionism where religion has been utilized for a political project as well as for legislations relating to the family, marital status and other facets of the social system.

Initially, the above texts bestow a special status upon man and make all non-humans subservient to him. This is apparent in the quotation from the Book of Genesis that man is created in the image and likeness of God and that animals and plants are subjected to serve man's needs. But discrimination emerges in the second quotation which accuses the female of seduction and threatens her that because of this she shall go through pains and troubles. This is what makes the Jewish legislation establish a heritage where women are considered inferior to men and stigmatized as the source of all sins.

Claims that a certain nation is the chosen one lend themselves to increasing tendencies towards discrimination. Originally, all humans are God's servants. His mercy extends to any and everyone of them who is righteous and straightforward in thought and deed. This concept of a chosen people has laid the foundation for a culture of racism that rejects the other. It is even more menacingly a political, economic and social culture of infringing upon the rights and sanctity of the gentiles.

The chosen people justify the appropriation of anything belonging to these gentiles by saying that all others are subservient to them. This attitude of looking down upon the non-Jewish has driven some extremist writers of Hebrew literature to describe the gentiles as akin to animals. The Talmud abounds with such racist views and concepts. In a quotation from the Talmud we read: " A non-Jewish is not a human-being; the sperm from which he comes is an animal's sperm."

Furthermore, the post-Christian parts of the Talmud (Mishnah and Gemara) are full of virulent attacks against Jesus Christ (PBUH) and Christianity. For centuries these texts have brought about a lot of troubles and suffering to the Jews in Europe and eventually gave rise to the Zionist movement which is racist at the grassroots. Driven by the Jewish concept of appropriating gentiles' belongings, Zionism led the Jews to occupy Palestine and usurp the rights and sanctities of the

Palestinians. This flies in the face of the initial texts of the Old Testament that state that man is honored because he is created in the image of God.

If we turn now to another faith, Hinduism, we will find a number of problems with regard to creation in general and the human being in particular. Hinduism is not a heavenly religion advocated by a certain person. Rather, it is a cultural heritage that has developed with the unfolding of the Indian history. In their attested texts entitled "Meno Samarti" which means "Meno's law", we find the following statements relating to creation and the formation of the human being:

" Then He created this mortal world from the total parts of these seven immortal things: the mind, the Inya, and the five elements of (ether, air, fire, water and dust) that have great and everlasting power. He has deposited in each element its specific attributes, and given the next in sequence the same attributes of the preceding one with increasing additions every time. Then He named everything created and destined it to specific functions for which it was meant in accordance with what is stated in the Weid (knowledge). Besides, Brahma has created working gods of various classes. And He created the kind spirits and Mahabakia (the great worship confined to princes and wealthy people).

"...Therefore, every creature, when it comes into being, sets out to do that for which it is created and carries out the function assigned to it by Brahma since eternity. For every creature, when it comes into being attains the trait it is meant to have: oppression or compassion; leniency or severity; righteousness or corruption; truthfulness or deceit; and many others. "

"For the good of the world, Brahma has created the Brahmans from his face, the Kishtarians from his arms, the Weeshans from his thighs, and the Choudries from his feet"

The Hindu text goes on to say, "He assigned to the Brahmans the task of reading the Weid and teaching it, performing the Bakia for themselves and for others and singled them out by entrusting them with the collection and distribution of the alms.

The Kishtarians are enjoined to carry out five functions: to safeguard the subjects, pay the alms, worship Bakia, read the Weid and renounce pleasure in worldly things.

The Weeshans are enjoined to carry out seven functions: animal husbandry, donation of alms, worship of Bakia, reading the Weid, trade, usury, and farming.

The Choudries are enjoined to do one thing only: to serve with the utmost devotion the above three groups.

The Hindu faith is based on belief in a Brahma-Fishno-Shiva trinity; Brahma, the creator; Fishno, the provider of daily bread and bounties; Shiva, the god of destruction and annihilation. The universal system is based on determining a rule and function for every created being. With regard to human beings, as the texts state, they have been formed from parts of Brahma's body. Consequently, they have been classified into Brahmans, Kishtarians, Weeshans, and Choudries. The rule and function of each class are determined by the part of Brahma's body they have been formed from. The Brahmans, for instance, who constitute the clergy are formed from the face. Hence, they are at the top. Next come the Kishtarians, who constitute the princes, governors and people in power generally. These are formed from the arms. The third class, the Weeshans are the workers, the farmers, the traders and those who meet public needs in various domains. These are formed from Brahma's thighs. Finally, the Choudries are the fourth and lowest class as they come from Brahma's feet and are assigned to the service of the higher three classes. They are not allowed to read the Hindu Legal Law, viz, the Weid, or enter the temples. They do not have the privileges which are confined to the other three classes.

The Hindu faith imposes a strict system of separate, closed classes: no member born into a certain class is allowed to move into and be a member of another class. This is undoubtedly unfair. It was this inequity which made Budha (Sidharta) to rebel against the system. He had been a prince of the Weeshan class. When he noticed that society in general suffered from these restrictions he deserted his palace, abandoned his wife and family and lived in reclusion with the ascetics and hermits until he was elevated to Buddhism (ultimate enlighten-

ment). It was at that juncture in his life that he set down his socio-ethical philosophy which turned after his death into a religion.

In Islam, however, a human being has a special status just for being human, regardless of what he believes in, where he belongs, how much he knows or what occupation he has.

In Islam, man is privileged by certain features in his congenital formation that are exclusively human. In the Quran we read:

“ We have molded man in a most noble image”

(95:3)

Upon this most nobly molded man, God has bestowed a most precious attribute, namely, the mind with which he is distinguished so that he can be creative when he thinks, manages, builds and invents. Man is primarily endowed with this mental power so that he can understand. The primary purpose of understanding is knowledge of the Creator (SWT), then the capacity to take in the heavenly messages and adhere to them. These can guide him and serve as the solid foundation for all his worldly legislation that will assure for him a prosperous and stable life. Man is exhorted to be wise in utilizing God's bounties: no extravagance, no waste. A stable life also entails respect for human rights, kindness to animals and economy in exploiting his resources.

All this is meant for the well-being of one central creature who is at the very heart of this whole universe - man.

Therefore, God has made man his vicegerent on earth. In a verse of the Quran we read:

“ And the Lord has said unto the angels, 'I am making in the earth a vicegerent.'” (2:30)

And God has decreed that man shall be honoured just because he is a child of Adam.

“ We have honoured the Children of Adam and carried them on land and sea and provided them with good things and preferred them greatly over many of those We created” (17: 72)

Man's mastery over all non-human creatures is expounded under the verb "subjected" which recurs in several verses of the Quran"

" Have you not seen how that God has subjected to you whatsoever is in the heavens and earth" (31:20)

"It is He who subjected to you the sea, that you may eat of it fresh flesh" (16:14)

" and He subjected to you the sun and the moon constant upon their courses" (14:33)

Many verses also refer to God's favours towards man under the noun "blessing"

" and He has lavished on you His blessings, outward and inward" (31:20)

If man disobeys what God has enjoined and becomes an infidel, scourge and distress will be inflicted upon him.:

" Then it (the city) was unthankful for the blessings of God; so God let it taste the garment of hunger and of fear" (16:112)

The Quran rectifies what was alleged by the writers of the Old Testament concerning Eve whom they had accused of seduction. In the relevant verses the object of Satan's temptation is not singular but dual (in Arabic) involving both Adam and his wife, Eve.

This stands to reason as they are only the male and female of the same species, and both are equally susceptible to temptation. God (SWT) says:

" And we said, 'Adam, dwell thou, and thy wife in the garden, and eat thereof easefully where you desire; but draw not nigh this tree, lest you be evildoers.' Then Satan caused them to slip there from and brought them out of what they were in; and We said: 'get you all down, each of you an enemy of each; and in the earth a sojourn shall be yours and enjoyment for a time.'" (2:35)

Since it is the human being per se, whether male or female, who is the object of honour, the door is wide open for him/her to do

whatever is necessary to improve the quality of life, handle natural disasters, and fare well in every possible state of affairs; from making the right choice of the good spouse to the construction and development activities, etc..

With respect to the biological side, there is nothing against taking preventing measures; nay, it is incumbent upon parents to do so to avoid having a fetus affected by an inherited disorder or congenital malformation resulting from miscalculated choices in marriage. So, a couple intending to get married are allowed to be medically tested before their marriage is consummated. After the wife gets pregnant, she should be diagnosed for any possible inherited diseases as a preventive measure. These matters should be taken very seriously by everyone concerned.

As for manipulating embryonic genes, it is allowed only if the aim is to protect the fetus against the possibility of getting affected by an inherited disease or congenital abnormality. But if it is carried out with a view to determining the sex of the fetus, the color of its hair or eyes etc., the practice is right within the circle of prohibition. Such interference lays the foundation for racism, in addition to disturbing the male-female ratio, which may lead to homosexuality, among other things,

2. If we can modify human nature, will mankind have a status different from the rest of nature/creation? Would it be necessary to provide man with special measures of protection?.

Genetic engineering has lately extended its work into the domain of human reproduction, specifically the area of introducing changes in the pre-embryonic stage. The point of departure for genetic engineering was close observance of God's ways of creation concerning fertilization and pre-implantation embryonic development. But then it used the chromosomes, the ovum and the uterus for embarking on a series of practices including. In Vitro Fertilization, cloning and other such procedures. The interference in itself, specially in the area of human reproduction requires a set of guidelines for the protection of man's dignity, rights and above all nature.

Introducing changes in the genes of plants in order to obtain

hybrids of better and more abundant crops is a welcome procedure because it provides man and beast with their needs of food and fodder respectively. It also contributes to man's happiness and stability. Therefore, such improvements on nature are permissible and encouraged by legislation. The same applies to cattle and fowl, because these constitute important sources of food security.

When it comes to humans, however, it is quite a different matter. Introducing any modification or substitution must be submitted to rigorous rules and guidelines. We are not talking here about any kind of reproduction. Human reproduction takes place within the recognized and legal bond of marriage between husband and wife, which is part of a network of family relations each of which has its own rules, values and line of conduct; each entails specific social and financial commitment. Strict observance of these matters is indispensable for the cohesion of the family which is the basic unit in the fabric of the whole society.

Reproduction within the framework of this well organized system of relationships guarantees for the offspring rights of breeding and inheritance in addition to social security. This system specifies certain norms of marriage and reproduction, violation of which constitutes disobedience to God and deviation from the legal line with all the resulting aspects of social chaos.

There would seem to be no objection if the introduced biological changes in the human nature aimed to heighten the effectiveness of mental powers or activate learning capabilities. The only proviso is that such changes and modifications should not disrupt the universal rule of human variation into male and female, colours, and tongues because no integration could be possible if everyone was like everyone else. Besides, variation among people creates the right atmosphere for competitive human activities.

Since legal guidelines stipulate that man should be respected for what he actually is no matter what congenital, physical or mental attributes he has, legislators who take it upon themselves to monitor the findings of genetic engineering should make sure that an atmosphere of dignity and decent life for man prevails.

It follows that protecting man and human nature from being tampered with by genetic engineers requires restricting measures when the human fetus is the subject of changes and modifications, unlike the unlimited freedom of work given to manipulations of plants and animals.

3. What is the ethical status accorded to the human fetus in its early and final stages of development?

After a natural in vivo fertilization process resulting from coitus between husband and wife, an embryo takes form and starts on a long journey of development until it becomes a full baby ready to be born into our world. Dealing with this embryo from day one of formation to day of birth requires adherence to a set of morals by more than one party, primarily the pregnant mother who must do the following:

- 1 - Avoid any circumstance that may jeopardize her health. She should take all preventive measures lest she cause her fetus to be affected by one or another of many potential health disorders.
- 2 - Stay away from drugs, liquors or tobacco, or at least cut down on them for fear of adverse effects on the development of her fetus
- 3 - She should wear garments that are loose enough to allow freedom of movement. In whatever tasks or house chores she may perform, or places she may use for sleeping, she should be careful that nothing could negatively affect the baby shaping up in her womb.

As for the other parties, including the father, health professionals and health authorities, they are required to do the following:

- 1 - Provide the pregnant mother with every possible means of care in terms of the surrounding environment, nutritional food, and necessary cure of any emerging disorder. She should be safely kept away from any stress or emotional disturbances as physical or psychological distress will be reflected on the developing baby.
- 2 - Implement the rules and measures that necessitate medical examination of a couple during the engagement period and prior to

full marriage to ascertain that they are both free from any disorder that may affect the fetus.

- 3 - Confront legally and procedurally calls for permitting abortion with or without justification. It detracts from human dignity and contravenes the Sharia's purpose of preserving the offspring. Moreover, it generates a structural imbalance in the population hierarchy and may lead to the aging of the whole society.

There is a common agreement that a fetus has a status accorded to it by religion and human values. That is why we find that Islamic and Christian religious authorities have firmly stood out against abortion, contraception or disrupting reproduction.

However, there is no problem with birth control measures. Even abortion itself is permissible as soon as pregnancy turns out to be harmful to the mother or if it is asserted during the first trimester that the fetus is inflicted with gross, incurable abnormality incompatible with tolerable life.

Apart from these cases, abortion is strictly impermissible even upon the request of either of the parents. According to Islamic Shari'a, the person who aborts a pregnancy after the ensoulment of the fetus, i.e. after exactly four months into pregnancy, must pay full blood money. Abortion in this case, is considered a crime in the full sense of the word.

4. What is the concept of human dignity in the faith you have embraced? Is it affected by the brilliant technological manipulation of reproductive procedures including designing of selecting certain embryonic properties?

Man is made God's vicegerent on earth. He has the choice either to be righteous and pious, praising God and thanking him all the time, or to be corrupt and blood shedder. Therefore, God has armed man with knowledge whose limit is only the sky. Man's choice, then, should be consciously made in light of his knowledge of what is right and what is wrong. In the Holy Quran, we read:

“And when the Lord said to the angels, 'I am setting in the earth a vicegerent', they said, "what wilt thou set there in,

one who will do corruption, and shed blood, while we proclaim Thy praise and call you Holy? He said, 'Assuredly I know that you know not.'(2:30)

“And he taught Adam the names, all of them; then He presented them Unto the angels, and said, ‘Now tell me the names of these, if you speak truly.’” (2:31)

Man's dignity, then is epitomized by the mind, the gift of God he is endowed with. Through this mind he can get knowledge, either by being informed or by seeking it through research and exploration, invention or creation. This is the advantage which made him honoured by God:

“We have honoured the Children of Adam and carried them on land and sea, and provided them with good things, and preferred them greatly over many of those we created” (17:70)

If man's vicegerency is associated with knowledge, honouring him is associated with giving him precedence over all other creatures. This puts the honour bestowed on him into effect by giving him the right to make full use of those lower creatures subjected to his service and to move freely across the length and breadth of this vast universe by land, sea or air. Man also has the right to earn his living and avail himself of bounties God, has lavished upon him provided that he seeks this at lawful sources.

Therefore, Islamic thought ventures freely into all areas and fields relating to man's interests: politics, culture, art, economics, sociology, family affairs etc.

Man's endeavours and activities in any of these domains should revolve around and be judged on the two central advantages that he has over all other creatures; namely, that he is made vicegerent and that he is honoured.

Anything that contravenes these two central privileges is counted as violation of human rights and hence detrimental to man's dignity and status.

Man will do well in his life if he always proceeds from these two

central merits because of which he has been exclusively blessed with special features in his physiological and psychological structure. Referring to this particular point, God (SWT) says:

“We have moulded man in the most noble image.” (95:4)

In his book of commentaries on the Quran entitled “Al Gamei Li Ahkam Al-Quran” Al-Qurtubi elucidates the Quranic texts on man’s dignity. “when the Quran says that God has made man dignified, it means that God has conferred honour upon man and raised him to distinction, not because of the money he may have, but because of what he is.

An important ingredient of this dignity is that man is created upright and good-looking. There is also the fact that the children of Adam are carried over land and sea. This advantage is exclusive to mankind as it requires will, purpose and design-things that only man is capable of. Man is also distinguished from animals by what and how he eats and drinks as well as by the clothes he wears.”

Al-Dahhak said, “Man is honoured by his ability to speak and distinguish between different things.”

Mohamed Bin Jareer Al Tabari said, “Man is honoured by being given full mastery over other creatures and by having all other creatures subjected to his service.”

It was also said that man is honoured through the distinctive feature of language: spoken as well as written. Others ascribed man’s special status to his ability to understand and distinguish between different objects. What seems to be reliably true, however, is that man is given precedence over all other creatures thanks to his mind on which the duties he is charged with pivot. It is through his mind that man has come to know God and understand His words.

The Islamic Shari’a based on the Quran and the prophet’s sayings, emphasizes that God has singled man out by conferring upon him special properties.

God (SWT) says:

“It is God who made for you the earth a fixed place and heaven for an edifice, And He shaped you, and shaped you

well, and provided you with the good things. That then is God, your lord, so blessed be God, the lord of all being.” (40:46)

Basic to the formation of man is the specific shape given to him by God. Man has characteristic features not found in other creatures. These features, top of which is the mind, are instrumental in enabling man to realize his own well being and prosperity. That’s why, the purposes of Islamic Shari’a are specified as the preservation of:

- 1 - The soul
- 2 - The mind
- 3 - Religion
- 4 - Offspring
- 5 - Wealth

It is obvious that the human-being is the focus of interest here. Everything Islamic Shari’a aims to preserve is closely linked to man’s life. So, everything exhorted by this Shari’a is meant to uphold man’s dignity since he is made God’s vicegerent on earth. The way to do this is to ward off an injustice, a peril or an infringement; or it could be effected through attaining a benefit and averting an evil. In general, trying to secure whatsoever is necessary for realizing the purposes of Shari’a.

The issue of our interest here is the use of reproduction technologies in serving one of the Shari’s purposes namely, the preservation of the offspring. There is nothing against that as long as this use is made within the framework of the legal guidelines that would be delineated below.

Before we go into further details about this issue, we should remember that reproduction in its own right is something exhorted by Islam, as preserving offspring can not be fulfilled without it. This is borne out by the Quran:

“God has appointed for you of yourselves wives, and He has appointed for you of your wives sons and grandsons” (16:72)

The verse clearly shows that for the preservation of the human

species, procreation must proceed incessantly from ancestor to son down to grandson, and so on and so forth.

The Islamic view regarding marriage is that it provides psychological and emotional repose for husband and wife who are thus integrated into the basic unit of society: the family. Marriage also provides a safe and secure framework for the gratification of the inherent sexual drive in the male and female. Still marriage has a third purpose: procreation. One of the narrators of the prophet's Traditions, Anas Ibn Malek said: "The Messenger of Allah (PBUH) always urged those who could afford it to get married. He was also very adamant in proscribing celibacy. " The prophet (PBUH) says: "For marriage choose the one who is loving and fertile. The density of Muslim population will be a source of pride for me on the Day of Resurrection."

This Tradition underscores two points: first, love between husband and wife is the basis of the repose that marriage provides. This is referred to in the Quran:

"He created for you, of yourselves spouses that you might repose in them, And He has set between you love and mercy." (30:21)

Secondly, it is essential that one choose one's life partner to make sure that marriage will be reproductive.

From time immemorial, people have always been innately inclined to beget healthier and stronger offspring. In his "Utopia", Plato wrote about procreation and specified prime times for it. He went so far as to recommend dumping babies that were born in different times or those who were afflicted by disabilities.

We also know of peoples and civilizations that adopted class systems such as Hinduism, allegedly to preserve race purity.

In an Islamic Tradition we find the following: "Do not marry your close relatives because you will beget weak offspring." Many commentaries elucidate the main point in this tradition. They all emphasize that one should marry someone who is as far as possible from one's family tree. The later findings of biology give credence to this as

scientists recommend marriage between persons of far different families, the farther the better, because such a marriage will most probably produce healthier children with better physical and mental abilities.

There is no problem then with following methods that will eventually lead to improving the offspring. Islam encourages this, and so does preventive medicine which involves the importance of living in hygienic environments to avoid getting infected. One of the prophet's Traditions about the plague is relevant here: "If you hear it (the plague) has hit a certain area do not go near it"

There is also the story of Caliph Al Farouq (Omar Ibn Al Khattab) when he arrived in Al Sham (Syria) and was met by Abu-Obayda Ibn Al Jarrah and his companions. They informed him that the plague had broken out in the country. After consultation, the Caliph decided to leave immediately. Abu-Obayda said "Are you fleeing from God's destiny?" The Caliph answered, "If only it was asked by someone else Abu-Obyada; the answer is yes: we flee from God's destiny to God's destiny"

Accordingly, submitting to God's destiny does not contradict taking precautionary measures by would-be husbands and wives who get medically tested before marriage to make sure they are free from any biological factors that might produce offspring with abnormalities. If the test proves that either party to the prospective marriage contract carries a potentially genetic hazard to the offspring they should never go through with this contract. Or the tests may detect a case that requires treatment. Then the contract should wait until the affected party is fully cured. All this is in full agreement with the Shari purpose of preserving the offspring.

Answering a question about genetic engineering, Sheikh Atteya Saqr, a member of the Fatwa Committee at Al Azhar, said in May 1977: " If it aims to avert inherited diseases using proven scientific methods that do not involve any prohibitions, there is nothing wrong with it as far as I am concerned. Prevention is better than cure. The Quran forbids us to walk into perilous situations. The Traditions also warn us against getting infected. So, if we hear that a plague has

broken out in a town we should not get into it; if it occurs in a town we live in we should not get out of it. The Quran also forbids us to eat with a leper (leprosy is a serious infectious disease in which the flesh and nerves are gradually destroyed) or deal with anything that may put us in harm's way. In Islam, we are advised not to harm or get harmed."

We referred above to the dangers of manipulating embryonic genes in order to select and determine the sex of the baby. If this selective interference is carried out for no other purpose than to gratify the wishes of the parents or grand folks of the family it is then a prohibited act. It is more so because it implies premeditated-rejection of a certain sex, which is extremely detrimental to the human dignity expounded above.

This is evidenced by an example from India. In the mid summer of 1994 the Indian Parliament had to legislate against the use of ultrasonic equipment for detecting the sex of a fully developed fetus in the uterus unless it is carried out under governmental supervision. The Indian legislators, it would seem, finally decided to step in to curb the wide spread phenomena of aborted pregnancies if the visualized baby in the mother's womb proved to be a female. The reason is that a female is much more expensive to an Indian family because in the Indian traditions the onus to equip a girl for marriage is on her family.

In conclusion, we can say that selective manipulation of embryonic genes for designing certain traits and excluding others is only acceptable and permissible by Shari's if the process is done to prevent a potentially inherited disease. Otherwise, it is totally rejected and impermissible.

5 - Is there a general attitude towards science and technology in your faith? Is there any basis for saying that we'd better not delve deeply into certain topics? If so, what are they likely to be? In your faith is there a schism between two factions: conservative versus liberal? Or are such terms meaningless in your discourse?

In Islam, both the Quran and Sunna (Prophet's Traditions) emphasize holding the mind in the highest possible esteem and

elevating science and scientists to the most eminent status. Islamic texts elaborate on the importance of science in getting to know God and exploring the truths and systems of the universe. Science stands behind our ability to be inventive and creative. All this is necessary for a prosperous and stable life. God (SWT) says in the Quran:

“ God will raise up in rank those of you who believe and have been given knowledge.” (58:11)

In another verse God (SWT) says:

“ God bares witness that there is no god but He-and the angels and men possessed of knowledge-upholding justice.” (3:18)

If these two verses point to the high status of scientists, other verses prod Muslims into acquiring knowledge and conducting scientific research as this will lead the more knowledgeable to be more God-fearing:

“Only those of His servants fear God who have knowledge.” (35:28)

The prophet's Traditions emphasize this meaning. They are too many to be quoted in one paper but a particular Tradition is very significant in this context: “Scientists are the inheritors of prophets.” In another Tradition the prophet (PBUH) says: “The nearest to the prophetic rank are scholars and fighters. The former have explained what the messengers said, and the latter have carried their swords in defense of it.”

On the Day of Resurrection scholars are promised full equality with martyrs in status. The prophet (PBUH) said: “On the Day of Resurrection, the scholars' ink will equal the martyrs' blood in weight.”

He also said: “The favour a worshiper owes to a scholar is as great as the favour owed to me by the closest of my companions”

It is a characteristic of a learner and a scholar alike that they disseminate any useful knowledge they may gain; for knowledge trapped in the mind or in private papers is good for nothing. The

prophet said: “ Whoever withhold useful knowledge shall be harnesssed on the Day of Resurrection with bridle of fire.”

Science in Islam then has a function and a purpose. A scientist or a scholar is entrusted with the knowledge he gains; and it is his moral duty to pass it over to whoever needs or desires it. He should not be secretive about it or keen to keep it to himself. The same applies to research teams, institutions or governments because the basic rule is: “knowledge concealed from the public is good for nothing.”

Knowledge is wanted whatever the source; for a scientific fact has no national or religious identity. In one of the prophet’s Traditions we read: “The ultimate goal of a believer’s persistent search is Wisdom; wherever he finds it, he should get hold of it.” Ibn-Rushd (Averros) the renowned Arab philosopher, said in his book entitled “Fasl Al Maqal”: “We should take wisdom and facts from our predecessors whether they were of the same faith or not.”

No knowledge is banned in Islam; research and exploration are wanted in all fields and about every phenomenon in the universe or in society. Permission or prohibition is not about science per se, but about its application. Simply it is permitted as long as it is utilized for the good of mankind.

Even weapons are necessary for the rightful purposes of redressing injustice, resisting occupation and extortion or keeping law and order.

Science is a double-edged weapon, as an old saying goes. It could be used for good as well as for evil. So the criterion in Islam is the use to which science is put. In science, according to the Islamic view there is no place from such dichotomies as liberal versus conservative. This particular dichotomy resulted from certain circumstances that prevailed in Europe during the Middle Ages which witnessed the courts of inquisition. In those days, there were negative attitudes towards some scientists and theories.

On the other hand, since the inception of Islam all doors have been wide open for all sorts of scientific work. So much so that some atheists had the nerve to attend the prophet’s meetings challenging to be convinced of the existence of God. The prophet (PBUH) signaled

for Imam Ali to take them on. So, the Imam held a series of special meetings with them for the purpose. This incident seems to have sent the right message to the scientific movements in the Islamic civilization: all doors were wide open for every kind of investigation and everyone interested in learning. That was also behind the great movement of translation, the bridge over which the Greek and Roman heritage crossed to Europe. The Islamic civilization, however, did not stop at transmitting others' intellectual work. It also encouraged creativity and inventiveness. The only occasion when Islam took a firm stand against a certain thought or thesis was when such proved to be presumptuous inasmuch as the basic tenets were concerned.

We can not fail to notice those groups of narrow-minded extremists who keep extending proscriptions to almost everything. This, however, emanates from wrong conceptions, hateful fanaticism and unjustifiable reactions. A true believer would engage in action and accomplishment rather than reaction and irritation.

Consequently, we would like to reiterate that in the true Islamic discourse there is no place for such dichotomies as liberal versus conservative which belong in the West. The extremist groups referred to above cause a lot of damage to Islam and counter its tolerant and middle-course attitude. These groups are required to reconsider their views and stances and go back to the original core of the Islamic thought which is based on seeking knowledge wherever it can be attained and putting it to the best possible use for the welfare of all humanity.

True knowledgeability lends itself to modesty and strengthens one's belief in man's dignity and the special position he is privileged with in this universe. Anything reached by research should be disseminated with a view to benefiting everyone. That is exactly what the Arabs and Muslims have done with whatever scientific facts or theories they have reached, whether transferred from ancient heritage or found out through their own intellectual efforts.

In stark contrast to this, we find that Western Europe and USA have abused the knowledge accumulating throughout the past two centuries in addition to the scientific findings they have achieved by

employing all this in aggression and destruction. They have caused a lot of environmental damage with their nuclear experimentations and the resulting toxic and carcinogenic waste they dump wherever they feasibly can. More often than not, the products of their factories or laboratories are not in the general interest of people. On top of this, they usually tend to monopolize what their research work leads them to as the best policy to master the world.

The Euro-American arrogance concerning this is obvious for all to see. It shows when research centers keep their findings entrapped within their walls; and when scientists working at these centers are put under strict surveillance and fettered with binding conditions and restrictions. It also shows in ways we in the Arab world, Africa and Asia know only too well when our outstanding young people doing graduate work in the West are enticed to stay. They are then recruited at those research centers and offered lucrative contracts. But when they go on vacation to their homeland they are kept under the watchful eyes of special guards and secret agents.

The ugly face of this arrogance particularly shows when certain specializations in natural sciences at Western and American universities are declared off-limit to our graduate students, and to those of certain nationalities. This flies in the face of the human rights their leaders are so vociferous about.

This same arrogance explains why the USA refused to sign treaties about ecological balance and the protection of the earth environment. It is also the drive behind its imperialistic policies of expanding areas of its political and military influence using the most lethal weapons of mass destruction to subdue whoever raises a finger of opposition. This happened in Japan where they dropped their atomic bombs and is still happening now in Afghanistan, Iraq and Palestine. This arrogant policy of hegemony can also be seen in some South American countries such as Venezuela, Cuba and Brazil. It is also acutely felt in our Arab world where they use every possible means and method to undermine the governments and turn factions of the people against other factions so that they can master everyone and control natural resources. All this is done under the guise of combating terrorism and

preventing the proliferation of weapons of mass destruction; the same weapons they keep only to themselves and never cease to develop and use whenever and wherever they deem necessary to serve their own interests.

Transgressing against man and his dignity does not stop at that. It continues in the form of propagating certain ideas and trends through conferences and seminars (Cairo Population Conference 1994, Conference on Women, Beijing 1995) where we heard open calls for permitting abortion, homosexuality, extramarital sex etc., which runs against human organizing values based on religion, philosophy or time-honoured tradition.

Transgression is also apparent in allowing InVitro Fertilization using sperms from someone other than the husband; in uncontrolled cloning and euthanasia.

The Euro-American scientific arrogance induces infringement upon individual private life through using eavesdropping equipment and invisible cameras for spying purposes. All this calls upon the world community to reinstate the basic principle that science has a purpose and a function: the prosperity and stability of human life on earth.

Second Axis:

1 - Does an assisted reproduction technology (ART) lead to dissociating reproduction from sexual activity? If so, what is the impact on the family and children?

The universe is based on a binary system, the integration of whose parts generates life or energy. In mating, for instance, the integration between the two sexes of the same species is necessary for procreation, thus fulfilling the purpose for which a being is created. This binary system applies to everything in the whole universe. It is found in flowers, air currents, clouds, electricity (positive and negative poles)

If we turn to the case of the human binary system we will find that the relationship between male and female has developed throughout the history of successive civilizations and with the advancement on the human intellectual level of philosophies and legislations. The highest

and most refined kind of relationship is for the male and female to be bound together in a wholly matrimony as ordained by heavenly messages.

In Islam, marriage between husband and wife is defined as the most cultivated and sanctified bond that can ever tie a man to woman. If performed on a sound basis, marriage can bring about psychological stability for the individual and the community. It also immunizes the parties to a marriage contract against slipping into unlawful and prohibited relationships. Above all, marriage puts into effect one of the main purposes of Shari's, viz, preserving the offspring.

God (SWT) says:

“ And of His signs is that He created for you, of yourselves spouses that you might repose in them and He has set between you love and mercy.” (30:21)

In another verse we read:

“ God has appointed for you of yourselves wives, and He has appointed for you of your wives sons and grandson.” (16:72)

The two verses point out the importance of building marital relations on solid grounds. This contributes to the stability of the family where the two parents share responsibility for bringing up the children who will then grow up in a healthy atmosphere of love and mercy. It is inherent in a child to feel physically and mentally secure when there is a mother as well as a father around to look after him/her and extend to him/her the warmth of family love. On the other hand, a broken up family could have serious physical and psychological effects on the children.

Technologically assisted reproduction admittedly meets the purpose of preserving offspring. But if these technologies involve cloning or cryopreserved pre-embryos alien to husband and wife we will find ourselves reversing to primitive ages that humanity has long transcended; times when the mother was a single parent shouldering family responsibilities alone as marriage then was not as organized and well established as it is now. A child born into a household where the father and mother are not the biological parents will not grow up in

the right atmosphere that could provide the proper circumstances for normal psychological developments. Besides, the offspring of a legal marriage are always a source of genuine happiness to the parents.

The consummation of marriage has the twofold aim of satisfying the natural sexual drive of both husband and wife on the one hand, and securing the desired reproduction on the other. Thus, sex becomes closely associated with begetting offspring, which enhances family ties between father, mother and child. In other words, sexual activity within legal marriage is an important psychological factor of stability that makes the parents enjoy a feeling of privacy and intimacy which is indispensable for a solid partnership. Furthermore, reproduction through this marital relationship reinforces the feeling of joint responsibility towards a baby they have worked together to bring to this world. Then they get into the much craved experience of parenthood which breeds love in the heart of the child towards them and becomes the basis of family ties and obedience to these caring parents.

It could almost be impossible for anything like this to happen if the begotten child was the product of technological procedures that use pre-embryos of unknown sources.

In conclusion, reproduction assisted by illegal technologies based on alien pre-embryos and cloning will not only lead to dissociation between sexual activity and begetting offspring, but will also lead to a more serious dissociation between family members and disruption of parent-child relationship. If this kind of reproduction occurs on a wild scale, the whole fabric of society could be brought down, and technology will then be destructive rather than constructive.

Second Axis:

2. What is the impact of reproductive cloning on the family?

Cloning is a reproductive process where the nucleus of a somatic cell is transferred to an ovum whose nucleus has been removed. The next step is to implant this ovum into a uterus where it develops into a fetus and is duly born. The resulting baby will not be identical, but a near likeness, to the cloned person.

Before answering the above question, we must first mention that God's scheme of creation is that the embryo is formed by the fusion of a male and a female haploid nuclei. This means that half the chromosomes in the new nucleus of the fertilized egg come from the father, the other half from the mother. The embryo grows into a fetus then into a full baby carrying genes from both parents as well as from grandparents. This is the basis for family ties and blood relations that have been well established and settled over millennia. The child grows into a family where he knows a father, a mother, siblings, grandparents, uncles to the rest of the family tree.

As for reproductive cloning, it takes reproduction back to the asexual type of the most primitive forms of life, bypassing the age-old binary system of sexual reproduction through a male and a female of the same species. The inevitable result is chaos. Traditional family relationships will crumble as the cloned baby comes from one source. Is a clone of a man to be regarded as his son or identical twin? Terms such as son, daughter, mother, aunt, cousin, niece, uncle, etc. will therefore cease to exist with all imaginable serious consequences.

If we turn now to the question of marriage, which relatives will a cloned person be legally forbidden to marry? Who will such a person choose to be his/her spouse? What if a cloned man marries a woman who later turns out to be his sister, his mother or his aunt? What if a cloned girl marries a man who turns out to be her father, brother or uncle?

In matters of lineage and kinship, who does a cloned child descend from? What is his identity? Concerning inheritance, who should a cloned person inherit? Who inherits him/her when such a person dies? In short, reproductive cloning disrupts the system of well established values and undermines the whole society.

To the long list of damage caused by aberrant scientific research such as the ozone hole, nuclear tests with the residual of nuclear waste and pollution with all its resultant environmental damage, cloning comes now to add a new source of pollution, this time in the social sphere.

Reproductive cloning could be beneficial if it is pursued to obtain

better hybrids of fruits and vegetables to meet the growing needs of an ever increasing world population. The same applies to cattle and fowl which are subjected by God to the service of mankind. No system of values will be affected in his case.

Cloning procedures can also be useful to humanity if they are applied to germs, viruses and the like in order to find out about their dangers and ways to wipe them out.

But cloning used in the field of human reproduction is completely rejected by Islam. This is the stance adopted by the Islamic Jurisprudence Academy in Jeddah in its tenth session held in Safar 1418 H. (28 June -3 July, 1997 BC)

The resolution reads as follows:

First: Prohibiting cloning performed in any method that leads to human reproduction.

Second: If the legal ruling in the above clause is not complied with the academy will consider measures to be taken against the perpetrators.

Third: Prohibiting any procedure where by a third party other than husband and wife in the reproductive technology is used such as a uterus, ovum, a sperm or a somatic cell.

Fourth: It is legally permissible to apply cloning and genetic engineering technology to germs, living molecular organisms, plants and cattle with the prescribed legal guidelines.

DISCUSSION

**The First scientific session:
Humanity and Creation/The Natural World -
The Islamic, Christian and Secular Perspectives**

Chairman: Dr. Ibrahim Badran

Rapporteur: Dr. Abdel Aziz Suwailam

Chairman: So far, we have 11 names. I think it is going to grow more. So, each speaker will have maximum 2 minutes, and please restrict to 2 minutes to have time for others. We will start with Dr. Taha Abdul Rahman.

Dr. Taha Abdul Rahman:

In the Name of Allah, Most Gracious, Most Merciful. First, I'd like to extend my thanks to the lecturers, from whom I benefited a lot. I'd like to address three concepts mentioned in their presentations. The first is the concept of "controlling nature". The second concept is "No Intelligent Design" and the third is the "Secular Hypothesis" put by Vin Berg. To make things clear, we have a basic criterion to the effect that "A concept can never turn into verifying its opposite". For instance, when we deploy a given concept, its rules are to be correct unless it turns out that the opposite is true. The concept of "Controlling nature" can be a good example in this concern. This concept turns into a verification of its opposite. In other words, as much as man believes that he controls nature, nature controls man. In another sense, nature disposes of man in as much as man thinks he disposes of it; hence the different incidents of nature's revenge on man. As this concept becomes no longer procedural, it should be dispensed with altogether. Thus, I thank Mr. Fultz who attempted to renew his view of the relation between nature and man. For me, the right facet of this man-nature relation should be the sheer opposite of the belief in the concept that nature is a slave of man. On the contrary, nature should be looked upon as a mother of man. Once we take this concept as our launching pad, the relation between man and his "Mother" will be based on compassion, benevolence and benefit. According to this

concept, nature would be the tender mother and man would be the grateful child. In other words, a new concept of man-nature relation should be formulated. By this I mean the concept of gratitude to nature. This is my first point. The second is the issue raised by Duncan though he wasn't the first in this regard. He held that there is no intelligent design governing nature. It is only that events go and end the way they do for mere mechanical reasons. First, I say that the "Intelligent Design" is a western concept; for people there envisage the "Intelligent Design" in three manners unknown to the religion of Islam. First, they envisage "Intelligent Design" as a proportion external to things. This means that "the intelligent Design" is outside things. Thus, there are laws governing things separate from the proportion outside them. This is incorrect; for "Intelligent Design" is not a proportion lying without things.

The Rapporteur: Dr. Abdul Rahman, your 2 minutes are over. We want everyone to have his time.

Dr. Taha Abdul Rahman: Only one point to go, please! Should I proceed?

Rapporteur: Briefly, please!

Dr. Abdul Rahman: In the west, they also envisage "Intelligent Design" as an overall proportion. This means that it is not apparent unless we look at them as a whole. Yet, "the Intelligent Design" can be spotted in each and every single nuance of things. Thirdly, people in the west hold that "Intelligent Design" will come later, whereas it came in advance. It follows that a review of the concept "Intelligent Design" should be conducted. This review would demonstrate that what is called the natural laws in modern times are nothing but the "Intelligent Design" advocated by us and men of religion. This leaves no room but for the hypothesis put by Vin Berg. All that he did is taking what is called "secularization hypothesis" and applying it in the field of epistemology. He said that if knowledge progressed, the mortality of man would come to an end. As aforementioned, "the intelligent Design" is not as presumed external, overall or late-coming. It is rather both internal and external, overall and partial, and late-coming and in advance as well. Given this opinion, we would perceive

that this is a religious perspective of things that would never come to an end. Moreover, this hypothesis -posed in other fields like sociology- has been irretrievably abrogated. I do not want to expatiate more for lack of time. Otherwise, I would have presented you with more explanation. Thank you.

Chairman: Dr. Hamid Ahmed, please.

Dr. Hamid Ahmed: Shukran Jazeeran Doctor. I just have a quick addition to Dr. Mustafa Akyols talk about intelligent design. Just last year September, Prof. Arber, a Nobel Laureate, gave a very elegant lecture about the biological evolution, scientific and spiritual connection. He proved that there is the intelligent design. But he tried to reconcile evolution with the creation. He is a molecular biologist, who clearly pointed about the intelligent design.

Chairman: Thank you Dr. Hamid. Yes, Bishop Camillo Ballin.

Bishop Camillo Ballin:

I extend my thanks to Dr. Sahmarani for his clear method. The Catholic Church agrees that life begins from the moment the fetus comes into being. In this regard, I'd like to be enlightened about the Islamic Teachings. Does Islam really stipulate that the fetal life begins from the first moment of its creation?

The rapporteur: we will start collecting questions and then we will answer them. I'd like to stress that if the question is directed to a definite speaker, please state this!

Chairman: Dr. Omar Suleiman

Dr. Omar Suleiman:

In the Name of Allah, Most Gracious, Most Merciful. I am Omar Sulaiman from ONE Organization, the Sudan. I'd like to refer to the valuable presentations of the esteemed speakers. For me, it may be necessary to define the word "man". We know that each and every individual is a "man", no more and no less. But what is "man"? Does the word refer to the well-known definition: the biological one or are there other different definitions? It is a must to set a definition for the different dimensions of man to come to the surface, especially from the spiritual and moral aspects for one. Secondly, in the educational as

well as the social and cultural processes, there is an attempt to separate religion from secularism. In this case, I think we will need another word other than secularism "Almaniyya". If secularism "Almaniyya" is derived from the word science "Ilm", there is no religion that opposes science. Religions in general and Islam in particular call for the scientific deployment of the morally-bound aspects. Thirdly, to empower this thought, trend and culture, there should be a thing called the Believers' Forum that takes care of the relation between religion and science. This is because there are many developments and changes discussed in the papers and scientific aspects. This kind of separation may have its complications. Religion also gives priority to the moral dimension of science and religion. Thus this forum should be at least convened by the followers of the three divine religions. Thank you!

Chairman: Dr. Muzaffar, please.

Dr. Muzaffar Iqbal: I have a comment and a question for brother Mustafa here. My comment is that intelligent design theory has become very popular among certain Muslims, especially, in Turkey, without really realizing the epistemological foundations of that theory. Now, the question. Is it appropriate for understanding what they are saying from an Islamic perspective? That is to say, are these sufficient on epistemological grounds for Muslims to be subscribing to the intelligent design theory? I understand what they are trying to do, is to remain within the sphere of science and thereby, attached to science and epistemological function, which does not fit within the scheme of Islamic knowledge. So, the question again, to rephrase it. Is there a need in your opinion to look at the deeper epistemological commitments of these people before subscribing to the intelligent design? And, of course, the examples that you gave are new, but they are only new in the sense of adding one more thing to something that has already existed. For example, if you look at Imam Ghazali, thousand years ago, he was already talking about the construction of the beehives, why all bees throughout the world always construct hexagonal structures? So, besides this bacteria, the example you quoted from beehive, any other example that we can find?

Chairman: Thank you very much. Finally, Dr. Peter.

Dr. Ted Peters: I am grateful to the three speakers for their contributions to the important question: how do we understand that God is creator to the natural world. Some times in the fertilization process, two eggs will get separately fertilized in women and those will fuse in to a single embryo. Now, if it is two XX zygotes, then there is no problem, right. If it is two XYs there is no problem, the child would grow up. However, in the rare cases, where one is XX, the other is XY, the baby born often dies. The medical team quite frequently tries to surgically adjust the genitalia in consultation with the family. My question to you: Is natural way of leading God's principles here of honouring only male and female so is nature immoral?

Secondly, are the doctors really the moral ones? Because their fixing nature, put in nature back on tracks, so that it obeys God's will.

Then thirdly, something you didn't speak of human soul. Is gender essentially relevant to the soul? Is the soul connected to one or the other or neither of the genetic codes that makeup the human being?

Chairman: Thank you very much. Dr. Abdul Sattar Abu Ghuddah.

Dr. Abdul Sattar Abu Ghuddah:

I have an intervention. Despite his valuable lecture that led us in atour through the mreanings of natural disposition and the relation of man with it, Dr. Sahmarani was in favor of the order of the five objectives of the Islamic Law: religion, soul, mind, posterity and money. He said that religion can never dispense with soul, mind or posterity. However, this is not convincing; for even money is not dispensed with by religion. If penniless, man cannot have the strength needed to perform his religious obligations. All the Islamic Law scholars put them in this order which has a jurisprudent purpose. This order show the priority of each. Thus, in a case where preserving one's religion goes counter to preserving one's soul, he should sacrifice his soul so as to preserve religion. This is the basis of incriminating many acts as being a brigand, apostasy and ignorance. The same applies if

the preservation of one's soul contradicts that of one's mind and so on. Thus, this is an intended order. Religion is the first and most important of these objectives, then comes the mind, posterity and money comes after them. Another notice is that in the Chapter of "Al Mu'minun" Allah says that He created sperm then a clot. Allah Almighty uses the word "We made" and then the words "clothed". There is a more precise meaning to this: the sperm itself turns into a clot which in its turn becomes a lump. This is a creation that involves transformation and change of the same being till it reaches the bone phase. Then, the bones stay. Thus, Allah, Exalted be He, says, "and clothed the bones with flesh" (Al Mu'minun: 14). This is recently referred to by the interpreters of Qur'an. One of the speakers asked why do we call it secularism "Il maniyya" as if derived from the word science "Ilm" while its correct pronunciation is "Almaniyyah" as derived from the word "Alam". Seeking brevity, people pronounce it as "Ilmaniyyah" whereas in old literature they are called atheists "DAhriyyoun" as derived from the word "Dahr" time. This is due to the fact that such people believe that time is its own creator and disposer. I suffice with this. Thank you.

Chairman: Sheikh Mohd. Ali Taskhiry.

Sheikh Mohd. Ali Taskhiry:

I'd like to refer to Dr. Fultz's words. If the translation is precise, I understood that the traditional Muslims believe in the Divine Fate. Yet, the belief in fate is a criterion judging whether one is a Muslim or non-Muslim. No Islamic thinker disbelieves in Fate and Destiny. In fact all Muslims believe in Fate though this does not mean Determinism. Allah almighty has given man the power to choose. Man is thus free to choose but with the Will of Allah Almighty. Hence, no determinism or proxy. This is a rule well-known amongst thinkers. Fate is Allah's planning of life and its laws. Man may put a text codifying this law. Such a text determines the results. If this text aims at obeying Allah, the Divine Description prevails. Yet, if the final goal is disobeying Allah and prevailing injustice, the result is devastation. "We destroyed when they committed iniquities" (Al Kahf: 59). Man is free to choose either the path of righteousness or that of evil. All the

same, Allah Almighty paved for man all the paths of righteousness and integration. There are signposts. Thus, when Allah guides us to thank Him the believer should thank Allah once more for this guidance. The Muslim feels that he lives within a world of beauty and love even for the Divine nature. The Prophet (PBUH) said, "This is the Mount of Uhud. This mountain loves us, and we love it." Then, there is an emotional interaction between man and nature. In fact, I'd like to thank Dr. Akyol for his speech. The Qur'an discusses the various enormous phenomena that provide man with a good life. For instance, the movement of both water and air in nature as well as the movement of blood within man's body all integrate so that man leads a happy easy life. All this unravels the precise Divine planning of life. One more point, the belief in integration substantiates the "Intelligent Design"; for integration means the ascension from lower rank to a higher one. The result cannot be greater than its cause, for the cause is the reason behind this high rank. The fact of integration is one of the proofs of the Divine monotheism. Thank you.

Chairman: Sheikh Badrul Hasan Qasmi

Sheikh Badrul Hasan Qasmi:

In the Name of Allah, Most Gracious, Most Merciful. On considering the first axis of questions directed to the researchers, man gets the impression that the natural order of papers is to have precise papers on creation and innovation and the slightest differences heard in the context of these questions. Undoubtedly, these are benefit items of information that tend to highlight the Divine Signs in the universe. Yet, in the first axis if we are to reach a decisive juristic conclusion, we are to answer the questions: what is creation and in what sense is Allah Almighty a Creator? Some interpreted creation as innovation and equated this to Allah, Exalted be He. On discussing the issue of proportion,??, we are in need of more emphasis and enlightenment concerning the concept of creation. The second point is that the issue of changing Allah's creation was not given its due in the myriad discussions we heard. On listening to Dr. Sahmarani's presentation, as the esteemed Dr. Abu Ghuddah said, we felt that we need to ponder on the Holy words, " and clothed the bones with flesh" (Al Mu'minun:

14). If anyone read the exegesis of Al Razy or any of the old books, he would know how Allah Almighty took?? and an inanimate being. He would also know the visual and ausio state of such a being then. Such details and concepts are to be found in the old books of exegesis. Again, the title of Dr. Sahmarani's paper involves the word "Fitra" (natural disposition). Yet, he did not define the meaning of "Fitra". This concept was expatiated on by Ibn Al Qayyim. Such exlanation was commented on by Imam Kashmir, may Allah bless his soul. Each and every newborn along with "Fitra". What is the meaning of "Fitra"? Is it the lability to embrace Islam? Such issues need more research in order to reach a decisive conclusion. As regards the genetic modification, man is a creature of wholesome dignity. He is a sensitive creature motivated by his strong will. Thus, even if we presumed the success of the genetic engineering researchers in this field, they would be manufacturing a whole generation of robots. This is a sort of mutilation and distortion. Here I come to the end of my intervention. Thank you!

Rapporteur: Seemingly, the colleagues' interventions shed light on the extremely broad range of today's topic. In fact this topic is perfectly fit as a introduction to many of the future detailed discussions. It seems that this was in mind on planning for this conference.

Chairman: Sheikh Sayeer

Sheikh Sayeer:

Thank you, chairman. I'd like to pose a general question. What are the negative aspects of medical research other than the medical ethics? How can it be unanimously and internationally agreed upon to impose control over the scientific research and its practical applications in the field of nature so as to preserve environment and how can be there a call for halting all the research that may cause disturbance in the environmental balance while there is no such unanimous agreement on the prohibition of the scientific attempts that can affect any disturbance in man's state at all levels: intellectual and social? How can there be a call for sticking to ethica in man's work on nature and no call whatsoever for sticking to ethics in working on man? How can

there be fears of negative impacts of research on nature and no scruples concerning man's demolition of himself? Those who disregard man's relation with environment are often embodied in some countries and corporations that sell weapons. Similarly, most of those opposing moralizing the biological research are embodied in those of secular ideologies or commercial cooperations perhaps expecting skyrocketing profits in this field of research. This was my general question. As for the presentation of Dr. Bruce Fultz, he touched upon several problems concerning man's relation with nature. He referred to the attitude of Plato who held that Allah should comply with the law of logic. In this concern, I'd like to agree with Dr. Abdul Rahman's opinion and add that in the western thought the man-nature relation is dealt with as a conflict. It is well-known that the general objective of the French Philosopher Beckert was to master nature. On the other hand, Islam uses the concept of "subjugation" instead of that of control. In subjugation, the two parties are in harmony rather than in conflict. Plato's quoted words reflect a conflict between Allah and creation. However, Islam involves a general rule that the logical should necessarily be in conformity with the religious texts. Thus, there must be harmony between the two. This is obviously apparent in the aforementioned general objectives of the Islamic Law. As for Dr. Akyol's intervention on evolution as a theory contradictory with the idea of "Intelligent Design", I'd like to set a distinction between two things. There is a difference between the evolution theory as Dr. Akyol exposed and the interpretations attached to this theory afterwards in the western thought. At this point, I am obliged to refer to the difference between the impact of this theory on the western world and its impact on the Islamic world. Of course, the western attitude is well known. As for the Islamic world, I'd like to refer to the attitude of Sheikh Al Jisr from Lebanon towards this theory. He concluded that even if this theory came to be validated and turned from mere theory to be a scientific fact, this would in no way contradict with faith and Islam or even proving Allah's Existence. There is no contradiction between this theory and the world being the creation of a sensible being. It follows that whether it is said to be created suddenly or

gradually, both manners do not run counter to the Divine Wisdom. Thank you!

Chairman: Dr. Yomna Al-Tarif

Dr. Yomna Al-Tarif: Dr. Bruce, from gardener to master of nature, you have assured that Christianity has no ground to prohibit application of genetic engineering in men and animals. Moreover, you welcomed the new variety of animals, humans and plants. But, I think, after the novel diseases of cows and birds, we are in a need of such prohibition. We are in a need of some limit. To Dr. Mustafa Akyol: All I have understood from your paper is that alive natural organs and, of course, above all human beings are designed and created. I agree with you, and I can assure this, but it is near premises to our alive nature, which is created and designed. What are the consequences and results of these premises to the bioethics, or ethics, genetic engineering and so on? Thank you.

Chairman: Dr. Maher Hathout.

Dr. Maher Hathout: Bismillah Hirrahma Nirrahim! Very briefly, I have to respond in English. Because, I am actually responding to Dr. Foltz. I hope he is in the hall. There have been some limitations of defining secularism. There are different kinds of secularism. Not all secularists are atheists. For example, we know that there is a major difference between French Secularism and European Secularism. When we talk about Secularism, we are actually talking about mostly in philosophical or political frame, which is separation between clergy and state. So, I just want the definitions to be very clear to us and to be aware that when we say Secularist, it does not automatically mean a group of atheists who are denying GOD. We know that in Islam, for example, we have so many rules and ethical frames based on not for good for people. Whatever is of benefit for people will stay as the teachings of prophet (peace be upon him) “Al-hiqmatu dallatul momin anna wajadaha faya laa”. This Hiqmah might be coming from a Secularist, an Atheist or from a believer. Also, “Ijaa da aakumlima yuheekum”, the promotion of life itself is very important. Thank you very much.

Chairman: Shukran Dr. Hathout. Dr. Mohd. Al-Bar please.

Dr. Mohd. Ali Al-Bar:

I have direct comment on Dr. Akyol's presentation. He talked well about the evolution theory and modernism and its secular transformations in any manner and its distance from religion. He further referred to what can be held to be its refutation in the present time. Yet, I'd like to refer here to a very important point raised by some of the colleagues while asking questions or commenting on the speakers' words. In the Islamic history, a significant number of great scholars advocated the evolution theory and founded it on their own concepts. For instance, Ibn Khaldoun deployed this theory in the issue of defining the biological father. He also used it in describing how humans develop till they meet the King: Who is Perfect and Spiritual. Ibn Khaldoun described its phases as follows: the elementary, the spiral, and the plant. Man goes through these phases till he ascends from the world of apes to reach the world of man perfected with sense and vision. Then, he is further perfected and reach the world of spirituality, that of angels. Six centuries before, Imam Muhammad Al Baquir mentioned a process of existence perhaps before the creation of Adam. The Shi'ite sources in this regard are numerous including Fakhr Al Razy. The latter is one of the renowned Islamic figures who referred to this theory though he neither wholly accepted it or fought against it. This theory was often deployed by Ahmed Al Balkhy, a philosopher, Fakhr Al Razy, Ikhwan Al Safa, Al Qutby, and Galal Al Din Al Romy. Evolution theory was also used by a great number of philosophers and authors. Some of the religious scholars accepted this theory and used it to substantiate the fact that all these universes are on their way to Allah Almighty. Galal Al Din Al Romy composed a lovely poem in this concern. In it he describes how he used to stroll with the cattles in dust. Then, he flew through air and water. Then, he soared up with the universe to the highest part of the horizon in the global spirituality to which he was connected. This aspect needs second thoughts on our part. This does not necessarily mean that we should accept the Darwinian theory in its present shape. The Darwinian theory was used and discussed by many authors both Sunni and Shi'ite. The last was 'Abbas Mahmoud Al 'Aqqad who wrote a magnificent book "Islam and Qur'an". In Saudi Arabia, Sheikh Pashmille wrote a book on Darwinism in which he stated the Islamic

attitude towards such theory. Sheikh Pashmille was the head of enjoining what is right and forbidding what is wrong. He was so courageous and suggested very strong propositions in this respect. This theory cannot be either accepted or refused as such. Yet, the additions attached to this theory in the west aimed at defying religion. Thus, these additions are rejected altogether. But the aspects of this theory used in Islam or the Islamic history deserved to be reconsidered. Hence, it is not wholly accepted or rejected as a theory. Throughout the Islamic history, Islam and the Muslim scholars never took a fanatic rejecting attitude towards this theory as it is the case nowadays. On the contrary, they adopted a very laudable attitude. Thank you.

Chairman: Dr. Gad.

Dr. Farouk A. Gad: I will try to summarize very fast a few points. This is concerning the evolution talk from Dr. Akyol, which we don't have to neglect. There are a lot of explanations and facts, and a lot of scientific facts in this area. Most of the genome and comparison between homologue of the genome from a lot of animals and humans, shows really something, which are evolutes, but to some extent. But, when they did the sequencing of human genome in 1990, they found 99.9% among different fertilizes. But, this fact is very important for cell evolution and for any design for the life. This is the most important theory for the facts of life. This pre-existed in cell. This cell has creator, and it has cell cycle. Any mistake in this cycle will cause a disaster. This meaning, any change in the cell can cause irregulation of cell through one gene like B53 last year discovered. It shows a lot of mutation and a lot of disaster for the concept. This is what I wanted to explain.

Chairman: Sheikh Idris

Sheikh Jaafar Idris:

I waive my right to speak. Thank you.

Chairman: Dr. Abdel Ghaffar Al Sharif.

Dr. Abdel Ghaffar Al Sharif: In the Name of Allah, Most Gracious, Most Merciful. I'd like to address an important topic. The 19th century took pride in being the century of atheism and defiance

of religions. However, in the 20th century, especially in the middle of the 20th century after the refutation of the absolute Causation theory and the disentanglement of the relative causation theory; scientists especially in psychology and sociology realized the necessity of faith in a given religion. They also came to see that in order to solve the psychological problems and even the scientific ones, we must implant faith within people's souls and guide them back to belief. Now, especially in such a convention that gathers religious and medical scholars amongst others, I see that the majority agree on the necessity of having love, compassion and cooperation amongst nations. Thus, we have to demand the issuance of a code by UN or the world organizations incriminating the contempt of religions and sacrilege as well as the attempt to deploy religious discrimination as a basis of dispute amongst nations. In my opinion, in many cases the spark of religious disputes begins with a minor difference. Then, this spark gets bigger till it causes major wars. The second point is also a comment on the valuable lecture of Dr. Sahmarani. Like Christianity, one of the major Islamic principles is mercy and love. Islam also set love as basis of building society. This finds substantiation in many Qur'anic verses and Prophetic Hadiths. Dr. Al Bar reminded me of the call propagated by Galal Al Din Al Romy. This call was founded on love. Therefore, it gathered Muslims and non-Muslims. It was one of the most successful calls that elevated humanity to the highest ranks. Thank you.

Chairman: I extend my thanks to all who contributed with their comments. Again we go back to the speakers, for it is their time. Each speaker will have 5 minutes to tackle the points addressed to him particularly. If time allows, he can tackle the general points raised.

Chairman: Dr. Mustafa

Dr. Mustafa Akyol: Thank you so much for all the comments. I actually agree with the comments that evolution, Islam and Theism in general might be comparable, I actually mentioned in my speech. I mean evolution, if you define a change or time in change in nature, transmittance of species might be seen as GOD handy-work. Some Islamic scholars have seen it through our history, some haven't seen it.

I am skeptical about the whole universal idea of evolution, but it might be okay from the Islamic point of view.

As I said, the Darwinian evolution is a specific kind of evolution, because Darwinian evolution insists that there are two mechanisms of evolution, there are blind-imitations, and natural selections. These are completely blind mechanisms. If you just say that these might be guided, Darwinians will say no, it is not allowed, it is not in the theory. This is just an intelligent design. What the intelligent design is saying is that intelligence has played a role in the history of life. It could have been evolved and there might have been successive issue of life choices. Before there is a life, millions of years ago. So, it's the mechanisms of evolution, which is being debated. The intelligent design insists that without intelligence, divine mechanism of nature won't be enough to create complex life forms.

Another dear commentator mentioned about homology. You know the similarities between species well, that is also counted for evolution, but also there are some homologies, which cannot fit, in the whole scheme of evolutionary theory. For example, human eye is very simulated octopus eye and these are evolutionary perspective, and are a completely unbelievable species. But, they have the same structure. So, some times, this homology is explained as its common ancestry, it can also be explained as a common design. If you have completely unrelated animals in life forms, which have a completely similar structures, you can say that their design is for same purpose. So, I mean, homology is not necessarily an evidence for evolution. That's what I want to say.

The third point, is intelligence design compatible with Islam? I think, it is. As you mentioned Ghazali for example, talked about the design in animals. But after Ghazali, came Darwin. He made a contrary argument. Now, we have an intelligence design theory, which makes a contrary argument too. I think it is an updated version of the whole design argument, which all major theists and thinkers have mentioned. Design, now the intelligence design theory of evidence debated in the US, is just updated and refined version of same basic idea. And, what is the epistemological basis of intelligence design

theories? Well, you can say that recommended questions of Demsky, Beehive and Philip Johnson or other major intelligent design theories of Christians. But, intelligent design is not an idea based on Christian theology, which is making argument, which says “dead life is not a product of nature, but life has a creative force behind”. That creative force, the intelligent designer, as they call it can be named according to your religion. If you are a Muslim, you can say well, it is obvious that intelligent designer is ALLAH, because Quran is talking about Allah’s creation. If you are a Christian, you can again define a code, Christian theology. But the basic idea is that there is a Creator. The nature, the purpose of the creator is something that science cannot find. That some thing, we can learn from the Creator Himself by His revelation with variety of religions, the purpose of life, you know the meaning of life.

Again to link with the question about what is the consequence of intelligent design? I think, the consequence of intelligent design is that it says science from the monopoly of materialism and it shows that science is compatible with the theistic beliefs. Science is agreeing with those theistic beliefs, and it will help people to take religion more seriously once again, especially in the western world, insisting that western world is exporting its culture into other parts of the world. The transformation inside the western world for Theism, I think, will be helpful for other cultures too. Because, many people are attracted to Secularism, because it dominates in the West. Thank you.

Chairman: Thank you very much, Dr. Foltz, please.

Dr. Bruce Foltz: I want to thank all the new intelligent questions. But I want to give very simple answers, using the time given to me, the best I can.

Regarding the definition of Secularism, what I mean by Secularism is simply defining world view that there is inherited religion, not the separation of tradition. I am really talking about it as a basic philosophical world view, I believe. As to the question, should be limited to genetic research absolutely well, I think, they should be. As a Christian point of view, as we understand it, the world is entitled to correct nature, if it seems prudent, and if we are respectful, God has

created it. There is no necessary opposition. But, we have to be very cautious, very prudent and very respectful of nature as God's creation.

As to another question, I think, it is the translation issue as to whether I suggested that Islam is, any way, deterministic, I meant to say nothing implied also, and forgive me if the translation came out that way.

Is nature violating God's principle, with regard to other facts? I think, one of the distinctive things about Orthodox Christianity, it takes very seriously the notion of the fall as not just a human event, but the fall of human beings. We say it is not the nature that God created, it's a fallen nature, not entirely fallen, certainly preserves the goodness, the beauty, the water, the justice all of the things were created in the entire world. There is also fallen, and that is why we find death and suffering disease, all kinds of corruptions in nature. I think, that's basic saying that indeed, we return back to the periodical cycles, we are trying to do that spiritually. I think, most Orthodox Christians believe very deeply. We take seriously the genesis that God created us as men and women.

The task Adam was originally to bring together visible and invisible, to bring together heaven and earth, to bring together eternity in time, but also to bring together male and female in to a kind of unity. The definition of man, what is a human being? It is very clear in all three of these great Abrahamic traditions. The human beings have some kind of higher status. But also, I stress that we call to contemplate nature and bring it in a way that their laws have to see GOD in nature, and hence, return nature back to GOD. And, the notion we need to be merciful with regard to nature.

Mercy is that something, we clearly find in human beings, the merciful relation to GOD. Human beings are merciful, we can feel compassion and sympathy for fellow creatures on a scientific point of view. Thank you!

Chairman: Dr. As'ad Al Sahmarani!

Dr. As'ad Al Sahmarani: In the Name of Allah, Most Gracious, Most Merciful. First, I invite Reverend Camillo after this lecture to

get acquainted with what we call the Islamic-Christian meeting in the space of common values. I am against the word "dialogue", for such word has an integrated mechanism for me. Yet here the values are the same. Thus we repeated what we say in dialogue issues. Brush the creed and acts of worship aside and let's hold a dialogue on regulating the relation between us. These are the common values. It should be taken into consideration that there is no contradiction between Islam and Christianity in Catholicism in general or any other church concerning the fetus. This is due to the fact that man is man. This is the essence of the Divine Message. We, as Professors of Decrees, say that there is no such thing as religions. There is but one and sole religion of Allah, the Creator. Yet, there are various Divine Messages. Thus, the frequently repeated word "religions" is a common mistake. This word wrists the term of its precision. All messages are the tributaries of the same source. In Islam, the responsibility begins with the choice of the spouse even before the formation of the fetus. So it follows that there is a major responsibility with the formation of the fetus. If not, why should there be a medical, moral and value-wise examination? On the topic raised by Prof. Abdul Ghaffar on respecting what is sacred; I do not want to cast the blame on the Rev. father or the participants in the hall who live in Europe and America and are Islamic activists. The main problem is that the Vatican in the second Vatican Council held from 1964 till 1965 - more than 40 years ago - decreed the rejection of these encroachments on what is sacred in other religions. Yet, this is not heeded by everyone.

**Topic I:
Humanity and Creation/
The Natural World**

**Second Session
Monday, 6 February 2006**

**Creation of Human Being -
Islamic and Christian Perspectives**

Chairman : Dr. Ezzeddin Ebrahim

Rapporteur : Dr. Aida Al-Aqeel

Speakers:

1 - Dr. Cyril Tennant

2 - Dr. Jamal Al-Badawi

3 - Dr. Nasr Farid Wasil

**CREATION AND MAN:
A CHRISTIAN VIEW**

Cyril Tennant

U.K.

Creation and Man: A Christian View

Cyril Tennant

U.K.

In approaching this paper, I come as a clergyman of the Church of England who has spent forty years in ministry in parishes. During that time my work as a pastor and teacher has often forced me to grapple with the new questions posed by scientific advances, particularly in the realm of genetic engineering and to attempt to formulate the proper responses to changing attitudes to matters such as euthanasia and abortion. This in turn has prompted me to ask fundamental questions about creation, man and God. There are, of course, varying viewpoints and approaches on these matters within Christianity and this is reflected within my own particular tradition of Anglicanism.⁽¹⁾ This tradition has a three-pronged approach to moral issues, based on the Bible, the on-going tradition of the church and the use of reason. Within this, different teachers and theologians give more or less weight to one or other of these three elements. I would align myself with those who lay the main emphasis upon the Bible regarding it as the divinely inspired and authoritative Word of God and as the primary source for doctrine, both for belief and action.

Of course, taking a Biblical (indeed, any Scriptural) approach raises problems of interpretation and perhaps I need to state my position. I do not feel that it is right to use the Bible to seek to prove or disprove this or that scientific theory or to use it as a ragbag of 'proof texts' divorced from their context and background to argue a particular viewpoint. It was not written as a scientific textbook and particularly when approaching the passages I consider in this paper, it has to be seen as highly poetical, a book, which often makes use of imagery to express great truths. However, as the revealed Word of God it does contain underlying principles apparent throughout its

(1) By Anglicanism I refer to the Church of England together with the worldwide fellowship of churches in affiliation with it.

pages, which provide a coherent and consistent theological framework for the discussion of contemporary bioethical issues.

Rather than seeking to make a 'whistle stop' tour of the whole Bible, I shall concentrate particularly on the introductory chapters of the first of its books, Genesis, seeking to outline the underlying principles apparent there. These beautiful chapters with their two accounts of Creation encapsulate the Biblical teaching on God, Man and Creation.⁽¹⁾ Following this, I will attempt to draw out the implications of these doctrines.

THE DOCTRINES OF GOD, MAN AND CREATION.

The Doctrine of God

In a very simple, direct way God is portrayed as the Creator of everything. He creates in a series of stages, starting from chaos, culminating in earth, plants, animals and finally man. He is Almighty, the Self-sufficient One, Who is above all this Creation. He is the One who gives life and is in over-all control. Yet in His dealings with Adam and Eve He is seen as the One Who communicates with man and reveals His will to Him

The Doctrine of Man and his relationship to God and to the rest of creation

Man is seen as the crown of creation. He is created last and his distinctiveness is seen in describing him as made in the *image of God*. In fact two Hebrew expressions are used *tselem* 'image', 'likeness' or 'representation of something' and *dm-th* 'likeness'. These terms are not defined and naturally there has been extensive discussion among theologians as to what they actually mean. Some have interpreted them as referring to reason and free will, while others have claimed that they refer to spiritual capacities.⁽²⁾ What is important is that although man shares characteristics of the rest of creation, particularly

(1) Genesis 1:1-2:3 and Genesis 2: 4-7.

(2) A good summary of the views is given in *A New Dictionary of Christian Ethics*, London:SCM Press, 1986, page 292.

animals, he is shown to be distinctive and above the rest of it and that in certain ways he reflects God Himself. My understanding is that the expressions used mean that somehow man shares aspects of the nature of God such as creativity, love and the ability to think and reason and that he is also capable of knowing God.

The expression *the image of God* is linked with the fact that man is to rule over the rest of creation and to subdue it while increasing in numbers and filling the earth.⁽¹⁾ This relationship of control is also indicated in the fact that Adam is to give names to the animals.⁽²⁾ He is to enjoy the fruits of the earth and he is also placed in the Garden of Eden to work it and take care of it.⁽³⁾ His mandate then, is to enjoy the rest of creation, to subdue, control it and work it, but also to care for it and preserve it.⁽⁴⁾

Also of great importance is his relationship to God. Man is to be ‘above’ the rest of creation, but he is to be ‘under God’; his relationship is to be one of trust and obedience and bounds are set on what he can and can not do: he is not to eat of the tree of the knowledge of good and evil.⁽⁵⁾ Obedience and recognition of the sovereignty of God lead to blessing and life; disobedience leads to death and alienation from God.⁽⁶⁾

Man and woman

In what I have said above about the image of God, I have repeatedly referred to man.⁽⁷⁾ In the text the Hebrew *adam* is used to mean man or a man ‘Adam’, but it is also used as a term to mean man and woman: ‘in the image of God He created him; male and female He created them’.⁽⁸⁾ Although fashioned from Adam, Eve is

(1) Genesis 1:26, 28.
(2) Genesis 2: 19,20. To name implies dominion and ownership.
(3) Genesis 2:14.
(4) The Hebrew word root *shamar* used here carries both these latter connotations.
(5) Genesis 2:17.
(6) Genesis 2:18, 3: 23-24.
(7) The Hebrew word *adam* is, of course, simply the word for ‘man’. Adam is the representative man
(8) Genesis 1:27.

seen as an equal and the couple as inter-dependent. Further, already in these chapters there is an outline doctrine of marriage: the two become 'one flesh' with a monogamous relationship as the ideal; already, too, there is the implication of the importance of the family.⁽¹⁾

The Image of God and the unborn child

These chapters in Genesis say nothing about **when** human life begins, apart from Adam who is created directly by God and Eve, whom He fashions from him.⁽²⁾ The rest of the Bible, too, simply treats birth as the crisis which inaugurates life. Over the centuries controversies have raged in the Christian church about the point at which the unborn child becomes a human being, with 'ensoulment' being assigned to different points during the pregnancy. One relevant passage, which is also beautifully poetical, is found in Psalm 139:13-15: 'For You created my inmost being; you knit me together in my mother's womb.' These verses certainly imply that God recognises us as distinct human beings before birth, but they do not help in discerning a time scale. Similarly, another passage which is sometimes cited (Exodus 21:22-25) does not actually indicate whether the embryo is considered to be a person or not; it is simply stating what compensation and recompense there should be after a miscarriage caused by violence. Embryology shows that conception is a process rather than an event, with a series of stages before biological individuality can be detected. In the light of this, the whole question of when 'ensoulment' takes place has come up for re-examination. Some Anglican and Protestant moral theologians have taken a conservative line, agreeing with the Roman Catholic Church that the 'unborn baby' should be regarded as a living human being from the moment of conception.⁽³⁾ But others like Prof Gordon Dunstan have argued strongly against this, favouring a more open attitude.⁽⁴⁾ This is

(1) Genesis 2:24-25.

(2) Genesis 2: 21-22.

(3) For instance, Prof Oliver O'Donovan of Oxford University.

(4) 'New techniques in Human Procreation, the Ethics: a British Churches Consensus' pp 163-176 in *Ethical Problems Raised by the New Techniques in Human Procreation*, 1986: Agadir, Publications de l'Académie du Royaume du Maroc.

a very perplexing area and I personally lean towards the argument that once independent life is possible, the unborn baby should be regarded as a person made in the image of God, although before this the potential human being should be treated with care and respect.

To return to Genesis, this book does have something to say about the process of birth, with its call to procreate. Man is to *be fruitful and increase in number*⁽¹⁾. Throughout the narrative, God is seen as the only creator, but an important role and responsibility is assigned to man as a procreator. After the initial creation of Adam and Eve, God now chooses man to continue the work of creating more men and women. However, only God can create. Man's part is simply to procreate as (whether he realises it or not) he co-operates with the creating work of God. Also of significance is the fact that procreation involves both sexes. Adam needs Eve; she needs him.

Both Creation and man are flawed

As well as speaking of the image of God in man, Genesis also speaks of the fall of man. Adam and Eve disobeyed God by eating of the tree of good and evil. As a result both man and the rest of creation are under a curse and man is distanced from God as he is driven out of the Garden. Whatever is made of some of the details of the account, it does give a powerful explanation of reality.

First it means that the image of God in man is flawed. Again, views over what this means have varied with the Lutheran tradition referring to the loss of the image, and the Calvinist as it being corrupted, but not lost. I believe that the second view is the right one. Constantly in experience, in history and in literature, we see how man is capable of great heights of love, altruism and creativity, but also of great depths of cruelty, selfishness, greed and destructiveness. He shows signs of being like God and also of being very unlike God. 'When I want to do good, evil is right there with me': the tension that St Paul expresses is a common experience!⁽²⁾ The image of God is still present, but it is marred.

(1) Genesis 1:28.

(2) Epistle to the Romans 7:21.

Second, the fall ushers in imperfection, disease and illness and in some way the whole of creation is flawed and imperfect. It is still beautiful and wonderful and still reveals God, as the psalmist says, 'the heavens declare the glory of God'.⁽¹⁾ But it is no longer 'very good'. Suffering, pain, painful toil, all result from it and now man's call to subdue the rest of creation and care for it is no longer a cause for pure joy.⁽²⁾ At various points the Bible refers to creation as 'groaning' in anticipation of a future deliverance, with Revelation, the last book of the Bible showing how with a 'new Heaven and a new Earth' the whole of creation will be restored to its original perfection.⁽³⁾

THE IMPLICATIONS OF THESE DOCTRINES

Humility and yet an important role

The first implication is that man needs to be humble before God, the Creator and Sustainer of everything. He has to realise His position as created. But he does also have a place of honour: he is set above the rest of creation, animate and inanimate. He is called to be in control of it and to exploit it; to be in charge of it and yet to treat it with love and care holding it in trust as a steward. Here is a mandate for agriculture, for mining, for medicine and for scientific discovery and advance. The fact that it is flawed as a result of the fall means that his responsibility to control it and care for it extends to seeking to heal and restore what is damaged and defective.⁽⁴⁾

But the doctrine of the fall does require man to be humble in another way. Man himself is part of a flawed creation and what he does is subject to imperfection. It is very easy to see fault in big business, in corrupt researchers or in ruthless politicians, but when we do this, we all need to recognise that we too can be driven by greed

(1) Psalm 19:1

(2) Genesis 3:17-19.

(3) Romans 8:19-22, Revelation 21:1-4.

(4) It is interesting that in the Greek New Testament the terms used for salvation and healing sometimes overlap, i.e. in a sense physicians and surgeons are involved in part of the redeeming, restorative, healing work of God.

and the desire for fame and approval; any of us can be tempted to treat other humans as mere objects. We constantly need to examine our motives and actions and be prepared to change our attitudes and our actions.

This has implications, too, for those involved in thinking, planning and legislating as well as for those involved in research and medical practice. There is need for monitoring the activities of business and academia in areas such as pharmaceuticals and biotechnology with the recognition that research is rarely disinterested. Already, in most countries bodies have been set up to review and regulate research, development and practice in areas such as genetic engineering. However, too, often those who belong to these bodies are secular philosophers or chosen solely for their medical and scientific expertise with no concern for their spiritual and religious qualifications. There is a spiritual dimension to these matters and they need to be scrutinised from that viewpoint as well as from the philosophical and scientific. Here is a need for more committed men and women of faith to be involved in wrestling with problems raised by the new possibilities in genetic engineering and biotechnology generally. Also, religious authorities and experts from different faiths need to be given a much more prominent place on regulatory bodies.⁽¹⁾

Restoration, not fashioning a new creation

As we have seen, the fact that the Creation is now affected by imperfection means that the call to rule and subdue it and care for it includes seeking to rectify the results of the fall. Here is a mandate for healing and restoration and seeking to discover new cures and treatments. Here, too, it is necessary to observe an important distinction. The call is to seek to *restore* the creation, as far as possible, to its original pre-fall perfection and not to seek to alter it and improve on the basic creation of God. The call is to restoration, not creative innovation.

This raises a range of issues. Should genetic engineering, in

(1) Such as the British *HFEA (Human Fertilisation and Embryology Authority)*.

particular cloning by nuclear transfer, be used to prevent congenital conditions? Some congenital conditions like colour blindness impose limitations on life and can forbid certain careers, but they are not life threatening. But other disorders just as thalassaemia or haemophilia can be deadly. In cases such as these, I would contend that genetic intervention is in order. Faulty genes are a result of the fall and, when detected it is right to seek to restore this part of creation to its original glory. Genetic engineering for therapeutic purposes or for preventing disease is obviously right.

But the use of these techniques to 'improve' on creation is wrong. Recently, scientists claim to have isolated particular genes such as that for tallness and it has been suggested that in future it might be possible to order the characteristics of a baby in advance and thus produce a child who was more intelligent or a better athlete. As well as being an arrogation of God's role, an attempt to 'play God', these attempts at improving on creation could lead to serious problems. Already in China there are disproportionately more young males than females following the use of genetic screening and selective abortion. The problems which could result from designer babies could be much more serious, with the loss of diversity and distinctiveness. Beyond this, there is the possibility of the use of technology for other less benign eugenic purposes. The Brave New World of Aldous Huxley may seem remote but we have already seen the use of eugenics for sinister purposes in Germany and the United States.

Similarly, the use of electronic implants to enhance normal muscle function thus producing 'super-athletes' is very different from seeking to restore what has been lost by accident or disease. The call should always be to seek restoration to a pristine state rather than seeking to improve on the basic creation, to restore to the original as against trying to transform mankind and produce some kind of new super-being or cyborg.⁽¹⁾

Other instances of seeking to improve on creation come to mind. There is the widespread use of cosmetic surgery to enhance appearances in line with the current fashion. Of course, it is sometimes

(1) See, for instance Ray Kurzweil *The Age of Spiritual Machines: How we Live, Work and Think in the New Age of Intelligent Machines*, London: Phoenix, 1999.

difficult to maintain the distinction between restoration and improvement; a good case is the child born with what are considered unusually ugly features which cause great distress. But usually the distinction between restoring creation and seeking to re-make it is, I feel, valid.

The distinctiveness of man

The teaching that man is made in the image of God means first that he has a particular dignity. This extends to all members of the human race. Nobody is to be treated as a commodity, simply as the raw material for genetic or any other kind of research. Research on human beings which is necessary must be with informed consent. Further, man's life should be seen as sacrosanct. The fact that Man is distinct from the rest of Creation including animals means that while the life of animals can be taken for food or clothes, human life is to be inviolate: 'Whoever sheds the blood of man, by man shall his blood be shed; for in the image of God has God made man'.⁽¹⁾

There is a problem area here. For those who believe that the baby only becomes a person at birth, there should be no difficulty in what happens before that point. But for those who believe that the unborn child shares human dignity from conception, or even some later time, other questions are raised. Does this mean that any form of cloning is wrong? What should be done with the 'spare' embryos produced in the course of *IVF* treatment? If they each possess human dignity, surely it is wrong to use them for experimentation or to destroy them, even if nature is very prodigal in its wastage of them. It is easy to pose the questions, but difficult to see any answers.

Again, the fact that man has a basic dignity, which is not shared by other parts of the creation, means that the mixing of human and animal genes in genetic engineering is wrong.⁽²⁾ Indeed, it links with another Biblical emphasis significant for genetic engineering of animals and crops: the emphasis on the distinctiveness of different species; with the forbidding of the mixing of different kinds of plant and animal

(1) Genesis 9:6.

(2) In a similar way, intercourse between humans and animals is forbidden, Exodus 22:19, Deuteronomy 27:21.

genes.⁽¹⁾ Also, it would warn against the blurring of the distinction between man and machine. According to the eminent scientist Prof Susan Greenfield in her illuminating and disturbing book *Tomorrow's People* the production of human-machine hybrids is now a distinct possibility, with 'technophiles' advocating the use of nanotechnology, silicon carbon implants and other technology for that purpose.⁽²⁾ Prof Greenfield cites various thinkers and researchers who look forward to a new stage in the evolutionary process with super-humans with enormously advanced powers. Technology, which has great possibilities for healing, also has fearful possibilities. Yet gain, we need to fight for the distinction between seeking to restore creation and seeking to change it.

Man and Woman and the Family

The Biblical teachings about the complementary male/human relationship and the importance of the family are highly significant in the realm of genetic engineering. The Biblical ideal for procreation is that it takes place in the context of a committed sexual relationship. In light of this, *IVF*, *in vitro fertilisation* would seem to be right when a couple are unable to have a baby by other means, but only within that male/female relationship. *IVF* by donor and attempts to produce babies by genetic material from a third party are clearly wrong. Further attempts at asexual reproduction by cloning or other means are not only unnatural and wrong but again raise the prospect of children unsure of their identity and lacking the web of family relationships which are so important for personal and social well being.

IN CONCLUSION

In conclusion, I would argue that the opening chapters of Genesis afford a solid base for a Christian approach to genetic engineering. The doctrines of God as creator, of creation, of man, of the value of human life, of the interdependence of the sexes, of the fall: all are

(1) Leviticus 19:19, Deuteronomy 22:9.

(2) Susan Greenfield, *Tomorrow's People*, London: Penguin, 2003.

significant. In particular, I would stress the need for man to realise his position. It is one of dignity and responsibility, but it also needs to be one of humility, recognising the greatness of God and his own limitations. He is limited by his own fallible nature and by the fact that his calling is not to be a creator, but to be a restorer of a marred creation and a procreator in co-operation with God.

Looking back on this paper, I realise that much of it is remarkably close to the views of many Muslims on these matters. I think in particular of the doctrine of God as creator, of man as steward of creation and procreation, of the interdependence of the sexes and of the importance of the family. My comments about the fall are, of course, likely to lead to disagreement, although I imagine that similar arguments could be built on the Qur'anic references to the weakness and imperfection of man.⁽¹⁾ When it comes to the contentious area of the status of the unborn child, there seem to be differences of opinion within Islam just as there are within Christianity.⁽²⁾

Of course, this kind of approach starts from the base of an Almighty God Who reveals His will and is unlikely to attract secular bioethicist. However, I suspect that some who take a consequentialist or utilitarian approach might agree with some of the conclusions. Further as Neil Messer says, the widespread use of religious language in secular ethical debates with expressions such as 'Xeroxing souls' and 'playing God' indicates 'a widespread, if inarticulate, recognition that these are inescapably religious questions'.⁽³⁾

(1) For instance *Al-Nisā* (4) 28, *Al-Ma'ārij* (70) 19-21.

(2) Rispler-Chaim, V. *Islamic Medical Ethics in the 20th Century*, Leiden: Brill, 1993, pp 7-11. Yacoub, A.A.A. *The Fiqh of Medicine. Responses in Islamic Jurisprudence to Developments in Medical Science*, London: Ta Ha Publishers, 2001, pp 202, 221.

(3) Messer, N., *The Ethics of Human Cloning*, Cambridge: Grove Books, 2001, p24.

**HUMANITY AND CREATION:
AN ISLAMIC PERSPECTIVE**

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Humanity and Creation: An Islamic Perspective

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INTRODUCTION

All grace and praises are due to Allah [God]⁽¹⁾, the sole Creator, Sustainer and Cherisher of the universe and may His peace and blessings be upon His final messenger Muhammad, upon all the prophets and messengers who preceded him and upon all those who follow their guidance until the Day of Judgment. To the chairperson, to all dignitaries present here and to all respected participants and observers, I greet you with the common greeting of all the prophets; the greeting of peace: may the peace, blessings and mercy of Allah be with you all. I wish first to commend the organizers of this seminar, not only for their considerable efforts in planning and arranging for it, but also for their **choice of its theme**. With the phenomenal and unprecedented advances in medical sciences and medical technologies, the general field of bioethics became a pivotal area of investigation. **One vital, highly controversial and contemporary aspect of bioethics is human genetics and productive technologies**. Like other bioethical aspects, it has far reaching implications; medical; social; legal and even political. Any individual, professional and collective decision in this area is **predicated, in the first place, on the relevant world view, “religious” or “secular”**. Perhaps the most pertinent world view questions are: what is the position of the human in the scheme of creation? What is the nature of the human? What is the purpose behind human existence here on earth? And how can the human relate

(1) The Arabic term “Allah” means the One God, Creator and Lord of the universe. It is the same term used by Arabic speaking Christians and in Arabic Bibles. The term for God in Aramaic is “Alaaha”. Throughout this paper, the term “Allah” will be used since it is not subject to gender or plurality like the term “god”.

to the universe in which he/she spends his/her earthly life? This paper is an attempt to answer these questions from an Islamic perspective.

POSITION OF THE HUMAN IN THE SCHEME OF ALLAH'S CREATION

The Qur'an narrates how Allah announced to the angels His decision to create a **trustee** to live on earth and fulfill Allah's plan: "Behold, your Lord said to the angels: I will create a trustee on earth..."⁽¹⁾ When the angels enquired: "Will you place therein one who will **make mischief** therein and shed blood? - whilst we do celebrate your praises and glorify your holy name"⁽²⁾, Allah answered "I know what you know not"⁽³⁾

This is the earliest explicit statement about **human dignity**. Since Allah is Omnipotent and needs no "trustee", deputy or helper, trusteeship is a symbol of the dignity and honor of the human as the crown of Allah's creation. But can the human be greater than the pure angels of Allah? The answer can be inferred from the Qur'an which states that after Allah created the first human, He commanded the angels to bow down to that human; Adam: "And behold, We [Allah] said to the angels, 'bow down to Adam'; and they bowed down"⁽⁴⁾ How could such a vulnerable, weak, even sinful creature be placed on such a pedestal?. Angels are embodiment of purity and obedience to Allah by their very nature. They are **incapable of disobeying Allah** or rebelling against Him. They are the ones who: "...flinch not [from executing] the commands they receive from Allah, but do [precisely] what they are commanded"⁽⁵⁾

Is it possible that a human may, potentially, be better than the angels? A possible answer to this question is that when angels are good and obedient to Allah, it is because this is their only option and

(1) Qur'an, 2:30. Mainly translation by A.Yusuf Ali will be used in this paper. Muhammad Asad's translation was also consulted in a few verses. However, this author made some occasional modifications for greater clarity and accuracy.

(2) Ibid, 2:30

(3) Ibid, 2:30

(4) Ibid, 2:34

(5) Ibid, 66:6

not a result of a deliberate moral choice. Not so for the human who constantly struggles in making moral choices and is capable of obeying or disobeying Allah. It is the success in **that struggle which may make the human better than the angels** who were commanded by Allah to pay tribute to. No wonder, we read in the Qur'an: "Indeed, We [Allah] honored the children of Adam..."⁽¹⁾ The recipients of that honor are "*Bani Adam*", an inclusive Qur'anic Arabic term which embraces all humankind irrespective of their ethnicity, religious belief or lack thereof. This raises a question about the nature of that human that is so honored by Allah. That is discussed next.

HUMAN ANATURE

The following verses from the Qur'an sums up human nature:

"Such is He, the Knower of all things, hidden and open, the Exalted [in Power], the Merciful; He who has made everything which He has created most good. He began the creation of the human with clay. And made his/her progeny from a quintessence of despised fluid. Then He fashioned him/her in due proportion, and breathed into him/her something of His Spirit. And He gave you [the faculties of] hearing, sight and understanding [and feeling]. Little thanks do you give."⁽²⁾

From these verses, the nature of the human, as a **physical-intellectual-spiritual being** is indicated. The 'clay' represents the earthly or carnal elements of human nature. Urges and instincts, in themselves, act as mechanisms through which the physical survival and perpetuation of the human race are obtained. **Beyond the functionality of the human body**, Allah created the human in a beautiful physical mould and symmetry: "We have indeed created the human in the best of moulds"⁽³⁾, "Have We not made for him [the human] a pair of eyes, a tongue and a pair of lips"⁽⁴⁾, "O human! What has seduced you from your Lord, Most Beneficent? - Who created you, fashioned

(1) Ibid, 17:70

(2) Ibid, 32:6-9

(3) Ibid, 95:4

(4) Ibid, 90:8-9

you in due proportion. In whatever form He wills did He put you together”⁽¹⁾

The human is also **endowed with intellect** and the power of complex reasoning and expression: “It is He [Allah] Who brought you forth from the wombs of your mothers when you knew nothing; and He gave you hearing, sight and intellect that you may give thanks [to Allah]”⁽²⁾, “[Allah] Most Gracious! It is He Who has taught the Qur’an. He has created the human; He has taught him/her [the power of intelligent] expression”⁽³⁾ Such faculties are interrelated and interdependent. Senses are means of observation, experimentation and measurement. Complex reasoning and rationality is not the antithesis of faith but indispensable means of discovery, not only of physical “truths” but also spiritual “truths” within the limits of human perceptual and reasoning capacity. No wonder, **the Qur’an criticizes those who fail to use their Allah-given faculties** including senses and reason: “Have you considered [the kind of person] who makes his/ desires his/her deity? Could you then, [O Prophet], be responsible for him/her. Or do you think that most of them listen [to your message] or understand it Nay, they are like cattle - Nay, they are more astray”⁽⁴⁾

It is true that **reason alone is insufficient** to understand all the mysteries of creation. Nonetheless, reason is neither irrelevant to the strengthening of one’s faith, nor is it the antithesis of faith. Indeed, the use of intellect and reason is not only accepted, but also urged: “Behold! In the creation of heavens and the earth and the alternation of Night and Day, - there are signs for persons of understanding, Persons who celebrate the praises of Allah, standing, and lying down on their sides, and contemplate the [wonders] of creation in the heavens and the earth, [with the thought]: ‘Our Lord! You have not

(1) Ibid, 82:6-8

(2) Ibid, 16:72

(3) Ibid, 55:1-4

(4) Ibid, 25:44, 8:22

created all that in vain. Glory be to You! Save us from the penalty of the Fire”⁽¹⁾

In more than one Aayah [verse], the Qur’an speaks about the most crucial source of human dignity; **Allah’s divine breath endowed to every human being.**⁽²⁾ This is indeed at the heart of the Qur’anic concept of human dignity. The **physical component** of human nature is shared by other living beings. Animals possess intelligence in varying degrees, though not the power of complex reasoning. Yet only in the case of the human does the Qur’an say that Allah breathed into him/her something of His spirit. It is that “breath” which endows the human with the innate spiritual and moral qualities. It also establishes the unique position of the human as the crown of Allah’s creation.

This position of honor is closely tied to the **fulfillment of one’s role** as ‘trustee’ of Allah and as a free agent. This is a heavy responsibility, one, which requires making the right choice. Failing to make such a choice leads to the loss of that position of honor and distinction. The human may even descend to a position, which is less than that of animals. A person may become one of those who: "Have hearts [minds] wherewith they understand not, eyes wherewith they see not, and ears wherewith they hear not. They are like cattle, nay more misguided; for they are heedless [of warning].”⁽³⁾

The physical, intellectual and spiritual elements in human existence are **not regarded as three different compartments.** They are not necessarily irreconcilable either. The human is regarded as neither a fallen angel nor an ascending animal. The human is rather, a **responsible being** with the potential of ascending to a position that is higher than that of angels, or descending to a position that is lower than cattle. The ‘forbidden tree’⁽⁴⁾, from an Islamic perspective, symbolizes the **universal ethical experience** of every human being. It eloquently and effectively sums up the concepts of freedom of choice,

(1) Ibid, 3: 190-191

(2) Ibid, 32:9

(3) Ibid, 7:179

(4) For the Qur’anic explanation of the “forbidden tree”, see 7:11-25

temptation, decision-making, erring, and realization of error, repentance, forgiveness and reconciliation. Realization of one's own nature, strengths and weaknesses is likely to lead to healthy self acceptance. This leads, in turn, to mental balance where the person is neither excessively haunted by his/her sins and weaknesses nor too proud and boastful about his/her strengths.

Awareness of human nature presents four main ethical challenges before humankind. Firstly, **rising** above the purely physical element and ruling over it instead of being ruled by it. Secondly, **developing** the spiritual and intellectual elements and bringing them into harmony with the Divine will through conscious and committed submission to Allah. Thirdly, **realizing** the consequences of obedience and disobedience to Allah. Fourthly, **striving** to succeed in the 'test' of earthly life, in order not merely to return to an even greater 'garden' after physical death, but to enjoy the ultimate bliss of nearness to Allah and the company of the pure: "All who obey Allah and His Messenger are in the company of those upon whom Allah bestowed His Grace, of the Prophets, the sincere [lovers of truth], the martyrs and the righteous and what a beautiful company are these!"⁽¹⁾ Standing up to these challenges relates directly to one's conception of the purpose of creation, which is discussed next.

PURPOSE OF CREATION

The Qur'an teaches that the purpose of creation of humanity is to "worship" Allah: "I have only created the Jinns and the humans, that they may worship [serve] Me. No sustenance do I require of them, nor do I require that they should feed Me. For Allah is He who gives [all] sustenance, - Lord of all might, the Eternal"⁽²⁾ **Worship of Allah, however, is not mere formalism.** Nor is it restricted to the performance of certain rites or other devotional acts. Rites and devotional acts do have their place. Yet, the concept of 'worship' in Islam is much more comprehensive than the common meaning attached to the term: "It is

(1) Ibid, 4:69

(2) Ibid, 51:56-58

not righteousness that you turn your faces towards East or West, but it is righteousness to believe in Allah, and in the Last Day, and the Angels, and the Book, and the Messengers: to spend of your sustenance, out of love of Him, for your kin, for the orphans, for the needy, for the wayfarers, for those who ask, and for the ransom [manumission] of slaves; to be steadfast in prayer, and practice regular charity; to fulfill contracts which you have made; and to persevere in patience in times of suffering, adversity and in the battlefield. Such are the people of truth, the Allah - conscious”⁽¹⁾ **Any act is a potential act of worship** if it meets two fundamental conditions - first; to be done with ‘pure’ intention; second, to be done within the limits prescribed by Allah. Even customary and mundane activities, such as eating, sleeping and ‘innocent’ recreation, may be regarded as acts of worship if they meet the above two conditions. And extension of this broad concept of ‘worship’ is the absence in Islam of any **artificial compartmentalization** of the various aspects of human living. Life is seen as an **integrated and interrelated whole**. It includes individual and collective pursuits; moral, social and economic and political. Indeed, one of the main challenges to humanity is to relate and harmonize such activities under divine guidance. It is that challenge which qualifies the human race as the *Khalifah* (trustee) of Allah on earth. It also makes earthly life a ‘test’ or trial for the human. One’s **conception** of human nature and his/her understanding and acceptance of the purpose of creation and the role of *Khalifah* (trusteeship) determine how one sees his/her relationship to the natural and social order.

AN ISLAMIC VIEW OF THE UNIVERSE

The ethical outlook of the individual and his/her behavior is not only affected by the person’s view of his/her own nature, but also by the person’s view of the world around him/her. The Qur’an regards the **universe as a tool helping every human being to perform his/her role** as a trustee of Allah on earth: “Do you not see that Allah has subjected you all things in the heavens and on earth and has bestowed

(1) Ibid, 2:177

upon you His abundant bounties, seen and unseen.”⁽¹⁾ Such bounties, however, must be used in accordance with Allah’s instructions. For example, Islam considers the **environment as a personal and collective trust, not a personal or collective property**. This is why the destruction or unwise use of the environments and resources is regarded as a moral crime. Suicide as act desperation of the mercy of Allah, also neglecting or abusing one’s body and its health are considered to be morally wrong because the body is one of Allah’s gifts entrusted to the human. As such, it should be used to fulfill one’s mission as a trustee of Allah on earth. Even wealth is considered a trust; a person cannot burn it and claim that they are free to use their property as they please.

In the Qur’an we read: “Blessed is He in Whose hand is the sovereignty, and, He is able to do all things. Who has created life and death that He **may try you which of you is best in conduct**; and He is the Mighty, the Forgiving”⁽²⁾. This means that the Qur’an regards life as a test, not just an experience that a person goes through without having a purpose. On the contrary, the distinction and dignity of the human race lies in making the most of their physical, intellectual and spiritual capabilities in order to overcome weaknesses and shortcomings and to fulfill their mission as trustees of Allah.

This Islamic vision does not only aim at individual piety, but it also provides for a more **dynamic view of life that demands active participation** of humans in righting the wrong and striving to achieve peace and social justice.

The greatest challenge today is for all faith communities to practice what they preach and to stand together against abusers of the rights and responsibilities of human trusteeship. Herein lies the restoration of true human dignity.

(1) Ibid, 31:20

(2) Ibid, 67:1-2

**MAN'S CREATION
IN HIS NATURAL FORM**

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Man's Creation in His Natural Form

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Preface

This paper is an expression of the views of its writer regarding man in his natural form, his life, and the natural environment he lives in. These views come from within the framework of Islamic Law and its principles.

This conference aims at creating a scientific, religious, philosophical, and sociological dialogue between the adherents of the three main religions (Islam- Christianity-Judaism-) and secular points of view. This dialogue will deal with recent medical discoveries and their multiple practical applications on man in an endeavour to overcome pain and to bring happiness and stability to him. Such a dialogue is particularly important due to certain moral implications of the aforementioned discoveries. These implications ought to be carefully studied in order to find out their effects on sociological, psychological, economic, and political aspects, and their effect on human relations as well. This effort is needed so that the adherents of all religions and all human beings live together in peace by means of sound scientific discussions between scientists in all areas, from all parts of the world. If this happens, it would lead to understanding with the result that peace would replace terrorism, justice would replace injustice, love would replace hate, and humanity would reap the fruits of its scientific progress in security and peace. Consequently, my paper will take the form of several requirements in which we will respond from an Islamic perspective to the questions related to the first sub-topic: Humanity and the Creator. We are going to give the answer in the form of six requirements, each in its order.

The First Requirement

What is the appropriate relationship between human beings and other creatures from the point of view of various religious beliefs? To what extent can creation be submitted to modification and improvement on the part of human beings? Which biological elements can be subjected to modification and which cannot?

According to Islamic beliefs, man is the sovereign creature in this universe and he has the right to manage and lead non-human and non-living creatures. This sovereignty extends, moreover, to the earth and to life in general. Man will always be capable of being the leader and sovereign of the universe in all ages and times and even till the end of time regardless of his race, color, culture, or belief. Naturally, this was also the case in past times (ever since Adam and Eve and their descendants) and it will continue till the end of times.

Belief in this is required as part of any Muslim's faith as it was mentioned in the Quran and the Prophetic tradition. God said "I will create a vicegerent on earth. They said: Wilt Thou place therein one who will make Mischief therein and shed blood? Whilst we do celebrate Thy praises and glorify Thy holy name? He said: I know what you know not. (Al Baqarah 30, 31). He also said "Get ye down, all (ye people). With enmity between yourselves. On earth will be your dwelling place and your means of livelihood for a time. (Al Baqarah 36).

God said "It is He Who hath produced you from the earth and settled you therein." (Hud 61). God also said "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." (AL Nisa 1)

God said " O mankind! We created you from a single (pair) of a male and female and made you into Nations and Tribes, that ye may know each other (not that ye may despise each other). Verily the most honoured of you in the sight of Allah is (he who is) the most righteous of you. (Al Hujurat 13). He also said "We did indeed offer the Trust to the heavens and the Earth and the Mountains. But they refused to

undertake it, being afraid thereof: but man undertook it. He was indeed unjust and foolish. (Al Ahzab 72). The word "trust" in this verse means responsibility and man's leadership of the material world, and his being a vicegerent in it charged with reforming and building, and with staying away from destruction and ruining.

All this would not be accomplished except through man who will accept this "trust" and bear this responsibility which was meant for him and for which he was created. The nature which God endowed man with enables him to bear this responsibility. It is this nature which makes man harmonious with all other creatures whether natural or non-human (and that regardless of his race and color) and makes it possible for him to live in peace, balance and stability on this earth on which he is the vicegerent. This balance is a necessary matter just as balance is necessary for the soul and the body or some disorder would occur which would destroy both life and man. As created by God man is able and fit to be a vicegerent on earth and in the cosmos. God created the earth and everything on it to fit man and his life on earth. And as long as he sticks to the trust and responsibility assigned to him by God, then life and the cosmos will be suitable for his life and the life of other creatures. God says "Do no do mischief on the earth after it has been set in order: that will be best for you, if ye have faith." (AL Araf 85). He also says "Do no mischief on the earth after it hath been set in order, but call on him with fear and longing. " (AL Araf 56)

For this reason if man causes a disruption in the balance between human beings and other creatures, then he would be "doing mischief" and committing a heinous crime against life and the universe. According to Islamic law this crime makes him accountable both in this world and the next and makes him deserving of punishment.

In Islam there are many verses in the Quran which speak of this delicate balance that God created between man and the other creatures in the universe. For example, God says "Wealth and sons are allurements of the life of this world" (Al Kahf 46). The meaning of the word "wealth" in this verse is not restricted to money. It means everything which man needs to live and everything he realizes either by material or non-material means - whether these things are

necessities or luxuries. As for the word "sons" it means here human beings or Adam and his descendants. Man, material life and the universe are all manifestations of human life and are part of its allurements. The allurements of the world are a result of the existence of human beings and other creatures which lead to the continuity of life and to peace and well-being between fellow human beings everywhere and between man and the natural environment in which he lives.

Balance between human beings and other parts of creation on earth and in the universe is a must if life is to continue and to remain suitable for man and for other creatures to live in enjoying peace, safety, and security. That is why God subjected all the elements of the universe to man to benefit therefrom and made him his own vicegerent so that he would take from the universe what is enough for him without doing mischief to fellow human beings or to other creatures; those creatures which were made for his benefit.

God says "It is He who hath created for you all things that are on earth" (AL Baqarah 29). He also said "And He has subjected to you, as from him, all that is in the heavens and on earth". And He said "And he hath made subject to you the sun and the moon, both diligently pursuing their courses, and the night and the day hath he made subject to you." (Ibrahim 33). And he also said "He has made subject to you the night and the day, the sun and the moon and the stars are in subjection by his command: verily in this are signs for men who are wise." (Al Nahl 12)

God said "It is He who has made the sea subject, that ye may eat thereof flesh that is fresh and tender, and that ye may extract therefrom ornaments to wear, and thou seest the ships therein that plough the waves, that ye may seek (thus) of the bounty of Allah. And that ye may be grateful." (Al Nahl 14). He said "And cattle he has created for you: from them ye derive warmth, and numerous benefits, and of their (meat) ye eat". (Al Nahl 5). God said "And the things on this earth which he has multiplied in varying colors (and qualities) verily in this is a sign for men who celebrate the praises of Allah in gratitude". (Al Nahl 13). He said "Do you not see that Allah

has subjected to your (use) all things in the heavens and on earth” (Luquman 20).

Since everything that was created on earth has been subjected to man and his use, as well as everything between heaven and earth, therefore, man is entitled to change, modify, and improve things according to his knowledge and ability. There is one provision, however, which is that he should not create imbalance between himself and the natural environment, or between himself and his fellow human beings at any time or in any place.

As mentioned before, all the aspects of creation which were subjected to man and which are a direct or indirect cause of his life and vicegerency on earth (according to God’s will) can be changed if there is a need for it. If the change is necessary for man’s life and continuation, nothing hinders or prevents it, on the condition that no disruption in natural life and the environmental balance occur. Whether such changes are made or not is left up to those who possess reason and knowledge depending on what is in man’s best interests. God said “But over all endued with knowledge is One, The All-Knowing.” (Yusuf 76). And he also said “Ask of those who possess this message.” (Al Nahl 43).

The Second Requirement

To what extent is one human being entitled to change, modify, or improve other human beings?

I have made it clear that from the Islamic point of view all the elements of the natural environment are subject to man, whether they are animate or inanimate. God made him their sovereign and his own vicegerent on earth. Therefore, man has the right to strive for the fulfillment of his needs and the continuation of his life, and to change and modify all the elements of nature. But he must not adversely impact the balance between the different creatures that God has placed in the universe. In brief, man must not harm human life because being a vicegerent means that he should build and construct, not do harm.

The harmful and negative effects of the hurricane Katrina which took place in the United States on the environment and on human life

were similar to the effects of Tsu Nami that took place in South East Asia and destroyed entire cities and left millions homeless. These effects prove what I am saying.

Such natural catastrophes are occurring more in the present age than in the past. This can also be explained and understood as a result of the heat emitted by the different gases and the rise in the temperature of the earth, both of which are caused by man. This fact has been confirmed by the parties which defend the environment. They were trying to find an answer to the question "Why are these natural events happening more frequently?" They answered that it can only be due to the increase in the earth's temperature which man has caused. Furthermore, the German minister of the Environment answered the same question by saying that Americans are the only ones to blame for the hurricane because their country refused to reduce the gases which cause heat retention which in turn leads to an increase in natural disasters.

The Holy Quran, the organizing law for Islam and Moslems, makes it clear that all the negative effects in natural or human life are man's work. This is why God says "Do no mischief on the earth after it has been set in order." (Al Araf 85).

This is why in Islamic belief human beings occupy a special position different from all other creatures and they must be protected from any changes or modifications which would adversely impact them and impact their role as vicegerents on earth and the leaders of animate and inanimate nature both of which have been subjected to them and to their uses. Man is the sovereign in this universe and he is the one bearing the trust, for the Quran says "We did indeed offer the Trust to the heavens and the earth and the mountains: but they refused to undertake it being afraid thereof" (Al Ahzab 72).

This trust given by God to man is to inhabit the earth and the universe, and this, of course, requires that man not overstep the limits of this duty assigned to him by God. He should discharge it as well as possible. If introducing change and modification to human beings and their genetic life, will have a negative effect on the role man plays as vicegerent and inhabitant of the earth then Islam prohibits such

change. Committing such prohibited acts would incur on the doer legal punishment in this world, and religious punishment in the next.

Thus, it becomes clear that from the beginning of creation human beings had to be protected and they also have to be protected until its end. Human beings have to be protected from birth to death. This view will be clarified further in the next section.

The Third Requirement The Moral Status of the Human Embryo in its Early and Late Stages

The moral status of the human embryo whether in its early or late stages constitutes part of the faith as it is morally and religiously required to protect the human embryo in its early as well as its late stages. The embryo should not be harmed nor interfered with unless this is necessary, and only if this interference is sanctioned by religion. These conditions are necessary for the protection of human life and for preserving its essence in the way that God created it.

All the stages of man's creation are interconnected as well as interdependent, for each of them is necessary for the other, as well as necessary for the existence of the human being whom God created to be his vicegerent and the sovereign creature on earth. Man is the sovereign by virtue of his reason and knowledge, a knowledge that God endowed him with which encompasses all the domains of life. It is due to reason and knowledge that man was preferred to angels, as made clear by the Quran "And he taught Adam the names" (Al Baqarah 31).

The word "names" here means all the sciences, arts, and inventions that have appeared, still appear, or will ever appear until the end of time. The following verse of the Quran describes the stages of man's development "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 of that clot We made a (foetus) lump; then We made out of that lump bones and

clothed the bones with flesh; the We developed out of it another creature. So blessed be Allah, the best to create!" (Al Muminun 12-14).

God said "He Who has made everything which He has created most good: He began the creation of man with (nothing more than) clay, And made his progeny from a quintessence of the nature of a fluid despised. But he fashioned him in due proportion, and breathed into him something of His spirit. And He gave you (the faculties) of hearing and sight and feeling (and understanding): Little thanks do ye give!" (Al Sajdah 7-9).

God said "It is He Who has created man from water: Then he has established relationships of lineage and marriage." (Al Furqan 54). He also said "And has given you shape-and made your shapes beautiful and has provided for you sustenance. Of things pure and good" (Ghafir 64). God said "And has given you shape, and made your shapes beautiful: and to him is the final Goal." (Al Taghabun 3). He also said "That he did create in pairs - male and female, from a seed when lodged (in its place)". (Al Najm 45-46). God said "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." (Al Nisa 8).

And he said "O mankind! We created you from a single (pair) of a male and a female and made you into nations and tribes, that ye may know each other (not that ye may despise each other). Verily the most honoured of you in the sight of Allah is (he who is) the most righteous of you. And Allah has full knowledge and is well -acquainted (with all things)". (Al Hujurat 13).

It is worth noting that the manner of creating and forming man was detailed in the Quran, as seen from the previous verses, yet there are no Quranic verses and no other religious texts which describe the manner of creation of any creature other than man. The creation of the other creatures is described in a general manner. For example, God says, "And Allah has created every animal from water. (Al Nur 45)". And he said "We made from water every living thing." (Al Anbiya 30).

God described man's creation in detail because of his importance

and his elevated status among all creatures. This status was accorded to man because he is the one who was charged with protecting all other creatures and taking care of them. To accomplish this task he is required to use his wisdom to create the necessary balance between man and the natural and human environments in which he lives. He must prevent any mischief that would lead to the destruction or perishing of both man and nature. This is why he was entrusted with this responsibility. From the point of view of religion, man undertook this responsibility before God and must not betray his duty. In fact, man and the material world in which he lives are one and the same thing. Moreover, each of them is indispensable to the other just like the soul and the body.

Islam is belief, law, and deeds. Islamic belief instructs Muslims that they should attend to this world as if they were going to live forever, and attend to the next world as if they were going to die tomorrow. In Islam belief and faith are not separate from deeds. Deeds also are not separate from faith. All religious texts affirm that both faith and good deeds are needed for the continuation of human life.

According to Islam and its morals, the human being must be protected in all his stages. There is no difference in this between a foetus that is still in the mother's uterus and a full-grown man. God protected man in all his stages for he ordered us to protect five entities: religion, the soul, the mind, offspring, and money. The first four are found in man; as for money it is a necessary component in man's material life. Thus, money is necessary in order to guarantee the continuation of human life which must not be left to perish.

A great many texts prove this point. God said "If anyone slew a person - unless it be for murder or spreading mischief in the land - it would be as if he slew the whole people: And if anyone saves a life, it would be as if he saved the life of the whole people."(Al Maidah 32). God also said "Kill not your children on a plea of want - We provide sustenance for you and for them". (Al Anam 151). And he said "Kill not your children for fear of want: We shall provide sustenance for them as well as for you. Verily the killing of them is a great sin." (Al Isra 31)

The Fourth Requirement

The Concept of Human Dignity in Islam

The concept of human dignity in Islam means that man must be protected and given the utmost care. These are the rights of all human beings in all places and at all times. All measures must be taken to protect man and his life, regardless of his race, color, religion or culture. God said “We have honoured the sons of Adam: provided them with transport on land and sea; given them for sustenance things good and pure; and conferred on them special favours, above a great part of our creation”. (Al Isra 70).

This honour that God gave to man makes it necessary to protect and preserve human beings in all stages of life and even after death. The prophet (PBUH) said: “Breaking a dead man’s bones is just like breaking them whilst he was alive”.

Human dignity would suffer if amazing reproductive technologies which include selecting and designing traits affect human genes and change their nature that was created by God. God created man in the best form. If these technologies are used without medical necessity such as the need to restore an organ to its original state or to mend it, then this would be harmful to human dignity. The prophet (PBUH) said “God created illnesses as well as their cures, therefore, seek the cure, but do not use anything that has been prohibited.”

The Fifth Requirement

Science, its limits, status, and Domains in Islam

No constraints are laid upon scientific activities, and scientific experiments whether theoretical or applied, or any of the scientific domains, as long as they target humanity’s development and growth and enable man to be truly God’s vicegerent on earth and in the universe. If they fulfill these requirements, there will be no restrictions on them. Science should aim at the good of all human beings because from the point of view of Islam all people are the servants of God and were created by him. Moreover, they are all brothers in humanity since they come from the same parents. Adam is the father of them all

and Eve is their mother. This is what the Quran said “O mankind! We created you from a single (pair) of a male and a female and made you into nations and tribes that ye may know each other (not that ye may despise (each other))”. (Al Hujurat 13).

Islam honours knowledge and all those who possess it in any field, whether it is religious knowledge or worldly knowledge because both benefit people. Islam also gave the possessers of knowledge a very high status similar to that of prophets, messengers of God and angels. God said “There is no god but He: that is the witness of Allah, his angels, and those endued with knowledge, standing firm on justice. There is no god but He the exalted in power, the wise.” (Ali Imran 18).

God also said “Proclaim! (or read) in the name of thy Lord and cherisher who created. Created man out of a (mere) clot of congealed blood. Proclaim! And thy Lord is most bountiful. He who taught (the use) of the pen. Taught man that which he Knew not”. (Al Alaq 1-5).

These five verses were the first to be revealed from Heaven to the messenger of God, Prophet Mohamed (PBUH), who is the Prophet of Islam and Moslems and whom God sent to guide people to God and to social peace for all people. “O Prophet! Truly we have sent thee as a witness, a bearer of glad tidings, and a warner. And as one who invites to Allah’s (grace) by His leave and as a lamp spreading light”. (Al Ahzab 45-46).

These first verses of the Quran which God revealed to the messenger of Islam (PBUH) indicate clearly to those who have the right thinking and the right faith that both right thinking and faith can only be attained by means of acquired knowledge. This knowledge can be given to human beings in all places and times through revelation, or it can be acquired by thinking and hard work.

Furthermore, these verses make it clear that everything that man knows, has ever known, or will ever know is a part of God’s knowledge; it is God who taught it to him. Also, all man’s knowledge is very small in comparison to God’s knowledge as the following verses points out “Of knowledge it is only a little that is communicated to you.” (Al Isra 85). He also said “And he taught Adam the names of all things” (Al Baqarah 31). Those names which God taught

Adam are the names of all sciences and all their secrets as well as the keys to their knowledge parts of which we know and other parts that we do not yet, but which other people at other times will find out. All this knowledge is stored in the mind of man which is one of God's mysteries. The mind was placed by God in Adam, the father of all human beings, then in his children and descendants. This mind will always be one of God's greatest wonders.

God honoured man by giving him this mind which carries and stores knowledge, and which made him fit to be a vicegerent on earth and the one responsible for all forms of life on earth. The mind is what makes man capable of bearing the responsibility that was given to him by God and to fulfill the "trust" which was assigned to him. God ordered man to communicate this responsibility to other human beings both directly and indirectly and to do what is conducive to the good of all humanity. It is man's duty to create peace between all human beings in all places and at all times, regardless of their races, colors, or languages. God said "We did indeed offer the Trust to the Havens and the Earth and the Mountains but they refused to undertake it, being afraid thereof: But man undertook it - He was indeed unjust and foolish." (Al Ahzab 72).

It is the human mind which discovers new sciences and inventions and improves upon existing ones. All man's knowledge is, of course, part of the knowledge that was taught to him by God as we have just mentioned "Of knowledge it is only a little that has been communicated to you (O men)". (Al Isra 85). He also said "But over all endowed with knowledge is One, the All-Knowing." (Yusuf 76).

Because knowledge with all its branches and specializations is extremely important for humanity, Islam ordered people to seek it and to acquire knowledge. As a matter of fact, religious texts make the seeking of knowledge an obligatory religious duty which everyone should strive to discharge. This is quite clear in the Prophetic tradition, for there is a saying in which the Prophet (PBUH) says: "The seeking of knowledge is the religious duty of every Muslim". Of course, the word "Muslim" here refers to both genders equally, man and woman. The prophet also said "Those who possess knowledge are

the heirs of prophets.” And he said “The difference between the worth of a knowledgeable man and a man who worships is similar to the difference between my status and that of the lowest of you.” Moreover, God urges us to acquire knowledge and to study religion. “If a contingent from every expedition remained behind, they could devote themselves to studies in religion, and admonish the people when they return to them - that thus they (may learn) to guard themselves (against evil)”. (Al Tawbah 122).

The study of religion mentioned in this verse means studying the religious text and all religious precepts. Man should strive to unite knowledge of religion with knowledge of this life and to achieve harmony and balance between himself and his environment. He should live in peace and security with his fellow human beings and with all the creatures that God subjected to him. Thus, we can see that Islam comprises both faith and law; it is for the here and the hereafter.

The Sixth Requirement

The Use of Genetic Technology for Treatment in Islam

We have explained that from the Islamic point of view man is God’s vicegerent and the sovereign of this universe in which he lives. We also said that God honoured and preferred man to many other creatures by giving him knowledge. This knowledge includes all the sciences and arts which help him manage and deal with the environment surrounding him. All this is to ensure his existence and continuation from one generation to the following. We have also indicated that from the Islamic point of view, there is nothing to restrict the pursuit of knowledge, as long as this knowledge is beneficial to man and to life in all places at all times. This, of course, applies to all studies related to health.

In Islam there is nothing to prevent the use of genetic technology for the treatment and benefit of people for the best. However, this must not affect the genes or the human capacities which characterize man, for God honoured man by giving him these genes and capacities. Human beings should not be used in practical scientific experiments which conflict with human dignity, for people are different from

objects, plants, and animals. God honoured man and preferred him to all other creatures. He made him his vicegerent, blew his spirit into him, and subjected everything in heaven, earth, or in between to him alone, including the seas, rivers, land, plants, birds and animals. God said “It is he who hath created for you all things that are on earth.” (Al Baqarah 29) Therefore, Islam does not allow that man should be used for experiments even if these experiments will help the field of health because this conflicts with the dignity of man whom God has honoured. God said “We have honoured the sons of Adam, provided them with transport on land and sea: given them for sustenance things good and pure: and conferred on them special favours, above a great part of our creation.” (Al Isra 70).

DISCUSSION

Second Session

Chairman: Dr. Ezzeddin Ibrahim

Rapporteur: Dr. Aida Al Akeel

Chairman: I give the floor for 5 minutes to Dr. Aida Al-Aqeel, following which we will break for Magrib prayer, and meet again for discussion. - Thank you very much!

Dr. Aida Al-Aqeel: Thank you very much Dr. Ibrahim. I would like to take this opportunity to put some questions to the two grand imams, Imam Tantawi and Imam Wasel. Being a medical geneticist and a scientist, I would like to ask whether by modern biotechnology, we are really interfering with God's creation, knowing that God created everything including humans, animals and plants in their diversity? So, with our interventions, are we interfering with God's creation?

Another important question is the genetic intervention. There are two kinds of genetic interventions. There is a somatic genes therapy, which interferes with the genes of somatic cells and there is a germ line therapy, where we interfere with germ line. I think, everybody agrees that we shouldn't interfere with germ lines, because, this is interfering with DNA. However, somatic gene therapy is important for cancer and other diseases. I would like to discuss this in more depth with two important imams, and also with other religious, eminent speakers from other religions too.

Another important question is creation of embryo by cloning. The creation of embryo, you know, stem cell therapy is an important modality of treatment for many disease like, for diabetes, and others. So, from religious point of view, for the all three religions, are we allowed to do this? I think this is an important question to be raised. Another important thing is the baby design. Designing baby to a stem cell donor for another sick baby. Is this allowed in all the three religions?

I am raising these 3 important questions, because of the presence

of the grand imams, and also of all eminent speakers in this session. Thank you.

Chairman: May I have the questions from Christian side, if ready?

Dr. Mounir Farag Abudl Massih: Thank you Mr. Chairman. I am Dr. Mounir Farag. I am representing the holy Vatican. I am an Egyptian. Its not a question, but its a comment about what our Chairman has said about cloning. It was same thing also with the Christians. He didn't ask the qualified persons. Tomorrow, I will during my presentation, say that as a Vatican, we have the academicians. We have the pontifical academy, which is dealing with all this bioethical arguments - cloning, therapeutic cloning, euthanasia and so on. We have the pontifical academy of science. Prof. Dr. Ahmed Zuwail is a member of this academy. So, when Clinton was searching for eminent people about cloning, he didnt ask the right persons in the Catholic Church. So, it is the same thing. Second point which was raised by our eminent Mufti and other colleagues concerning what happened in the last days from some of European countries was really a sad behaviour from persons against a very respectful religion, a religion of peace and love, which is Islam.

Chairman: Thank you Dr. Abd el-Massih. We really regret that the commission didnt ask the proper people, but when I said they turned it to knowledgeable people, I have the names of the scholars, they turned too, and they sound to be, if not authoritative, at least knowledgeable. However, I am in the possession of a statement made by the Vatican and another statement made by the Council of the Church in Geneva. I don't have anything from the Church of England. But I am sure that the committee, if we were not aware of these statements, must have added them as annexes to the report they submitted to Clinton. At least, that man President Clinton can and did his best. The report submitted to him is not complete, but it is the right thing, to be done. Is there any question from the Jewish side?

Dr. David Bleich: I do not so much want to make a question as to make a comment. I would particularly like to endorse the proposal you made in the beginning of the session. A year ago, at the

conference in London, I recall myself making a comment and asking essentially for what you have requested.

Unfortunately, there are people who speak in the name of Judaism but who are not really knowledgeable with regard to Judaism. For one reason or another, they become accepted as authoritative voices while, in point of fact, they frequently convey misinformation. The second problem, which is common in both traditions is that a great deal of what appears in print appears in the vernacular rather than in the language of the scholars. Those materials tend to be popular rather than scholarly in nature. Hence it is difficult to find comprehensive and detailed statements of the teachings of religious traditions with regard to any particular issue. This is probably even more so with regard to Islam than with regard to Judaism. In so far as Judaism is concerned, the situation has changed somewhat during the last 20 years. There are now more materials available in English, for example, and certainly in French, whereas in so far as Islam is concerned, there is still very little available in the English language. As a result it is difficult for someone who is interested in an Islamic perspective to find a text dealing with the relevant issues. So, I would like to very much to endorse the proposal for preparation of such materials and emphasize that such materials are of value only if authored by persons respected within the Islamic religious and scholarly community.

I am certainly not asking for definitive answers now but there were a number of points that were made in the course of presentations today dealing with questions to which I had been seeking answers from within the Islamic tradition. I find a particular need for clearly formulated answers with regard to specific grounds for abortion and for elucidation of any differences there may be between scholars with regard to abortion during early stages of gestation. I see some remarkable parallels, not only in relevant Islamic and Jewish teachings, but also in differences of opinion among scholars.

There is another point with regard to which I would request clarification in this session, if possible, or in some other session. Islam and Judaism share many things in common. One of them is a great reliance in the development of a jurisprudence of bioethics upon

sources beyond sacred texts. Of course, in Islam precedents exist in the Hadith and much of Jewish law is based upon precedents found in the Oral Law tradition. The problem, particularly when trying to present this information to a popular audience, is that the language employed is not the language of the scholars and the tendency is not to present clear citations of precedents or of the authority from which arguments based upon analogy are drawn. I believe that this is an area with regard to which at least some people remain unclear and would welcome any further clarification.

Chairman: Respected David Bleich, I thank you very much for your comment. And, I would request the Secretariat to acquire whatever official statement from point of view of Judaism and the official statement from Christian side to be at least kept with the Secretariat as a reference for us. Now, for your question about abortion, I would refer this and ask for a very quick, brief practical answer in 3 minutes, otherwise, refer it back to me and I will make the answer.

A Scholar: I would just say what I learned from the scholar or you can correct me.

No. 1. As a principle as he indicated earlier, tampering with the embryo is not permissible because this is not something to play around with.

No. 2. That abortion may be permissible at any point of time when it is necessary to save the life of the mother. And here again, there might be a slight difference. According Sheikh Qaradawi, for example, life of the mother take precedence over the life of fetus. Because, there is no question of cent per cent insaan (human). But more practical reason is that the existence life of the mother is known, while the life of the fetus is probabilistic. Secondly, that the loss of the mother with result is much greater grief and loss for the whole family for many people, where as the fetus has not been born yet. So, my understanding again is that mother's life takes precedence even if we have to sacrifice the fetus. As far as abortion, I think, Dr. Wasel and others also indicated that it is not forbidden, but there have been also degree of wrongness depending on the stage. Now, the majority views

seem to be in favour of 120 days as the best on interpretation of one Hadith. However, I leave that to Dr. Mohd. Ali Al-Bar, who would be speaking tomorrow. There are also other sound Hadiths that seem to be speaking on the range between 40 to 45 days.

Chairman: Thank you very much, the two authorities. There are many authorities in this meeting, I would request Dr. David Bleich to talk to Prof. Hassan Hathout, who is a Gynecologist by profession and a man very much conversant with the Shariah rule, and also to Dr. Mohd. Ali Al-Bar, who has the same qualities. Please we don't have time to discuss it in detail. We have 6 minutes now, before I end this session. Now, I am entertaining one more question from the secular side.

Chairman: Alright! There was a secular question raised in the last session, is science free to interfere in man's life and man's body the way it is free in interference with nature? In fact, the answer is that we are allowed to deal with nature, because nature is under our disposal as has been explained by Dr. Badawi in his presentation. Whereas man, is really, to a great extent, free to seek what is beneficial for him yet there are certain limitations, which will be explained to you by more competent people in the sessions to come.

By this, I end this session and I apologize for making it too lengthy. But I felt that what you have come for, has been dealt with by the proper scholars from the Muslims side. So, I didn't want to stop the Mufti while he was talking, because he was addressing those questions directly. That's why when I said at the beginning of the session that I have questions here, in fact, I ticked 3 questions. And these questions have been covered either by Badawi or by Sheikh Wasel.

Wassalamu Alaikum Wa Rahmatullahi Wa Barakatuh!

**Topic I:
Humanity and Dreation/
The Natural World**

**Third Session
Monday, 6 February 2006**

**Creation, Control of Nature
and Ethics - Islamic and
Secular Perspectives**

**Chairman : Dr. Mohd. Haitham Al-Khayat
Rapporteur : Dr. Maher Abdul Kader Ali**

Speakers:

- 1 - Dr. Ammar Al-Talbi*
- 2 - Dr. Muzaffar Iqbal*

**MAN, INSTINCT, NATURE,
AND TECHNOLOGY**

Dr. Ammar Al-Talbi,

Algeria

Man, Instinct, Nature, and Technology

Dr. Ammar Al-Talbi,

Algeria

In the name of Allah Most Gracious Most Merciful

The vast and accelerating development in areas like technology and medical biology are affecting human life by the day. While solving Man's problems and relieving his pains, this very development embodied serious predicaments to intellectuals and thinkers of all faiths as they discerned the incongruity arising between the aspired ends and the means employed to attain change in human life. Hence, science and technology posed risks that jeopardize Man's values and existence. Since technology cannot be considered as an end per se, but rather as a means to improve life, Man's growing disillusionment called for a re-evaluation of this technology in an attempt to avoid such risks. Accordingly, movements like "Life Ethics" were created in order to amend the means used and to revive moral and religious values concocting valid and binding rules that guard human civilization and existence; an existence that cannot survive without deep religious values adopted and fulfilled with conviction. An accurate assessment of technology to envisage its outcomes and to ethically defend its practice necessitates the participation of society and decision makers by providing them with sufficient data.

The rapid development of technology rendered classical ethical philosophy unable to solve its problems. It is safe to say that acute awareness of them is taking place in developed societies, where one is closely connected to technology, that it is creating a general culture of these problems. In their attempts to determine human values, those societies are bewildered and at a loss. Therefore, it is essential to reach a religious and moral starting point that delivers Man in this age of prevailing agnosticism and endless whimsical desires necessitating a new understanding of Man in order to save him.⁽¹⁾

(1) Roberto Andorno; *La bioéthique et la dignité de la personne*, PUF, 1997; P.120.

Medical and biological researches tend to turn Man into a commodity treating him like an object. However, we hope that in the future these researches become more thorough avoiding risks. It is the law makers' and ethicists' main responsibility to create laws and guidelines that maintain Man's self rather than employing it. Solving Man's problems should not be left to doctors alone as they cannot even claim that they know everything about Man; his innate nature, the meaning of his existence, and similar crucial issues. As science and technology are not capable of going beyond the corporal aspect, it should be obvious that they should not be viewed as the sole grounds for happiness. Life Ethics' mission is to steer technology away from myths that annihilate Man's self by focusing on his body, since the real truth of that body, according to *Ibn-Sina* (Avicenna), lies behind its controlling code and the reason of its very being, i.e. the soul.

Hence, past positions that cancel out religion and counteract Metaphysics cannot be reliable since knowledge goes beyond the limited boundaries of physical sciences. Besides, technology cannot control Man, his actions, unique characteristics, and inherited legacy. Nevertheless, if that ever takes place, it would be the end of life as we know it with human beings bizarre by-products and nature devastated.

It is very alarming that altering the body, under the pretext of treatment or improvement, might lead to changing the human nature itself. The danger might extend to the point of violating human race, its legacy, and its very cells. Technology used to be executed on objects, now; however, it is manipulating Man who created it to be in control.

The behavior of some biologists and ethicists is questioned when they justify the acts of the scientific society to the point of falling for monetary temptations of laboratories and companies that aim to win at any cost.

1-1

As the human race is part of the living world, it still depends on inorganic materials; thus, protecting both is crucial to its safety. Hence, earth is clearly important to Man as referred to in the Qur'an

in what can be translated as, **“Thereof We created you, and We will bring you back into it, and We bring you out of it on another occasion (i.e., a second time)”** (Ta-Ha, 55). The eco system provides earth with what sustains survival as indicated in the Qur’an as, **“...and do not corrupt in the earth after its being righteous”** (Al-Aa’raf, 85). Therefore, plants, animals, soil, water, and air are all essential to human survival and consequently, it is important to protect earth and its elements just as it is important to protect Man’s own cells. Earth is like a mother to human beings, and to some it is life itself. As a result, it is crucial to create earthly ethics that preserve its beauty and resources. Moreover, preventing unrestrained violation of its creatures is essential since they too consist of nations just like we do as described in Qur’an in what can be translated as, **“And in no way is there a beast (moving) in the earth nor a bird flying with its two wings except that they are nations like you”** (Al-An’am, 38).

Earth, in the Western Culture, is a warehouse of natural resources subject to infinite utilization. Nevertheless, a violation of nature is a violation of Man. Our relationship with nature should be one of consideration in which we seek spiritual benefits as well as material ones. Only then can Man’s prayers to his Creator become one with nature’s pure prayers as described in Qur’an as, **“The seven heavens and the earth and whoever is in them extol to Him, and decidedly not a thing (is) except that it extols His praise, but you do not comprehend their Extolment”** (Al-Israa’, 44). Correspondingly, Schuon F. states that praying is the meeting point between heaven and earth; on mountain tops, in the unfolding of a wild flower, or in birds’ chirping.⁽¹⁾

Sufist⁽²⁾ Muslims believe that a sort of coherence unites the larger and smaller worlds. To them, the world is a big Man, and Man is a small world representing not only the middle circle in the chain of existence of all creatures, but also an eye on the world.⁽³⁾

(1) *Spiritual perspectives and human Fact*, London 1953, P.213.

(2) Sufism is a mystic tradition of Islam based on the pursuit of spiritual truth as it is gradually revealed to the heart and mind of the Sufi (one who practices Sufism). It might also be referred to as Islamic.

(3) M. Smith, *Readings From the Mystics of Islam*, London,1950, P.112.

Galal-Al-din Al-Rumy⁽¹⁾ reflects this concept saying, "I died as a mineral and turned into a plant. When the plant in me withered, it was restored in an animal, and when that died, I became a man"⁽²⁾.

Yet, among all creatures, Man is the one qualified for knowledge and for taking control. To Abdul-Kareem Al-Jili, Man is the link between Allah and nature; his creation representing Allah's perfection. To Sufists, a kind of parallel between the world and Man is evident for meditators. To them the book of nature, or the Qur'an, abounds with Allah's Wisdom. In Christianity, this book is Jesus Christ (Peace be upon him). The world, then, is full of meaning, and its significance comes from a Higher Being; from Allah. By the same token, in a seminar in Princeton University, New Jersey, a group of Western scientists from different fields assembled in the sixties to inspect the ultimate significance of their researches only to reach the conclusion that Allah indeed exists.⁽³⁾

Even so, the religious few are starting to lose grip of that spiritual significance of nature. Sayyed Hussien Nasr, states that a Christian believes that salvation relies on the relationship between Man, God, and history, thus gradually disengaging himself from the cosmic order and questioning the belief that the world is created by Allah.⁽⁴⁾ As people started to give up the search for a new perspective of the universe, some thinkers feel that peace cannot exist on earth when the prevailing attitude towards nature is based on aggression.

This calls for serious thinking and taking action in order to fight for Man's dignity as he continues to live in circumstances that threaten his existence. Man created an artificial environment to live in forsaking nature, which led to his suffering from an overwhelming sense of emptiness and resorting to violence. The aggression Man employed

(1) Persian poet born in Balkh, in Khorasan.

(2) Sayyed Hyssien Nasr, *Islamic Studies*, Beirut, 1975, P.129.

(3) René Frydman, *Dieu, la Médecine et l'embryon*, paris 2003, PP.59 - 60.

(4) Referring to M Eliade, *The Sacred and the profane, the nature of religion*, New york.1959, P.179.

controlling nature with machines, echoed in the several physical and mental ailments he suffered from as a result.

In the Western culture, this aggression stemmed from the concept of infinite supremacy over nature accompanied by releasing Man's wild nature to fulfill his desires. Moreover, a material understanding of nature prevailed and economical development became an end per se. Hence, the value of Man shifted to the objects he manufactures and nature was viewed by scientists, in the only way that seemed lawful then, as detached from its Creator. Consequently, struggle took over the balance that used to exist between Man and nature. People simply forgot that losing harmony between Man and nature is due to losing harmony between Man and Allah, his Creator.⁽¹⁾

The universe speaks to us; the latent meaning of its features waiting to be uncovered, signifying a Higher Being. Just as revelations are spiritual messages, the unique structure of the universe is a message in itself indicating a divine creation.

According to Sayyed Hussien Nasr, modern science detached itself from the origins of existence and from its own origins as well. Even Cosmologists were concerned with the material aspects of existence only viewing it in an earthly manner that does not extend beyond its physical and chemical characteristics. The prevailing way of thinking then was that the higher comes from the lower and the greater comes from the smaller⁽²⁾, as if nature cannot teach Man anything about Allah. In consequence, science denied any spiritual significance that leads to Allah, and nature became insignificant.

Nevertheless, some philosophies and religions acknowledge the importance of nature in religion. The Cosmology of the Middle Ages considered Man the centre of universe taking the "image of God". Since Descartes; however, the outer world became absolute extension and animals sheer machines. Likewise, philosophy turned into mathe-

(1) F. Schuon, «le commandement suprême», étude des traditionnelles, Sept/octo, 1966. P.199.

(2) Sayyed Hussein Nasr, *Man and Nature, The spiritual crisis of modern man*. Mandala edition, London, 1976, PP. 32 - 33.

matics and quantity became a basis for science. A philosophy without a higher perspective is a shallow one confined to benefit; with Man an earthly creature seeking to control and abuse nature.

Metaphysics is the science of truth, the science of the origin and fate of things, and the infinite science that directs relative ones. Thus, it is the science that distinguishes between appearances and reality, thus enabling Man to discern through planes of reality and truth.

The Chinese ancient traditions, Taoism in particular, acknowledged that higher being. "All things under heaven are products of being, but being itself is the product of not - being"⁽¹⁾. Harmony, here, is the dominating principle that is present in every thing around us. To live in peace with nature and earth, you have to be in sync with heaven, and following Tao is the way to get you there since that was his main aspiration. Similarly, in Japan, Taoism and Buddhism call for peaceful co-existence and harmony with nature. Thus, the aim of a spiritual Eastern Man then is to become one with nature. Harmony with nature leads to that with people and reflects unity with heaven⁽²⁾.

In Islam, nature is a field of knowledge perceived by the mind and heart. Sayyed Hussein Nasr, believes that Muslim scholars consider nature as a land for human acts, when it is a subject for analysis to scientist and philosophers. Meanwhile, nature is a mirror that reflects higher abstract concepts to metaphysicians. However, there is a close connection in knowledge between the metaphysical perspective and studying nature as Allah says what can be translated as, "**We will soon show them Our signs in the horizons and in themselves until it is evident to them that it is the Truth**" (Fussilat, 53). This is also evident in Chinese Taoism.

This is manifest to Sayyed Hussein Nasr in the work of Avicenna and Bahaa' Aldin Alabely who combined science with Ishraqist-Sufism (Illuminists mysticism deriving from Neo-Platonism) school. In Islam, then, there is a close connection between Man and nature, and between religion and science. This is manifest in Qur'an being the

(1) L. Giles, *The sayngs of Lao Tzu*, London 1950. P.11.

(2) *The Sayigs of Chuan Chun*, New York, 1963, P.88.

written words of Allah corresponding to His signs of creation around us that turn nature into an articulate book. Hence, the Arabic word *ayah* refers to a verse in Qur'an, just as it refers to natural phenomena and the impact of both. In its holistic view of the world, Islam rejects separating Man and nature, and calls instead for considering it as a mirror reflecting a higher truth; thus steering us away from the traditional functional perspective. Nature is affluent with symbols that speak to Man and with significance he is to uncover. Therefore, according to this Islamic view, Man's existence is to obtain the kind of comprehensive knowledge that qualifies him to be universal; a manifestation of Allah's Most Beautiful Names and Sublime Characteristics⁽¹⁾. Moreover, Abu-Bakr Serag-Aldin sees that the outer world is a reflection of the human soul, thus, any human corruption leads to a parallel decay. This means that Man occupies a unique place that enables him to understand the world. Through Allah's guidance and His subjugation of earthly resources to him, Man is Allah's "Vicegerent" and "Custodian of nature" to implement Allah's will.

Allah's guidance, as well as being involved in the spiritual world, help Man to shed light on nature. Nevertheless, nature is deprived from that light once Man stops his meditation. That explains why chaos and imbalance replace harmony in nature once Man's soul is engulfed in darkness and obscurity.

In an attempt to control and manipulate nature, a shallow examiner of nature's surface is confined solely to the material aspects. On the other hand, whoever looks inside for the meaning of his own being is able to see nature as the truth he longs to know and take pleasure in understanding. Thus, this closeness between nature and Man in Islam shunned its examiners away from the limited physical outlook of natural sciences and this gave way to philosophy to flourish in the Islamic civilization. For example, Avicenna was a doctor and a Neoplatonist-Sufist philosopher. Like many other scientists at that time, he was well versed in many different and interrelated fields of

(1) Al. Jili, *De l'homme universel* (Transl. T.Burkhardt), Lyon, 1953.

science without secularizing science or philosophy, keeping them intact serving Man's supreme goal⁽¹⁾.

Prophet Muhammad (Peace and blessings be upon him) described earth as, "The earth has been made for me clean and a place of worship" (Authentic Muslim⁽²⁾, Book 004, Number 1062), which reinforces the sanctity of earth.

Just as Muslims find in nature signs that indicate the presence of Allah, nature to American Indians⁽³⁾ enjoys a sacred status as well. They regard the virgin nature, with its forests, trees, skies, and birds, as direct symbols of the spiritual world. For example, the Indian treads gently on the ground with tenderness similar to that of a mother to her children.

In the Old Testament, nature contributes to the religious perspective of life. Hosea, for example, made a covenant with animals and plants⁽⁴⁾ so that peace reigns. Moreover, Noah was ordered to save the animals; the clean and the filthy, the useful and the useless⁽⁵⁾. Virgin nature in Judaism was place for sin and punishment, a subject for contemplation, or a reflection of paradise. That later led to the Cabbalistic and Hassidim Schools. Furthermore, Paul believed that all humanity should participate in seeking purification through sacrifice. Finally, Johannes Scotus Eregina believed that God created the whole world through Jesus Christ and to him it will all come back⁽⁶⁾.

Man exists between the spiritual and material worlds. He is a beast that has been enhanced with the spiritual characteristics Allah en-

(1) Sayyed Nasr, *Man and Nature*, P.97

(2) Literally "speech"; recorded saying or tradition of the prophet.

(3) The red Indinas that live in the south western states that tend to unite with nature and believe in peace on earth without any struggle.

(4) In that day I will make a covenant for them with the animals of the field, and with the birds of the sky, and with the creeping things of the ground. I will break the bow, the sword, and the battle out of the land, and will make them lie down safely. (WEB) Hosea 2:18.

(5) G. Williams, *Wilderness and paradise in Christian thought*, Introduction, p.

(6) H. Bett, Johannes Scotus Eregina, a Study in médiavel philosophy, Cambridge, 1925, P.32

dowed him with⁽¹⁾ since he has the image of Allah as prophet Muhammad (peace and blessings be upon him) says, "Allah created Adam in His own image." (Authentic Muslim hadith, Book 032, Number 6325).

From a metaphysical point of view, nature cannot be separated from its Creator, and creation is ongoing in a consecutive chain of creatures. This is true for theoretical knowledge as well as scientific knowledge, i.e. technological application of science. Therefore, Sayyed Hussien Nasr, as well as many others who care about the relationship between Man and nature, gets very concerned when he sees the destruction and pollution taking place on earth when it was supposed to be the other way round having science and technology relieve Man's pains and troubles. Instead they have been employed to please Man's beastly desires and endless needs causing an infinite number of crises.

In the past, all endeavors were dedicated to save Man from nature. Nowadays; however, it is nature which should be salvaged from Man who is waging a furious war on it. To avoid that, peace should exist between Man and nature which cannot be achieved without pointing out its spiritual significance that brings Man closer to it one more time. Moreover, peace cannot exist between people if it does not exist between Man and nature first and its Creator leading to the ultimate peace between Allah and His creatures⁽²⁾. Saint Augustine stressed this concept saying that Man is a part of nature and never a stranger to it.

1-2

Some scientific institutions, like Jones Institute for Reproductive Medicine, produce human embryos for research purposes only. They buy ova from women and sperms from men creating embryos through In Vitro Reproduction. Some scientists do go extreme when they think that an embryo has no right to be considered as a human being before having some tests performed on his/her genes. If those genes fail the

(1) *Man and Nature*, P.101.

(2) *Man and Nature*, P.136.

tests, this embryo is simply doomed to die. Francis Crick, a Nobel Prize winner, sustained that alarming view in 1907 as he made patients and criminals infertile so that they lose any chance of having babies of their own⁽¹⁾.

Killing infants actually takes place in countries like China⁽²⁾. Furthermore, prenatal tests sometimes lead to the miscarriage of healthy embryos while keeping other deformed ones. If the supporters of the tests claim that they help in avoiding diseases, who then is to define "the disease", and how qualified is a parent to forbid, or allow, such tests under the claim of avoiding having handicapped children?

Unfortunately, British laws approved the miscarriage of a deformed embryo. The question now is, how can a deformed embryo be defined, and if so, would not that be denying that embryo the right to be considered a human being? If an embryo is not wanted, would that be an excuse to deprive it from its dignity due to his/her fate? It is every Man's right to be and not to be annihilated. Nihilists; however, believe that there is no reason to opt for Man's existence over his termination⁽³⁾. This calls for a new duty for humanity to bear, i.e. the right to exist and to protect that existence. Man cannot be meddled with, nor the possibility of a welcoming life be eradicated. We are not allowed to take away our own lives, let alone do that to others. It is crucial to salvage Man as an ethical being. Thus, once a human being exists, it is our duty to protect that existence. Furthermore, fearing an expected threat, and the double-edged weapon it represents, can also provide us with the help we need to avoid it. To that effect, Hans Jones affirms that fearing a threatening danger helps to truly value the one threatened.

The fact that every person has a unique set of genes that define him/her to be different from all others should be left intact. The characteristics of every one are defined at the moment of fertilization,

(1) That was followed later on in Canada, Switzerland, Denmark, Norway, Germany, Fenland, and Sweden.

(2) René Frydman, *Dieu, la médecine et l'embryon*, P.133.

(3) Roberto Andorno, *La bioéthique et la dignité de la personne*, P.59.

and once that takes place, that existence should be respected and protected. Furthermore, it should not be allowed to toy with a creature at its most vulnerable stages. G. Annas declares that penetrating the genes and manipulating them defines personal characteristics turning Man into a biologically transparent creature with its DNA and biological future exposed⁽¹⁾. Hence, a valuable part of the future can be read and medical secrets revealed, especially what is related to jobs and insurance companies. This can totally damage self-image. What kind of effect will it have on a person when s/he knows s/he will be terminally ill at some point in the future? Moreover, not only will collective insurance against risks be cancelled, but companies will not hire but healthy people.

It is crucial to ban modification of the genes, even if that was to serve prevention or treatment purposes, since it affects not only the symptoms but the disease itself. The risk is even greater when this modification involves the Reproductive Germinal Cells, reproductive cells, or embryos, as these modifications are later passed on to future generations, which could in turn lead to irrevocable change of the genetic heritage.

Article 1 of UNISCO's Universal Declaration on the Human Genome and Human Rights stated that "The human genome underlies the fundamental unity of all members of the human family, as well as the recognition of their inherent dignity and diversity. In a symbolic sense, it is the heritage of humanity."

Furthermore, medical and political circles warn against the consequences of the technology of IVF babies, artificial fertilization, and cloning in case they are misused or applied without regulating ethical laws as they could pose a serious danger to humanity's future.

The opinions of all monotheists of Abrahamic religions are almost similar when it comes to keeping Man's honor and his biological structure intact. The objection here is not against researches that aim at curing or eradicating genetic diseases. It is rather at fiddling with

(1) The génétic privacy ACT and commentaire, J.Boston university, 28Février, 1995, Internet.

the contents of human cells. Modifying genetic characteristics could indeed lead to ethical and social dilemmas. Seeking fame, profit, or scientific precedence could prevail over ethical restraints, especially in countries that do not rely on religious values; since these values, if deep-rooted in the soul, act as an internal reminder of Allah's close watch of one's acts.

Likewise, there are unaccepted violations like mixing the DNA of two sperms with the nucleus of a single ovum to produce an animal with one mother and two fathers. Other violations also include joining two cells by mixing their DNA to produce a cell with a different DNA, hybridization of different kinds of animals through specific procedures, and cloning by removing the nucleus of an ovum of a female animal then implanting the nucleus of a different cell in the ovum replacing the removed nucleus. Such experiments were tried on frogs first and continued until they were performed on ewes producing Dolly⁽¹⁾, the shining star of Biology.

Of the hazards of these experiments are making changes and modifications to genes to produce prototypes of human beings. Another hazard is the possible monopoly of hereditary knowledge at major international corporations and laboratories supervised by leading international powers. An additional risk is creating human beings that serve limited goals, like military ones for example, and thus putting an end to the concept of family and to intimate human relations. Motherhood and fatherhood will be obsolete concepts, which will drastically change humanity. As genetic engineering reaches the cells of embryos detecting diseases and unwanted characteristics, not only will abortion be widespread, but the attitude of putting an end to an embryo's life and depriving him/her of the basic right to survive will have new grounds. Revealing such secrets will encourage many to abstain from marriage. Finally, evil powers can manipulate cloning, when applied to human beings, selling humans in markets as well as human spare parts.

But who has the right to change the characteristics of another

(1) After 277 attempts, only 0.3% were a success, with expenses over \$ 750,000.

human being? Who is to decide who lives and who dies? Who controls these researches? If a woman does not want to marry, for example, she can simply buy a sperm form a sperm bank and ask a doctor to implant it for her without knowing the source of such a sperm. Moreover, a womb would be useless if babies can be produced outside the human body. Biological weapons are simply a destructive example of these applications used in wars. All above abnormalities will distort human beings, abuse their honor, and defeat fundamental values human life depended on for thousands of years.

Discovering Insulin, unknown genetic diseases, and substances that counteract oil-spell pollutions in seas have all been indeed some of the results of genetic researches. Nevertheless, they are not enough to eradicate worries of other serious risks.

Unethical changes and modifications of reproduction, controlling genes, cloning, and all similar acts that exploit Man's honor and freedom should be religiously, philosophically, and morally rejected in order to safeguard the results of these scientific researches against the abuse of political, materialistic, and despotic powers. When we see governments allocating huge budgets to laying a map of the Human Genome, isn't it possible that these huge amounts of money could be invested for other purposes?

Ethics disgorge cloning when it turns Man into a commodity. On the other hand, when cells are being cloned to produce bodily tissue, organs, or healing substances cloning is very commendable but with paying extra caution to make sure that no viruses are transmitted to the genes responsible for producing poisonous substances which, according to George Mathé⁽¹⁾, will lead to the devastation of the human race.

To avoid turning people into machines, where all humans perform identical functions, any attempt to create a genetically identical human

(1) Manipulations génétiques et leurs applications" In. Droits de l'homme et manipulations génétiques, publication de l'académie du Maroc, Rabat, 1997. P.194.

by nuclear transplantation from a human cell to a grown up or child should be completely forbidden.

That does not contradict with the independence of scientific research as long as it leaves Man's being intact. Not all manipulation of the genes is considered unlawful in Islamic Jurisdiction. Nor is it the diabolical act referred to in Qur'an where Satan says, **"and indeed I will definitely command them (and) so indeed they will definitely change the creation of Allah"** (An-Nisa, 119). Arabs used to cut off the cattle's ears to single them out as belonging to their idols, or to follow Satan's commands as they also used to gouge out the eyes of some camels so that they would not be ridden⁽¹⁾. Branding the faces with fire was one more of those appalling customs.

Nevertheless, changing the spiritual disposition by disregarding the religion of Allah is indeed changing the creation of Allah. Al-Taher Ibn-A'ashur, one of the great interpreters of the Qur'an, says, "Handling Allah's creation, in a way that He permitted, cannot be considered as "changing His creation. Circumcision is a healthy change, and so is shaving. Clipping nails, to facilitate working with hands, and ear-piercing, for females to wear ear rings are two extra examples of such change⁽²⁾." That all does not go under obeying Satan or following his command. Thus, the handling that does not harm Man or threaten his being, like the one for curing and removing genetic diseases, is in Man's best interest.

Moreover, Islamic Jurisprudence opts for treatment as Allah ordered us to. Several scholars misinterpreted the meaning of the previous *ayah* (verse in Qur'an), but the truth is Islam does not limit the freedom of scientific research, as it actually encourages it as stated

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- (1) In that case the camel was called "*Ham*" and this ritual was performed to commemorate it for its numerous off springs.
- (2) *Al-Tahrir Wal-Tanwir* (The Liberation and Enlightenment), Al-Tareekh Enterprise, Beirut, 2000/1420, Part 4, pp 258-259. This is explained further in his *Al-Nadhar Al-Fasih ala Mushkel Al-game' Al-Sahih* (The Broad Look at the Ambiguous in Authentic Collections). Al-Razi gave indications of changing Allah's creation like disfiguration, false dreams, and being astray from religious and moral values.

in the Qur'an, "Say, "Travel in the earth, then look how He began creation"" (Al-Ankabut, 20). Nevertheless, the application of the results of scientific research should be regulated to actually benefit Man; and not for misuse or following off-base fancies. The law in Islamic Jurisdiction is that whatever proves to be beneficial is allowed; however, in case the drawbacks overshadow the advantages, then the repulsion of these drawbacks is a priority over achieving a benefit. Due to the complexity of the technical biological problems, rejection should not be our first option, before we check that the goals achieved do not harm Man. Moreover, no scientific research should be prevented based on expectations that have no scientific grounds.

Fitra, or the innate religious and cosmic disposition, referred to in Qur'an indicates that Man's unity is in the physical and spiritual diversity of humans⁽¹⁾ as human character cannot be molded by biological technology. According to Rooney Keenon⁽²⁾, sameness deprives humans from the innate disposition, turning them into numbers and machines which would become a flagrant abuse of Man's character and freedom, and bold limitation of his spiritual and biological horizons; unless of course we consider Man a mere body as Nietzsche states in his book *Thus Spoke Zarathustra*, "I am all a body, and nothing but a body. The soul is not but a word to mean an area of the body."⁽³⁾ This means that the deep truth about the innate disposition of Man cannot be changed. Even agonistic Mario Soares says, "I strongly object on all forms of manipulation of human genes, I am also reserved about the manipulation with animal and plant genes"⁽⁴⁾.

Reality necessitates that we fight back the culture of death that justifies taking life away by pretexts like treating unbearable pain. Nevertheless, death does not treat pain, when turning to spirituality,

(1) Abdul-Majid Mazyan, "Manipulating genes marring Man's dignity" *Human Rights and Manipulating Genes*, Casablanca 1997, P 136. One of the publications of The Academy of Moroccan Kindom.

(2) His name became Abdul-Wahid Yahya after converting to Islam.

(3) Ibid, P138.

(4) Ibid, P179.

love and care actually do. Once a dying patient feels the love and care of others, agitation and anxiousness subside. Life is a gift from Allah and cannot be toyed with or manipulated. Ending a life means taking away what Allah gave; a true digression indeed. Instead, the right of keeping the life of a terminally ill patient should be intact since the chance is still there for him/her to be treated or to wake up from a coma. Several atrocities could take place in that field to obtain the organs of dying patients to be transplanted elsewhere. Children have indeed disappeared to have their organs given to other wealthy ones, and that is an alarming deviation that points at a crucial ailment of this modern age that pictures Man as merchandise.

Deciding which researches should be stopped is very difficult if an attempt is made to identify the cases that actually require gene handling. It should not be a problem if such handling is to serve treatment purposes, in spite of the fact that determining these cases is not always clear.

Opting for death over life in the case of serious diseases is simply opting for non-being over being, thus creating a gap that cannot be bridged. Moreover, who are we to judge for another person whether s/he deserve to live or die. It is a great contradiction indeed to suggest a medicine that would terminate a life instead of healing it. The question then would still be, should our decisions extend to next generations, and if so would they be better off and still remain normal human beings? Respecting future generations obliges us to be extra cautious when using technology especially with human genes as that might lead to unprecedented, unforeseen hazards. Once human nature changes, it will be very hard to speculate its destiny. We could still have a chance to protect it if we control our goals, otherwise Man could turn into a beast whose life and heredity cannot be controlled; thus losing its humanity and tempting sane others to eventually kill him.

1-3

Human life becomes a reality once a sperm unites with an ovum. This is when life starts only to keep growing thereon. The resulting zygote includes the full genetic program for this cell to be complete

and this is the true beginning of an embryo. The life of an embryo has a beginning, a development, and an end, i.e. death. In biology, the embryo is a number of cells. Some might think that the destiny of these cells depends on the parents' choice; the ability to decide after all defines human beings. Yet, what are the standards for this choice, and are they alone the source of respecting and welcoming a baby? If negative annihilative choices are to place positive ones, should an ethical person yield to them? René Frydman declares that the first step for this embryo is sticking to the mother's womb, considering it more vital than delivery itself that does not necessarily follow a rigid outline. That first step is actually a symbolic one, yet it is one that marks the sanctity of the embryo⁽¹⁾. Dignity is not confined to that embryo; in fact it belongs to the human being that will come into the real world one day. For that human being to grow and develop both parents should declare that they want him/her⁽²⁾; an opinion I personally do not believe as objective enough to form an ethical ground.

After fertilization, the embryo takes on its programmed shape in this divine miracle. That is why it should be respected as a human being with rights to be protected; the most important of which is the right to live. This mere chemical being is but the first stage to be followed by many others in a constant process of growth. An embryo cannot turn into a mere heap of cells once it does not coincide with the parents' wishes. Since every embryo has the same genes that the grown man or woman it will become into does, the embryo belongs to the human race just as well as the its' grown up form does. When the biological, ethical, and legal views concerning the embryo differ, the biological beginnings of an embryo are still very clear. The issue of the soul does not belong to biology, or science for that matter, but rather to religion and philosophy. The human being is a history of a developing life, a connected chain of growth and change to the personality that is summarized into his/her genome. His soul characterizes his ethical attitude. Thus he has an ontological being and a

(1) Dieu, *La Médecine et l'embryon*, P,220

(2) *Ibid*: P.219.

value being. Hence, Man cannot be defined as either a body or a conscience since a human being is a combination of both with a biological and ethical existence together. Therefore, Man cannot be turned into a “thing” or a code, i.e. “Russification”. Thus, he should be treated as an end and not as a means. With unique core dignity, mind, and conscience, Man is a unity unmatched by any other metal, animal, or plant. A baby is nothing but the embryo that developed and went out to the outside world, hence, and embryo is a human being since its very beginnings. When this personal aspect is overseen by the biologist and becomes a point of interest to the philosopher, it becomes vital to study the embryo from all biological, philosophical, ethical, and legal perspectives⁽¹⁾.

Some scholar came up with the term “person” and put the rules for it to apply. Unless an embryo becomes “a person” conscious and vital, he is not considered human. Reality, on the other hand, cannot be cancelled out due to a term. Reality is the sanctity of life, and the right we cannot deny and violate with aggressive playful acts like freezing, multiplying cells into twins in the first two weeks, and the appearance of the nerve group on the 14th day. Multiplication does not contradict with philosophy or biology as it still produces individuals; the diversity of which does not deny individuality. Every biological being is an individual with function and structure belonging to a conscious nature, and requiring unconditional respect of its body and soul, and full recognition of its rights.

Nevertheless, some biologists believe that an embryo is not worthy of respect but after a certain stage of neurological development, a stage they have not agreed upon yet. They tend to forget that the cells that develop on the 14th day, the 20th day, when some senses start functioning, or when baby itself is delivered, had an origin in the embryo on the first day. No matter what the stage of the embryo or fetus is at, it is still an important stage of its development where the beginnings lead to a certain end. Hence, we cannot separate the embryo into stages, nor can we summarize its life according to certain

(1) *La Bioéthique et la dignité de la personne*, P.64-65.

functions, like consciousness for example. Bodily functions need time to develop and take place, and the delay in their appearance should not affect respect for the embryo.

Otherwise, we would be enacting what took place in Germany where Nazis killed neurological patients under the pretext of racial hygiene. Nowadays, artificial fertilization replaces racial hygiene. An embryo is of no value once a prenatal test, or a pre-implantation diagnosis, prove that it is not normal. That could simply lead to its death, or to choosing babies with certain characteristics only, especially if they do not match the mother or father's wishes. Biologists may even kill frozen embryos after five years, or leave them for research purposes. Babies could be killed to avoid poverty or over-population, just as it has been in the Arab peninsula before, or as it actually is in China nowadays. Allah refers to this in the Qur'an in what can be translated as, **"And do not kill your children in apprehension of want" (Al-Israe, 31)⁽¹⁾**. Arabs would also kill girls that are born with skin that is blue, with moles, speckled, or too thin fearing the bad luck they might bring⁽²⁾. The Qur'an criticized such acts as extremely unlawful in, **"They have already lost, the ones who have killed their children in folly, without knowledge" (Al-An'am, 140)**, and in, **"surely the killing of them has been a great sinning" (Al-Israe, 31)**. Thus such killing is considered a great sin done on purpose. In Islam, abortion is a crime; except in the cases where pregnancy threatens the mother's life. It is unlawful especially after four months of the fertilization. Moreover, an unborn baby has a protected right to inherit a deceased relative⁽³⁾. Ibn-Hazm⁽⁴⁾ asserts that if a mother kills

(1) Baby girls were also killed out of fear of shame. This is mentioned in two ayahs (verses) as follows: **"And when the female infant buried alive will be asked. For whichever guilty deed she was killed" (At-Takweer, 9-10)**, and **"And when one of them is given the tidings of (the birth) of a female, his face lingers blackened and he is ever-repressed (with sorrow)" (Al-Nahl, 58)**.

(2) Reported by Al-Suhaily in *Al-Rawd Al-Anf* from Al-Naqqash interpretation. *Al-Tahrir Wal-Tanwir* (The Liberation and Enlightenment), Part 7, Page 75.

(3) Muhammad Salam Madkooor, *The laws related to a Fetus in Islamic Jurisdiction*, Dar Al-Nahda Al-Arabia, Cairo 1969, Page 246.

(4) Muslim theologian and man of letters.

her unborn baby on purpose, she has to be punished or to pay a ransom for its life if forgiven by his father⁽¹⁾.

If an individual is valid enough to have Jurisdiction rights, then s/he has a right to be recognized as a subject. This is what is referred to in legal circles as "Juridical Personality". Hence, this individual is entitled to kinship to his father, to inheritance, to endowment, and is valid to be named in a will while still unborn. This means that once fertilization takes place, it is a real human character and not only a potential human being⁽²⁾. Thus, harming an embryo is harming man at the core⁽³⁾.

Muslim scholars used to depend on available scientific data that relate to the embryo to settle on an Islamic Jurisdiction. They also used to depend on known, clear legal injunctions. Ibn-Bagah stated that a baby is alive, and a human being even if it lacks the intellect⁽⁴⁾.

We still do not know enough⁽⁵⁾ to make final judgements. Moreover, more research is needed for better knowledge about this subject. Of the strongest opinions in this issue is what Mr. Hathut said, "I do not find any reason to refer to the embryo as less human, or to claim that it belongs to humanity only when it has a spirit, i.e. the divine breath which Allah blows into the cells⁽⁶⁾". That is why a baby has to be protected before its birth, just as it is important to do so after it. These are chapters of the same book that have to be read and fully understood, especially about the future of biological structure with its advantages and drawbacks, before venturing to handel what we do not know enough about.

If we sustain that Molecular Biology can foretell a looming threat, what then are the standards that make us judge that a being should

(1) Ibid, 249.

(2) *Personne Potentielle*

(3) René Frydman, *Ibid*. P.229

(4) Ibn-Bagah's *Philosophical Notes*, Beirut, 1968, P.160.

(5) *La connaissance que nous avons de l'embryon aujourd'hui est largement insuffisante et la recherche s'impose comme une nécessité*. Frydman, *Ibid*. P.211.

(6) Hathut, *Le commencement de la vie humaine; Son commencement et sa fin selon la conception Islamique*, 1990.P.52.

die that we actually kill it? The co-operation among science, ethics, and law, and the dialogue between its people renders scientists more modest and more aware of the hazards that can take place⁽¹⁾. The Islamic principle of seeking the least evil in a situation were both options are is the one that bio-ethics⁽²⁾ should follow in studying each case. Moreover in Islam the repulsion of drawbacks is a priority over achieving a benefit. Nevertheless, random generalization cannot be the rule to avoid abusing Man's honor through gene trading, killing the weak and the disabled, and violating a baby's right to have real parents instead of having artificial, unknown, or illegal ones. The United Nations International Conference on Population and Development (ICPD) held in 1994 in Cairo, Egypt legalized abortion and defended the right of sexual freedom and thus called for unrestrained indecency that runs against basic ethical and religious values. Likewise, Australian Peter Singer⁽³⁾ claims that the lives of newly born disabled babies are not any more valuable than that of dogs or chimpanzies. Moreover, he criticised unconditional respect of Man's life when it does not have any religious ground, especially in Judaism⁽⁴⁾.

Of Ibn-Jenny's best writings on the derivations of the Arabic word *Insan* (human) is that it comes from the word *Uns* (intimacy and familiarity). To him the beauty of earth comes from this pure intimacy and familiarity that inhabits it with life and keeps it thriving⁽⁵⁾. The human being becomes familiar with himself and others through his thinking and speaking faculties just like earth is exilirated with his humanity⁽⁶⁾.

(1) Frydman; Ibid.P.147.

(2) Le moindre mal as Frydman calls it, Ibid, Page 235.

(3) Peter Singer, Animal liberation, A new éthics for our traitment of animals, new York. 1977.

(4) "We have rejected the traditional principle of the sanctity of human life(...); biological species which really have no intrinsic moral significance at all". P. Singer and H. Kuhse, *Should the baby live? The problem of Handicapped Infants*, Oxford university press, 1985, P.129.

(5) Al-Khasa'is, New Horizons, Beirut, Part 1, Pages 2-3.

(6) Ibid, Part 1, Page 17. Ibn-Arabi Agreed with him in *Al-Fusuus*, page 348.

In Arabic, a semetic language, the first human being is called Adam and in Hebrew "Adamah" means earth. In Torah he is called Adam⁽¹⁾, which indicates that he came from earth⁽²⁾. In Persian it is Kumurt and Kiamertan, and in European language, it is Adam. Furthermore, in Hebrew, red is "Adom"⁽³⁾ and the word Adamo comes from an Acadian or Ashurian origin meaning to work and produce⁽⁴⁾.

In Qur'an, there are seven references to creating Adam: (Al-Baqarah, 30-38), (Al-Aaraf, 11), (Al-Hijr, 26), (Al-Israe, 61), (Al-Kahf, 50), (Ta-Ha, 116), and (Saad, 71). The dialogue between Allah and the angels about creating Adam was mentioned in both the Qur'an and the Talmud⁽⁵⁾. Allah created Adam out of mud and blew His divine breath into his body, thus he became worthy to have the honorable spirit from Allah, **"So when I have molded him and breathed into him of My Spirit, then fall down to him prostrating!"** (Saad, 72).

Thus, unlike the claims of the theory of natural evolution, Man is an original creation that has not evolved from other creatures. Hence, the divine religion explained the nature of Man, his origin, his status in the universe, his goal on earth, and his final destiny⁽⁶⁾.

Although religions differed about these details, they agreed upon the superiority of Man over other creatures. The Qur'an refers to this in what can be translated as, **"Has there come upon man a while of (an) era when he was not a thing to be remembered?"** (Al-Insan, 1). Allah describes in Qur'an Man's creation, great message, weaknesses and strengths, manners, behavior with God and with other people of his kind, his egoism sometimes and his disbelief, and his struggles in the cause of righteousness to purify the other human souls.

(1) *Genesis* 2/7.

(2) *Ibid* 3L19.

(3) *The encyclopaedia of religions*, London 1987, Vd.1. P.27

(4) *The Dictionary of the Wholly Book*, Dar Maktabet Al-A'a'ela, Beirut, 2000, Page3.

(5) Paul Isaac Herchon, *Talmudic miscellany*, London, 1980, PP.294 - 5.

(6) Muhammad Abdul-Hady Abu-Reida, *The Dictionary of the Qur'an*, Kuwait Institution for Scientific Development, Kuwait, 1312 A.H/1992, Page 121.

Qur'an describes the creation of Man in what can be translated as **"Indeed We already created man in the fairest stature"** (Al-Tin, 4) In His creation of Man, Allah has molded him in a proportioned and symmetrical figure, body and soul. He also made him perfect in structure, beautiful in his outer and inner image, in addition to other qualities adopted from other creatures. Allah says what can be translated as **"He created the heavens and the earth with the Truth, and He fashioned you (and) so made fair your fashioning; and to Him is the Destiny"** (Al-Taghabun, 4). Hence, Man's form and image coincide with nature's given beauty, in heaven and earth. That is why Al-Baydawy explains this Ayah saying, "while creating the rest of the creatures, Allah has favored Man with the finest form through a combination of the best features of all creatures, distinguished him with refined creative qualities, and chose him to be the model for the rest of creatures."⁽¹⁾

Islamic philosophers also argue that Allah has constructed Man in a tangible and reasonable figure in the form of the world, and made him similar to everything that exists in it. This fact provoked some to say that Man is but a small world and a summary of the big world, as a proof of the knowledge of the world⁽²⁾. It was also said that Man is made of: 'a body that can be conceived by the eye, and a soul that can be conceived by instinct (reason)'⁽³⁾ In this sense, Al-Ragheb Al-Asfahany explained the following Ayah: **"So when I have molded him and breathed into him of My Spirit, then fall down to him prostrating"** (Saad, 71-72). Here, reference to the soul is made through mentioning the spirit which existence in Man does not need a proof due to its obvious being, and that the realization of its existence is of the type that can be witnessed and perceived⁽⁴⁾. Allah has linked between the realization of the *self* with that of Himself, in the ayah that can be

(1) Al-Kady Al-Baydawy: (1329 A.H.), Anwar al-Tanzeel wa Asrar al-Ta'weel. Uthmanic Publishing, P.739.

(2) Al-Ragheb al-Asfahany, (al-tharya ela Makarem al-Shareya) edited by Aby-al-Yazeed al-Agami, Dar al-Sahwa and Dar al-Wafa' Publishers, Cairo, 1985, p.76.

(3) Ibid p.75.

(4) In Western Philosophy, they refer to this as 'intuition'.

translated as, **"And in the earth are signs for the ones having certitude, And in your selves; do you then not behold?" (Al-Thareyat, 20- 21).**

Allah says what can be translated as, **"We will soon show them Our signs in the horizons and in themselves until it is evident to them that it is the Truth". (Fussilat, 53)** According to al-Ragheb al-Asfahany, man is "a plant in his nutrition and breeding, an animal in his feelings and movements, and a picture on the wall in his designed image⁽¹⁾." However, his essence and significance lie in his soul and reasonable image, not his designed image. He was also distinguished from animals with his talking tongue, working hand, and straight back, which only signals "his capture of everything there is in the world⁽²⁾" Man is the best that there is, provided that he pays attention to keep his/her mind on what made him human; i.e. the true knowledge and the perfect work. That is because Allah, who also implanted light into him, has taught him the names and characteristics of things: **"And He taught Adam all the names" (Al-Baqara, 31).**

Hence the first step towards knowledge is the recognition of things through naming them, which includes language and its denotations, and the truth about these things. Using his mind, Man became the successor on earth. Allah has called the mind several names that include 'light', 'life', and 'spirit'. Notice, **"And thus We have revealed to you a *Spirit* of Our Command" (Al-Shura, 52),** and, **"And is he who was deceased, then We gave him life and made for him a *light* to walk by among mankind, as one whose likeness is in the darkness (es), (and) he is not coming out of them?" (Al-An'am, 122).** That is why knowing Allah is a result of instinct, **"So set your face upright to the religion, unswervingly upright; (this religion is) the original disposition from Allah upon which He originated (Literally: constituted) mankind. There is no exchange for the creation of Allah. That is the most upright religion, but most of mankind do not know" (Al-Ruum, 30).** Thus, confessing the godliness of Allah a natural, intuitive and instinctive feature in Man, **"And (remember) as your Lord took from the Seeds (Or. sons) of Adam,**

(1) Al-Ragheb al-Asfahany,, *ibid*, p86.

(2) *Ibid*.

from their backs, their offspring, and made them bear witness concerning themselves, "Am I not your Lord?" They said, "Yes indeed, we bear witness." (Al-A'raf, 172) This instinct is also called *dye*, "(Our dye is) the dye (i.e. Religion) of Allah; and who has a fairer dye than that of Allah? And to Him we are worshipers" (Al-Baqara, 138) That is why Man was constructed in a way that would tell about his Creator, and would lead to the knowledge and wisdom that are, "the title of every useful science and moral deed. It is the practical face of science rather than the theoretical one. However, any deed cannot be perfected without knowledge."⁽¹⁾

In his book 'The Niche of Lights', Abu-Hamed Al-Ghazalay⁽²⁾ also claimed that reference to 'light' in Surat An-Nur⁽³⁾ is that of the mind added to the light of religious laws. He argues that, in this ayah, Allah mentions the lamp as an example of truth, the niche as the believer's chest, the glass as his heart, the blessed tree, an olive tree, as religion where everything is balanced, the oil as the Qur'an. Allah has also explained that the importance of Qur'an to the mind is that of the oil to the lamp, which would suffice on its own due to its eminence but it does not equal it. Then Allah says what can be translated as, "**Light upon Light**" i.e. the light of Qur'an upon the light of the mind.⁽⁴⁾ Abu-Hamed Al-Ghazalay was much affected by al-Asfahany (died 502 A.H), who was best known for his brilliant combining wisdom and Islamic law.

(1) Al-Ragheb Al-Asfahany, *ibid* p.180.

(2) **Abu Hamid Muhammad ibn-Muhammad al-Ghazaly** (Arabic: ابو حامد محمد بن محمد الغزالي) (450-1058 AH/505-1111 AD) [Algazel] is one of the great jurists, theologians and mystics of the 12th Century. He wrote on a wide range of topics including jurisprudence, theology, mysticism, and philosophy. (the translator)

(3) "Allah is The Light of the heavens and the earth; the similitude of His Light is as a niche wherein is a lamp, the lamp in a glass, the glass as it were a glittering planet-kindled from a Blessed Tree, an olive that is neither eastern nor western, whose oil would almost illuminate, even if no fire touched it, **Light upon Light**; Allah guides to His Light whomever He decides, and Allah strikes similitudes for mankind, and Allah is Ever-Knowing of everything." (An-Nur, 35)

(4) Al-Ragheb al-Asfahany, *ibid*, p.70

1-4 Man's Honor⁽¹⁾

Originally, the word 'honorable' applies to description of humans, and it is used with horses, camels, and trees with the meaning of possessing noble hereditary rank. When Allah is being described with the act of honor, what is meant is His benevolence and generosity. Piousness in the following Ayah is a spiritual deed that is presented in the sensational deed, **"Surely the most honorable among you in the Providence of Allah are the most pious"**. (Al-Hujurat, 13) The most honorable of these deeds are those intended solely to please Allah, and anything that is done in this respect can be described as honorable. Al-Asfahany thinks that "every honor is liberty", because Man is liberated from all his personal needs and earthly desires. In addition, one of the most honorable deeds is the one based on knowledge⁽²⁾: "Man's honor lies in its being complete in the meaning it was created for". For this reason, Man can be regarded as a connection between two worlds: the natural world and the spiritual world. His intelligence elevates him to the light, while his desires degrade him to dust, and between these two ends is Man's struggle against himself to realize his humanity to the full. The more refined he gets, the more human he becomes⁽³⁾. Allah says what can be translated as, **"He has already prospered who has cleansed it. And he has already been disappointed who stunts it."** (Al-Shams, 9-10).

What we care for here is the human honor stressed by Qur'an in, **"And indeed We have already honored the Seeds (Or: sons) of Adam and carried them on land and sea, (Literally: in the land the sea) and provided them of the good (things), and graced them over many of whom We created with marked graciousness."** (Al-Israel, 70) This ayah includes two matters: honoring and distinguishing man. Al-Baydawy explains this ayah by saying that Allah has honored Man with a fair complexion, a stable psychic, a straight backbone, reasoning through

(1) The Arabic words for 'dignity, honor, and generosity' are all derivations of the same etymological root: *Karam*. (the translator)

(2) Al-Ragheb Al-Asfahany: Al-Threya ela Makarem Al-Sharya, p. 144.

(3) Ibid, p.19.

the mind, speaking one's mind through talking, gesture, and writing. Man is also blessed with the knowledge of earning his bread, superiority over other earthly creatures, industry competence, getting to the upper and lower reasons to know the advantages that lie ahead and those who cannot be measured statistically⁽¹⁾. This is how he is honored, i.e. valuable in his image and behavior. He is honored in himself, and privileged over the rest of creatures with marked graciousness⁽²⁾. This is done through Allah's subjecting the other creatures to Man's will to do what he pleases with them, and to take advantage of them through his intelligence, knowledge, and physical power.

Therefore, Man is honored because of the preciousness of his intelligence, the tenderness of his emotions, and the beauty of his image. Using his mind, Man is able to know Allah, understand His words, and believe His messengers. Among these graces is the wisdom he is capable of reaching and the patience and generosity he can acquire. These mental and behavioral graces were the reasons behind Allah's nomination of him to be His successor on earth and His empowering him, **"And (remember) as your Lord said to the Angels, 'Surely I am making in the earth a successor.' "** (Al-Bqara, 30), **"Lord will cause your enemy to perish and make you successors in the earth; so He looks into how you do."** (Al-A'raf, 129), **"And He is (The One) Who made you succeeding each other (in) the earth, and has raised some of you above others (Literally: above "some" others) in degrees, that He may try you in what He has brought you"** (Al-An'am, 165). Linguistically speaking, 'successor' is one that succeeds another in doing a certain task, and it is used to refer to a person who follows another in handling his property.

Succession here refers to Man carrying out Allah's order he received either through revelation or through inspiration, and teaching his offspring what Allah wanted from them in this world. Man is also obligated to organize his life and that of his people. Ibn-Ashour points

(1) Al-Baydawy: Anwar al-Tanzeel, p.380.

(2) Ibn-Ashour: Al-Tahir wa Al-Tanwir: Part15/165.

out that there seems to be an indication here to the human need for a ruling system (Caliphate) to settle disputes between people⁽¹⁾ for the ultimate aim of cultivating earth, and constructing a system through which the world will thrive⁽²⁾. Allah also entitled Man with the responsibility that the other creatures failed to carry, **"Surely We presented (Literally: set before) the Trust (i.e., Trust of devotion) to the heavens and the earth and mountains. Yet they refused to carry it and felt timorous about it, and man carried it. Surely he has been constantly unjust, constantly ignorant."** (Al-Ahzab, 72) Thus, this trust is a responsibility that resulted from him being given the ability to think and comprehend. It was thus named because it is a compulsion. Due to the greatness of this trust, the celestial bodies of the sky and the like, if we suppose they can understand and feel, would refuse to carry such an enormous responsibility, and their refusal here means their inability to bear it. The trust has also been explained as freedom; free will, and as a charge and a mental ability. This is because Man is greater than nature, due to the sort of his mental ability and his moral dignity. However, he can go wrong in fulfilling his task, and that is why he was called unjust and ignorant. He might slip when his desires overpower his mind, and when his lust suppresses his virtue. Qur'an describes the status of Man as a slave, as he is a creature whose reason of existence is to worship Allah, **"And in no way did I create the jinn and humankind except to worship Me"** (Al-Thareyat, 56). It also describes Man's status as the successor. Al-Asfahany argues that being a successor cannot be reached without the purity of the soul through learning, virtue, patience, and justice. This is the principle of purity, and its aim is wisdom, generosity, patience, and benevolence. Hence, education leads to wisdom, virtue leads to generosity, and justice leads to upright deeds, which represent this political endowment that qualified man to deserve succeeding Allah. This is done through

(1) Ibn-Ashour, *ibid.* in his explanation to the ayah that can be translated as: **'Surely I am making in the earth a successor.'** (Al-Baqara, 30)

(2) Ibn-al-Araby says: "Man gets elevated in succeeding Allah and representing Him on earth", hence Allah has nominated man for worshipping Him, succeeding him, and cultivating His earth.

following the good sides of the law. Politics can be divided into two kinds, firstly one's own politics for himself, and secondly, his politics for others - his relatives and society. The principle Islamic virtue is piousness, as in the ayah that can be translated as, **"Surely the most honorable among you in the Providence of Allah are the most pious"** (Al_Hujurat, 13). Therefore, whoever is pure at heart is suitable for succeeding Allah, and he becomes devout, because succession means to follow Allah's example as much as the human power would allow in pursuing the significance of Allah's names and qualities. On the other hand, that whose heart is not pure, his words will not be pure neither will his deeds be so.

The aim behind Allah's decision to make Man His successor, is to construct earth for the purpose of building a civilization and directing the rest of mankind to do the right thing and believe in it. In his attempt to build a civilization and produce a culture, Man should follow the divine guidance, **"We said, "Get down out of it altogether, then, if ever there should definitely (The verb has an emphatic ending, thereby saying that guidance will come)come up to you guidance from Me, then whoever follows My guidance, then no fear will be on them, neither will they grieve."** (Al-Baqara, 38) and use his mental power and physical strength. **"He is (the One Who) brought you into being from the earth and has made you settle therein."** (Hud, 61), which means that Allah has given humanity the ability of constructing earth and empowered them in it, and commanded them to do so⁽¹⁾. Accordingly, Man has been honored in his similarity with superior creatures in his worshipping of Allah, his spirituality and his kindness. He was also honored in his similarity with inferior creatures in his corporal existence and his labor in several materialistic industries and crafts that enable him to lead a decent life, live happily on earth, and prepare himself for the happiness of the afterlife. In his sane power, the light of knowing Allah is unmistakable, and in his civilized moral deeds, Allah's authority and wisdom is evident.

As for what the following hadith means, where Prophet Muham-

(1) Al-Baydawy, Anwar Al-Tanzeel, p.300

mad (Peace and blessings be upon him) said, "Allah created Adam in His own image." (Authentic Muslim hadith, Book 032, Number 6325), Allah has breathed into Man of His Spirit, and blessed him with intelligence through which he can learn and reach wisdom; which is one of Allah's qualities. However, Allah's wisdom is infinite, while it is limited when it comes to Man. On the other hand, many hadith interpreters and scholars reside to the opinion that the pronoun refers back to Adam, therefore the hadith would then mean that Allah created Adam in the same shape we see today, and that Man has not changed and thus has not evolved from any other creature.

Moreover, reading Genesis 1-27⁽¹⁾ through metaphorical spectacles is rejected by the Christian and Jewish philosophers, because what made Man similar to Allah who: "**There is not anything like Him (whatsoever)**" (Al-Shura, 11) is the mind or the will. The Semitic languages' scholars lean towards interpreting the phrase "in his own image" as a metaphor through looking at Man as God's successor⁽²⁾.

Since humanity is honored by Allah, consequently, it is forbidden to harm or kill a human. Qur'an goes to equate killing one soul with killing all the people, as it goes in equating rescuing one soul with rescuing the whole of mankind. This meaning is stressed in the ayah that can be translated as, "**that whoever kills a self-other than for (killing another) self or (Literally: nor) for corruption in the earth-then it will be as if he had killed mankind altogether; and whoever gives life to it, (i.e., a self) then it will be as if he had given life to mankind altogether**" (Al-Ma'eda, 32). This is because bloodshed is forbidden, as is allowing or encouraging others to it⁽³⁾. Likewise, whoever does a deed by which he aims to preserve the life of a soul, rescuing him/her from death, is rewarded as if he did this to all humans. We can infer from this the gravity of killing a human soul, and the stress meant here to awaken the importance of honoring the human soul, and to

(1) Genesis 1-27: In the beginning God created the heavens and the earth. So God created man in His own image; He created him in the image of God; He created them male and female. (The translator)

(2) For more details, see The Encyclopedia of Religion, Vol.1, p. 27.

(3) Al-Baydawy: Anwar AlTanzeel, p.148.

encourage defending it⁽¹⁾. Out of His mercy, Allah has forbidden bloodshed, **"And do not kill yourselves (i.e. kill one another). Surely Allah has been Ever-Merciful to you. And whoever performs that in hostility and unjustly, then We will eventually roast him at (the) Fire; and that has been for Allah an easy (thing)".** (Al-Nesaa', 29-30).

We can see in the following hadith, the Prophet's (Peace and blessings be upon him) respect for humanity, "Your blood, your properties, your honors, and your skins (i.e., bodies) are as sacred to one another"⁽²⁾. Not only in his words, but his deeds spoke louder; Ibn-Shehab said, the Prophet (Peace and blessings be upon him) has never ridden in a funeral. He used to walk on foot in respect and to honor the dead, and he stood when a funeral of a Jewish passed by him, and when he was asked about it, he replied 'wasn't he a human'?

When Negus⁽³⁾ died, the Prophet said, "Today a pious man has died. So get up and offer the funeral prayer for your brother Ashama."⁽⁴⁾ He went towards the Musalla (praying place) and the people stood behind him in rows. The prophet (Peace and blessings be upon him) cherished the life of plants, as he prohibited cutting trees without need. He also respected the life of animals, as he said, "A woman was tortured and was put in Hell because of a cat which she had kept locked till it died of hunger." Allah's messenger further said, (Allah knows better) Allah said (to the woman), 'You neither fed it nor watered when you locked it up, nor did you set it free to eat the insects of the earth.'⁽⁵⁾ He also banned torturing animals and using them as targets for shooting, and he said: "Do not make anything

(1) Ibid, p.148

(2) Authentic hadith in Sahih Al-Bukhari, *Volume 9, Book 88, Number 199*

(3) Negus (Al-Najashy) was a Christian king who ruled Ethiopia during the lifetime of the Prophet (SAWS) and supported him and his followers.

(4) Authentic hadith in Sahih Muslim, *Volume 5, Book 58, Number 217*, narrated by Jabir.

(5) Authentic hadith in Sahih Al-bukhary, volume 3, Book 40, Number 553, narrated by Abdullah Ibn-Omar.

having life as a target."⁽¹⁾ He saw some boys shooting at a tied hen, banned them from shooting tied or confined animals, and ordered his followers not to bother animals.

If we return back to Islamic philosophers and thinkers, we will find that Al-Kindi⁽²⁾ (died 250 A.H.) argues that the truth about Man lies in his soul, which he caters for by knowledge and work for it to get elevated, and his ability to adhere to the goodness he reaches through his mind. As for Al-Farabi⁽³⁾ (died 339 A.H.), he thinks that Man's status lies between the world of reason and the world of the Witnessed, as he combines between a body that is from the 'world of Creation' and the soul that belongs to 'the world of Matter'. However, the mind is the most honorable part of the soul as it leads to the knowledge of the celestial matters. It is the nearest beings to Allah not in space and status but in honor, purity, and kindness. Then it is to be followed by the self because it is intermediate between intellect and nature.⁽⁴⁾

Ibn-Miskawayh⁽⁵⁾ (died 421 A.H.) thinks that Man possesses a spiritual virtue that draws him near the kind souls called angels, and possesses a physical virtue that draws him near to animals. In his physical being, he lives in this world of reason for a short period in

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- (1) Authentic hadith in Sahih Musilm, *Book 021, Number 4813, narrated by Ibn-Abbas.*
 - (2) **Abu-Yusuf Ya'qub Ibn-Ishaq al-Kindi** (c. 801-873CE), also known by the Latinized version of his name **Alkindus** to the Western world (Arabic: أبو يوسف يعقوب ابن إسحاق الكندي), was a Muslim Arab scientist, mathematician, physician, and a talented musician. (the translator)
 - (3) **Muhammad ibn Muhammad ibn Tarkhan ibn Uzalagh al-Farabi** (in Persian: محمد فارابي), also known in the West as **Alpharabius**, **Al-Farabi**, **Farabi**, and **Abunaser** (870-950 CE) was a Persian philosopher and scientist and one of the greatest scientists and philosophers of his time. (the translator)
 - (4) Al-Gam3 bayn Ra'yay al-Hakeemain, (Joining the opinions of the two wise men)p.108
 - (5) **Ahmad Ibn Muhammad Miskawayh**, ابن مسكويه, (932-1030) was a prominent Persian philosopher from Ray, Iran. He was an active political man during the Buwayhid era. His effect on Islamic philosophy is mainly concerned with Ethical issues. (the translator)

order to construct and organize it. When he fulfills his duty and wins this high grade of perfection, he rises to the upper world to live eternally in the company of angels⁽¹⁾.

Al-Ghazali⁽²⁾ believes that the significance of Man lies in his heart as it is a divine grace that has two doors. One door opens to the terrestrial world of the Witnessed, and the other opens to the celestial world of the Unseen. Thus, Man is situated between the two worlds, and his heart is his path to know and love Allah⁽³⁾. On the other hand, Ibn-Bajjah⁽⁴⁾ resides to the Aristotelian philosophy that Man is

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- (1) Muhammad Abdel-Hady Abu-Reeda (Nazrat al-Qur'an fee Alkawn = The Qur'an's Stance of the Universe) in the third Islamic- Christian Meeting: Human Rights, the Tunisian University, the Centre of Industrial and Sociological Studies and Research, Tunisia, 1985, P.128. Quoting from (Tahzeeb al-Akhlaq = Refining Morals by Ibn-Mesqueh
- (2) al-Ghazaly divides the cosmos into three realms: the world of mulk (the phenomenal world), the world of malakut (the invisible world) and the world of jabarut (the intermediate world). He takes this division from the Sufi theorist Abu Talib al-Makki, although he reverses the meanings of malakut and jabarut. The world of malakut is that of God's determination, a world of angels free from change, increase and decrease, as created once spontaneously by God. This is the world of the Preserved Tablet in heaven where God's decree is inscribed. The phenomenal world is the incomplete replica of the world of malakut, which is the world of reality, of the essence of things. The latter is in some respects similar to the Platonic world of Ideas, or Ibn Sina's world of intelligibles. The only difference is that the world of malakut is created once and for all by God, who thereafter continues to create moment by moment the phenomenal world according to his determination. This is a major difference from the emanationist deterministic world of philosophy. Once the divine determination is freely made, however, the phenomenal world changes and evolves according to a determined sequence of causes and effects. The difference between this relationship and the philosophers' causality lies in whether or not the relation of cause and effect is necessary. This emphasis on causal relationship by al-Ghazaly differs from the traditional Ash'arite occasionalism. (the translator)
- (3) Ibid, p.298.
- (4) **Ibn Bajjah** ابن باجة **Abu Bakr Muhammad Ibn Yahya Ibn al-Sayegh** أبو بكر محمد بن يحيى بن الصايغ was an Andalusian Muslim philosopher and physician who was known in the West using his latinized name, **Avempace**. He was born in Spain and died in Fez in 1138. His thoughts had a clear effect on Ibn Rushd and Great Albert. Most of his writings were not completed (or well organized) because of his early death. He had a vast knowledge of Medicine, Mathematics, and Astronomy.

intellect, who possesses two types of talent. The first is the natural talent, which he can reach through knowledge, and can normally comprehend. While the second is a divine talent that he can reach only through divine assistance and that is why Allah sent down messengers⁽¹⁾. He believes that Man is one of the wonders of nature⁽²⁾, and that he is a mediator between eternity and finite creatures. Man holds a meaning that enables him to connect with eternity, and another that resembles the corrupt creatures i.e. the finite creatures⁽³⁾. Everything that Man does is of his own choice, thus it is a human action, or else it is an animal action. A human righteous act is not only considered human, but also divine⁽⁴⁾, since knowledge is honorable and noble whether it is useful or harmful⁽⁵⁾. According to him, a child is a human that is coming to existence, and an old man is a human that is decaying⁽⁶⁾.

Ibn-Tufail⁽⁷⁾ argues that Man was created for a purpose, and prepared for a solemn matter that no animal has been prepared to in the same way⁽⁸⁾. The noblest part of him is the part that appreciates

His main contribution to Islamic Philosophy is his idea on Soul Phenomenology, but unfortunately not completed. (the translator)

- (1) Ibn-Bajjah's Divine letters (Rasael ibn-Bajjah al-Elaheya) edited by Majed Fakhry, Dar Al-Nahar pub., Beirut 1968, p.141.
- (2) Ibid p.96.
- (3) Ibid p.95.
- (4) Ibid p.147.
- (5) Ibid p.120.
- (6) Ibid p.74.
- (7) **Ibn-Tufail** (c.1105-1185) full name: Abu Bakr Muhammad ibn-Abdel-Malik ibn Muhammad ibn-Tufail al-Qaisi al-Andalusi أبو بكر محمد بن عبد الملك بن محمد بن محمد بن الأندلسي طفيل القيسي الأندلسي (Latinised form: Abubacer). Andalusian Arab Muslim philosopher, physician, and court official. Born in Guadix near Granada, he was educated by Ibn Bajjah (Avempace). He served as a secretary for the ruler of Granada, and later as vizier and physician for Abu-Yaqub Yusuf, ruler of Islamic Spain (*Al Andalus*) under the Almohad dynasty, to whom he recommended Averroës as his own successor when he retired in 1182. He died in Morocco. (the translator)
- (8) Hayy ibn-Yaqthan, p.106. Ibn-Tufail was the author of *Hayy ibn-Yaqthan* حي بن يقظان a philosophical romance and allegorical tale of a man who lives alone on an

the obligation of existence, which is a divine godly order. He also believes that the body was not created in vain, nor was it associated with him for a false purpose. Therefore, Man should pay attention to his body, tend to cleanness, regular washing and perfuming, and look after the cleanliness of his clothes⁽¹⁾, and should be sportive. Ibn-Tufail also believes that the soul is an honorable being through which Man can realize the Absolute Honorable Being, and the purpose of existence. That way, Man is unlike the rest of animals.

As for Ibn-Arabi⁽²⁾, his theory depends on the idea that Man has an honor and an existence that no one is allowed to destroy, "the human formation in its spiritual and physical perfection is an image of Allah that no one except Him should unravel. This is because unraveling it would only mean the fall of the universal system and the loss of the purpose of its existence⁽³⁾. Because Man has attempted to destroy what Allah ordered him to build, and that who attempt to destroy it also attempt to block it from reaching its purpose of

island and who, without contact with other human beings, discovers the truth by reasonable thinking, and then his shock upon contact with human society's dogmatism and other ills. Ibn Tufail drew the idea of the tale and most of its characters from an earlier work by ibn Sina, also called *Hayy ibn Yaqthan*; ibn Tufail's book was neither a commentary on nor a mere retelling of ibn Sina's work, however, but a new and innovative work in its own right. (the translator).

(1) Ibid, p.112.

(2) **Muhyi l-Din Muhammad b. 'Ali Ibn al-'Arabi**, commonly known as either **Ibn 'Arabi** or **Ibn Arabi**, was born 1165 in Murcia, Spain and died 1240 in Damascus. Also known in the Islamic world as (al-shaykh al-akbar) "greatest master," he his sometimes described as a mystical philosopher, even in his lifetime he was acknowledged to be one of the most important spiritual teachers within Sufism, the mystical tradition of Islam. A vastly prolific writer and visionary, he is generally known as the prime exponent of the Unity of Being (wahdat al-wujud), even though that particular term by which his teachings came later to be designated was hardly used in his own milieu. His emphasis, as with any mystic, lay rather on the true potential of the human being and the path to realising that potential, which reaches its completion in the Perfect or Complete Man (al-insan al-kamil).(the translator)

(3) Introduction by Abu-al-Ela Afifi "Nosous Al-Hokm" Cairo, p.38. Also see "Sharh Fosous Al-Hokm" by Muhammad Dawood Qaysar Roumy, Tehran 1375, pp.975-976.

creation⁽¹⁾, which Ibn-Arabi sees as the first objective of the whole world. He also argues that the world has reached perfection through the existence of Man, whose existence can be compared to the gem in a ring that is being carved⁽²⁾. Every human being is inherently good because humans were all created by Allah's hands⁽³⁾, and they carry many of His divine qualities⁽⁴⁾. This is because, "In a way or another, a balance should be established between cause and effect⁽⁵⁾ Locating the position of Man in the spiritual world is his main goal, only to be followed by his position in the secular one. Man is "an all-comprehensive universe" that has all qualities and hierarchies of being, he is a noble summary of it, and he is the ultimate reason for being.

However, Ibn-khaldun⁽⁶⁾ believes that Man is of a dual nature. On the one hand, being an animal makes him violent, and this violence can only be controlled through a social and political system. Despite his animality, Ibn-Khaldun argues, Man is kind and benevolent because he is a sensible creature, that it why he leans towards goodness and virtue, even though he has a tendency towards injustice. As for Al-Tartushi⁽⁷⁾ (died 520 A.H.), he believes that the life of Man

(1) Ibid p979

(2) Ibid (Fas hekma elaheya fee kalemah adameya= A divine bezel of wisdom in a human word) p.358.

(3) What is meant here is that man was created through Allah's power, in addition to Allah's extra care of man.

(4) (Explanation of the Bezels = Sharh al-Fosous) by Kaysar al-Roumy p.1182, this is true as long as man is characterized by righteous qualities, once he behaves illicitly, he becomes impure.

(5) Ibid p.1184

(6) **Ibn Khaldun**, full name *Abu Zayd 'Abd al-Rahman ibn Muhammad ibn Khaldun al-Hadrami* (عبد الرحمن بن محمد بن خلدون الحضرمي), May 27, 1332/ah732 to March 19, 1406/ah808) was a famous Tunisian Muslim historiographer and historian, and is seen as one of the forerunners of modern historiography, sociology and economics. He is best known for his *Muqaddimah* (Prolegomena). (the translator)

(7) **Abu Bakr Muhammad ibn al-Walid al-Tartushi** (أبو بكر محمد بن الوليد الطرطوش) (born 451 AH, died 520 AH). Was born in Muslim Spain and travelled as far as Baghdad. He died in Alexandria, Egypt where his tomb is still kept. (the translator)

without a state is similar to the life of whales in the sea, in which the big overpowers the small.

If we return to Jamal al-Din al-Afaghani⁽¹⁾, the modern philosopher, we will notice that he imagines Man as a ‘comprehensive book of all the divine and cosmic books’⁽²⁾ and that ‘the complete Man is an inclusive book and the origin of all books after being illustrated’⁽³⁾. He also said that, ‘anthropology is the mirror of the science of truth, which is superior to it and evident in it at the same time’⁽⁴⁾, and that Man is ‘a transitional phase between the world and the Beautiful Names of Allah’⁽⁵⁾. He also claims that Emam Ali Ibn-Aby-Talib said, “Do you claim to be a small star, in which the whole world has been folded, and that you are the true book whose letters unravel the hidden?”⁽⁶⁾

In this modern age, the interest in human honor has become prominent, accordingly, we witness resistance against any attempts to waste this honor or demean it⁽⁷⁾. The age of slavery has ended, despite the fact that many people in the world are facing humiliation, torture, and murder. It even goes to the extreme when it is technology to dominate the lives of human beings, claiming that this single wasted life has become futile, and it seems that the power of this new authority is boundless.

Man has a dual honor, on the one hand, he enjoys a personal honor that is imprinted on his biological and spiritual being, and on the other hand, his honor surpasses his personal being to include his behavior. He is a Man of honor if his behavior goes in parallel with

(1) **Sayyid Jamal al-Din Muhammad b. Safdar al-Afghani** (1838-1897) is considered the founding father of Islamic modernism. (the translator)

(2) Jamal al-Din al-Afaghani: *Rasa’el fee al-Falsafa wa al-Erfan*. Edited and introduced by Hady Khasrou Shahi, Tehran, 1417 A.H., p.16.

(3) *Ibid*, p.14.

(4) *Ibid*, p.15.

(5) *Ibid*, p.15. The beautiful names of Allah here is His qualities of knowledge and power etc. that suits the relative man.

(6) These two lines are originally written in verse.

(7) Chositation.

what he should be, thus it is an honor that is derived from his benevolent life, and from this point springs the ancient idea⁽¹⁾ of human rights.

The Greeks think, just as Plato did, that Man carries a divine element in his being, which is the self. Therefore, the self is a godly celestial plant, and that is why Man's head is lifted high as mark of distinction⁽²⁾. The same goes for the Romans like Cicerone.

Christianity goes to the claim that God has created Man in a figure that resembles Him, and that his destiny is to Him, as in Judaism⁽³⁾. During the 18th century, Man's honor has been cut from its absolute origin into his own being that is separate from the Fundament Transcendence. This idea goes back to Kant's notion of Moral Autonomy. Hence, the fundament became laws, treaties, and constitutions, and thus the real deep foundation lost its respect and honor⁽⁴⁾.

The limited relative Man has to resort to the absolute in order to have a real value. We do not claim an honor to Man without it being supported by his own shared nature, because that who should be saved from technology and wars is no one but the human existence considering it as an ethical creature honored by Allah. Accordingly, we find ourselves facing the responsibility of protecting and defending him against anything that threatens his pride, change his nature, or harm his body or mind. It is his right to exist and not to be wasted. He must not be summed up as a body not as a soul; on the contrary, his nature should be respected as a whole unit, because he is a body that embraces a consciousness of which he is privileged than the rest of the material world. His respect does not stop at the manifestation of his mental abilities or his practice of rationality. Man is a person of a dignified being even if his

(1) This is found in Aristotle's 'The Republic' 7,1177 a 16, B 28, and in Plato (Théétète, Timée, 90 A.)

(2) Timée, 90 A, and Roberto Andorno, *la bioéthique et la dignité de l'homme*, P.37

(3) Cicéron, *de officiis*, 1,30

(4) *Fondement de la métaphysique des mœurs*, Paris, Vrin, 1980, p, 113

capabilities have not developed yet, as is the case with the fetus and new born, or the mentally retarded for a reason or another, which is not limited in his neuronal activity⁽¹⁾. Consequently, this quality involves every person even if his capabilities were not complete or lost, like the blind, deaf, dumb, or the Mongolian child. This is because they are all equal in this quality despite difference among individuals. In fact, belonging to the human race legitimize a person to be respected from formation until death, despite the claims of some biologists like Engelhardt⁽²⁾ who believes that the self-consciousness of life is the true parameter, "Only self-conscious life has rights". According to him, belonging to the human race is pointless, and does not worth more attention than that given to animals. The atheistic view is evident here because they believe that embryos, toddlers, the extremely retarded, and those in deep comas are not people although they can be regarded as human creatures⁽³⁾.

Every Man is an end and is neither a means nor a thing. This principle was followed by Kant and others, as humanity is a kind that must be preserved, a history that must be known, and a value that must be defended. The fact that Man is primarily an ethical creature and that he is the only creature who knows he will die is the most special quality of humanity. Breaking this bond between humanity and the ethical values and ideals that is instinctive in the human nature is not possible.

In our point of view, the non-medical treatment that would change the human nature (like human-animal breeding) is unacceptable. In essence, Man, as created by Allah, does not need any modification, and accordingly he should neither try to surpass his abilities nor be deprived from his liberty. This is because if we assembled Man the way we want, we have denied him this liberty in addition to the conditions and abilities of human life. Medical treatment is intended to destroy the disease and not the patient. In this sense, equipment

(1) Jean - Pierre Changeux, *L'homme neuronal*, Paris Fayard, 1983, P.364.

(2) *The Foundations of bioethics* (New York) Oxford University press, 1996, P.P.138 - 145.

(3) Roberto Andorno, *ibid.*, P.46

and technological devices are tools invented by Man to be an extension to his hands and original form, which should not surpass its purpose until he himself turns into or leans towards being a machine. This is how fear from machines crept into the hearts of many people and provoked them to take a negative position towards it (Technophobia), and that makes us incapable of anticipating what will become of Man.

We are against altering the material structure of Man or deviating from his genetic chart by ways of cloning that produces archetypes and obstructs the distinction and diversity that distinguish human beings. This is because any person cannot be repeated, says Mounier⁽¹⁾. Nothing is more devastating to the human character than creating an archetype of him, either through genetic cloning or through non-embryonic cells. In this sense, Man turns into an object that is placed in a chain of archetypes, which violates the right of 'individuality' that everyman should be allowed⁽²⁾, so that his personality stays individual and not a replica of that of another person. People are often similar but not identical, while cloning aims at making them identical. Perhaps a cloned person would be very sad if he knew that he is merely a duplication of another one, and that he is the result of another person's choice and decision that emerged even before he existed. That is why the philosopher Jones Hans says, "We have to respect every man's right to live, and allow this life to find its own course...⁽³⁾". While a born child should be the fruit of a loving mother and father getting together, it becomes the result of technical operations, in which the *Homo-Faber* (Man the Fabricator) practices his technologies upon himself. Let alone the problems that spring from ectopic pregnancy⁽⁴⁾, for example embryo transfer or freezing, carrying out researches and experiments on it, while an additional number of

(1) Mounier, *Le personnalisme*, Paris, PUF, 1951, P.47

(2) Roberto Andorno, *Ibid*, P.91.

(3) *Respecter le droit de chaque vie humaine de trouver sa propre voie et d'être une surprise pour elle-même*", *Technik, Medizin und Ethik*, Insel Verlag, 1985, P.114.

(4) An ectopic pregnancy is a pregnancy that develops outside a woman's uterus (womb). (the translator)

embryos that are not currently needed on a waiting list for experimentation in case the first experiments failed.

Biologists have warned that a huge number of embryos die during or after transfer. In addition, a number of other dangers spring out, for example, a person can be cloned without his permission, cloned embryos could be sold, Criminals' cloning, or manufacturing a race of slaves or an army to perform certain tasks only. Alternatively, how would we recognize a criminal if a number of copies had been made of a single person? He loses his identity and becomes anonymous. Perhaps abnormal figures arise that could be dangerous to people, and if the cloned person is an embryo, parts could be cut from it and the rest is to be thrown in the trash bin. We do not object to treating genetic and hopeless diseases, and healing the pain of humanity, if governed by ethical guarantees and strict rules and laws. That is why most people prefer precaution when it comes to the production of humans, and perhaps everyone will unite in refusing it altogether. However, it seems impossible to prevent adventurous researchers from trying in secret and in public, thus the situation is getting more intense. Biologists noticed that death rates are very high in cloned rats due to accompanying diseases and short life cycle. Among the hazards of such processes, is the idea that a tyrant may reside to clone himself, and the production of robots⁽¹⁾.

As for infertility, it can be treated without resorting to a third partner in order to preserve the social frame, rules of family life, marriage, and inheritance, and the like of similar social and criminal laws. In general, cloning leads to the destruction of the instinctive system, adds the possibility of breeding creatures that carry diseases and viruses, and the production of dangerous and uncontrollable kinds of bacteria, and the creation of huge barbaric armies. In fact, embryos are the most vulnerable to be messed with, because they cannot defend themselves. A number of religious scholars believe that an embryo's

(1) An atheistic group calling itself a church that is name ' L'église raélienne' has formed a firm called 'Clonaid' that would work in human cloning, as declared by B. Boisselier in Le Mone 20-21/April/1997. See René Frydman, Ibid, P.324.

right of living should be respected after 40 or 120 days⁽¹⁾. According to Avicenna, it should be respected after 21 days after Fertilization or 30 days according to other remarks. While al-Shafei'i⁽²⁾ considers the embryo to be a human being if an eye, head, finger, or the like (that differentiate between a clot from a chewed up morsel, or blood) has already developed in his body. Imam Malik⁽³⁾ clarified this matter by saying, "everything dropped from a 'beaten woman' from a clot, chewed up morsel, or any other that distinguishes the embryo requires a **Ghorrah** (Kind of ransom)⁽⁴⁾". This is also the opinion of Abu-Hanifa⁽⁵⁾, who says that, 'the embryo's death is treated separately from

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- (1) This is the duration mentioned in Jewish scripts as the Talmud.
- (2) **Abu 'Abd Allah ash-Shafi'i** (Arabic: أبو عبد الله الشافعي)?(767 [150 AH] - January 20, 820 [204 AH]) commonly called **Imam Shafi'i** (Arabic: إمام الشافعي). In Baghdad, he developed his first madhab, influenced by the teachings of both Imam Abu Hanifa and Imam Malik. Thus, his work there is known as "al Madhab al Qadim lil Imam as Shafi'i," or the Old School of ash-Shafi'i. Among the followers of Imam Shafi'i's school were many of Islam's greatest scholars, including the foremost scholars of hadith: Imam al Bukhari, Imam Muslim, Imam Abu Dawud, Imam Tirmidhi, Imam Nasa'i, Imam Ibn Majah, Imam Bayhaqi, Imam al Hakim. Other great followers of the Shafi'i madhab were: ibn Hibban, Imam Suyuti, al Dhahabi, Imam al Ghazali, and Al-Nawawi. The school of Imam Shafi'i is followed in many places throughout the world, including some parts in Egypt, Jordan, Palestine, Indonesia, Malaysia, Thailand, Philippines, Yemen, Iraq, southern India and among the Kurdish people. (the translator)
- (3) **Malik ibn Anas ibn Malik ibn 'Amr al-Asbahi** (Arabic: مالك بن أنس) (c. 715 - 796) was one of the most highly respected scholars of fiqh in Sunni Islam. Also known as "Imam Malik," "the Shaykh of Islam," "Proof of the Community," and "Imam of the Abode of Emigration." Imam Malik wrote *Al-Muwatta*, "The Approved," which was said to have been regarded by Imam Shafi'i to be the soundest book on earth after the Qur'an. The Maliki Maddhab is one of the four schools of jurisprudence that remains popular among Sunni Muslims to this day. (the translator)
- (4) Ibid volume 25, p.83. Ghorrah is a kind of Deyya (ransom), which means that causing the dropping of an embryo is treated like a criminal assault. Most scholars estimated this ransom to be 600 Dirham.
- (5) An-Numan ibn-Thabit (Arabic: النعمان بن ثابت) also know as Imam **Abu-Hanifa** (Arabic: أبو حنيفة) (699 - 765) was an important Islamic scholar and jurist and is considered the founder of the Hanafi school of fiqh, which is considered to be the school most open to modern ideas. Its followers are sometimes known in English as **Hanafites** or **Hanifites** (cf *Malikite*, *Shafiite*, *Hanbalite* for the other

his mother, and accordingly his ransom should be treated as inheritance like any other ransom.⁽¹⁾

If a pregnant woman was beaten to death, after the death of her unborn baby, or if the child was born alive and then died, the one who has beaten the woman must pay two separate ransoms: one for the mother and another for the baby. This case is considered murder of two persons⁽²⁾. From all the evidences above, we can sense how sacred life is when proved to exist, and that males and females are equal in this respect⁽³⁾. If a child was aborted intentionally from his mother's womb, and he was alive and then died, he is entitled a full ransom, because his life has been proved as in Imam Malik's *madhab* (school of thought)⁽⁴⁾. In addition, the one who has beaten the mother is obliged to perform a Kaffarah⁽⁵⁾ added to the original ransom, which is fasting two consequent months. The signs of life in a born child include shouting, crying, breathing, movement, or sneezing. In this case, if a proof of life has been granted, he is to be treated with the same rules of an embryo. Averroes⁽⁶⁾ says, 'The best clue is the

schools of thought). Hanafi is predominant among Sunni Muslims in Bangladesh, India, Pakistan and Lower Egypt (Northern Egypt) (where the influence of the Ottomans was strongest). Turkey and the Levant (Syria, Lebanon, and Iraq) are mixed Shafi/Hanafi. Hanafi is the largest of the four schools; it is followed by approximately 45% of Muslims worldwide. The other three schools of thought are Shafi, Maliki, and Hanbali. (the translator)

- (1) Ibid, volume 25, p.89.
- (2) Ibn-Abdel-Barr, *ibid*, p.71, the rest of the 749th footnote starting in page 69.
- (3) Ibid. volume 25, p.78.
- (4) Ibid, volume 25, p.80
- (5) Kaffarah: as extra act of worshipping (like fasting or charity) a sign of repentance of a sin. (the translator)
- (6) **Averroes (Ibn-Rushd)** (1126 - December 10, 1198) was an Andalusian-Arab philosopher and physician, a master of philosophy and Islamic law, mathematics, and medicine. His school of philosophy is known as Averroism. He wrote commentaries on Aristotle and a medical encyclopedia. His most important original philosophical work was *The Incoherence of the Incoherence (Tahafut al-tahafut)*, in which he defended Aristotelian philosophy against al-Ghazali's claims in *The Incoherence of the Philosophers (Tahafut al-falasifa)*, himself arguing against the earlier Aristotelian, Avicenna, that it was self-contradictory and an affront to the teachings of Islam. (the translator)

existence of a soul in it, accordingly a **Ghorrah** is obligatory if it was known that life existed in it.'

Al-Azhar's Islamic Research Council issued *fatwa* that forbids all forms of cloning. Ayatollah Sanei⁽¹⁾ also issued *fatwa* that human existence must emerge from legal marriage and that cloning is forbidden. Similarly, Imam Sheikh Muhammad Mahdy Shams el-Deen⁽²⁾ believes that cloning is absolutely forbidden⁽³⁾, and that Man is not allowed to do whatever he wishes with his body, except within particular boundaries. While Sheikh Hassan Shahin⁽⁴⁾ thinks that cloning is allowed in principle, if it is used for the goodness of humankind then it is not just allowed but favorable. However, if it leads to corruptions and harm, then it is forbidden, because religious rules are to be initiated according to the consequent goodness or evil⁽⁵⁾. This view is built on known religious rules as the goal behind things, i.e. preventing corruption is prioritized than bringing advantages, in order to avoid harm as much as possible. This only means that this issue must be deeply studied, and then a comprehensive ruling and setting of boundaries should be carried out according to the relevant scientific fact that would ensure that no harm would be done to the embryo. On the other hand, Alsayed Abdel-Karim Faddlallah⁽⁶⁾ believes that there is no problem in allowing cloning according to stated regulations as no human abuse, no harm or difficulty, and avoiding falling into sinful deeds⁽⁷⁾.

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- (1) **Ayatollah al-Udhma Yousof al-Sanei** is a Grand Marja of Shia Islam. Born in Isfahan in 1927, he quickly rose to high ranks in his seminary studies at Qom's Hawzahs, and ranked first in the advanced level examinations in 1955, and was thus awarded the commendation of Grand Ayatollah Borujerdi for his exceptional achievement. He is particularly noteworthy for issuing a *fatwa* in which he declared suicide bombing as forbidden and a "terrorist act" (the translator).
 - (2) Head of the Higher Shi'a Council in Lebanon.
 - (3) (Al-Estensakh beayn al-Islam we al-Maseeheyah = Cloning in Islam and Christianity) Published by Dar Al-Fekr Al-Ibnany, Beirut, 1999, p.132.
 - (4) Manager of al-Imam al-Sadek School for Islamic Studies.
 - (5) Ibid pp.128-129
 - (6) The dean of Hawzat al-Thaqalayen al-Elmeya Institute.
 - (7) Ibid, pp.272-273. He also believes that a child from a body cell has a father and a mother. His father is the father of the owner of the cell, and his mother is his mother, while the owner of the cell is his own brother.

Before forming his opinion, a jurist should first possess a comprehensive knowledge about the subject of his *fatwa* in cooperation with specialists. That way he can attempt to (Ijtihad)⁽¹⁾ and to form an opinion that has a solid basis. Unfortunately, some jurists haste in judgment without verifying the nature of the issue in hand. As ancient logicians say, judgment is a part of imagination. Therefore, we can say that the specialist did not create the cell or gave it life, but he took an existing cell created by Allah and placed it under special circumstances for it to grow, since cloning can happen naturally as is the case of identical twins. However, some people believe that if cloning is done using a skin cell then the outcome will not be identical because the environment has its effect in creating a difference, and perhaps a girl would demand her right in motherhood without residing to marriage. In fact, knowing the human genetic map causes many difficulties as in insurance companies and recruitment. On the other hand, it proves to be very useful in identifying the genes responsible for diseases like breast cancer, heart diseases, and colon cancer. What if a mother who has lost her only child would want to take a cell of his body and clone a son that would compensate the loss of her lost beloved child? Perhaps concepts will change with the development of science. If we surf the internet, we will find controversial opinions regarding this topic, despite the fact that societies have a negative view when it comes to everything that is new at the beginning. However, it is not advised to dwell on such a sensitive issue, even if Fadlallah has allowed cloning, the majority of jurists have disagreed with him, and preferred the Azhar *fatwa* of prevention, while the Coptic Church⁽²⁾ supports his view. Sheik Nasr Farid Wasel⁽³⁾ has forbidden cloning as

(1) *Ijtihad* (Arabic اجتهاد) is a technical term of Islamic law that describes the process of making a legal decision by independent interpretation of the legal sources, the Qur'an and the Sunnah. The opposite of *ijtihad* is *taqlid*, Arabic for "imitation" (the translator)

(2) Ibid p.303 It is the stance of the Bishop Mussah, a member is the Egyptian Coptic church.

(3) Ex-Grand Mufti of Egypt. (the translator)

a cure for infertility, as he believes it to be Allah's will in what is referred to in Qur'an, "**and He makes whomever He decides sterile**" (Al-Shura, 50). However, this view is open for discussion, because Allah's will can be changed by Allah's will also, as in curing a disease with medicine. Dr. Hassan al-Turaby⁽¹⁾ regrets the fact that many *fatwas* dealing with this issue are issued without full understanding of the medical and scientific sides of the topic, in addition, some researchers despise realizing the prospective dangers. He prefers that all the facets of this branch of science and its effects and outcomes ranging from social, economic, political, and ethical facets, to be compiled together before initiating any *fatwas* that are not based on extensive study.

The head of the World Health Organization (WHO) Dr. Hiroshi Nakajima had a strict opinion that states that cloning is a non-ethical action, and is regarded as a violation to human dignity as it endangers the safety of the human genetic system. He assembled a group of researchers to study this issue, who in turn supported the human right of utilizing the application of scientific research, stressed the importance of respecting the freedom of scientific research, and banned the fanatic types of research like human cloning and combined fertilization of different species, changing the genetic structure of the cell. However, this reservation does not prevent cloning researches from taking place without any discrimination⁽²⁾. The Islamic Jurisprudence Association has issued a resolution that states that Islam does not restrict scientific research, but caution must be pursued in setting the boundaries of applying its outcomes, which may result in human mischief or abusing his honor, family, or social relations decreed by the exalted Islamic law (*Shari'a*), especially with ties like blood and marriage kinship. The same resolution prohibited the two methods of human cloning, or any other method that would lead to human

(1) **Dr. Hassan Abd-Allah al-Turaby**, is a political and religious leader in Sudan, who may have been instrumental in institutionalizing Islamic Sharia law in the northern part of the country. (the translator)

(2) Ibid, pp.311-312.

reproduction. In addition, it prohibited all cases that a third partner is being forced into the marriage, even if it was a womb, a sperm cell, or a bodily cell⁽¹⁾.

At any rate, science fiction must not be put into account as media does, and judging must not depend on immediate ethical reactions. Perhaps because some countries have more strict rules governing research, researchers flee to other countries that suffer from law vacuum in which they can conduct their research freely. In addition, if research has been prohibited in the governmental sector, what about the private sector that is not sponsored by the government? Perhaps opposition, fears, and ethical reservations vanish if a right way of applying some scientific outcomes that would secure the human honor and instinct, help in eliminating dangerous genetic diseases, and heal the human pain and suffering. Therefore, thorough investigation must be conducted in issuing rules to avoid vague conceptions of the scientific and technical facets and their realistic outcomes⁽²⁾.

What is wrong about controlling genes that can increase Man's ability of bearing heavy weights, cold and hot temperatures, or removing genes of aging to enable him of staying vital until death and to evade wrinkles and grey hair? Improving human offspring is not banned, what is banned is changing Allah's creation. Working with genes does not mean new creation; on the contrary, it is originally Allah's creation still. Moreover, improvement does not halt distinction and variation. It is also possible to say that it is permissible to use a dead embryo for research purposes if he was confirmed dead and with the approval of the parents. It is also permissible to plant organs if it is going to save the life of the patient, especially before Spirit Breathing i.e. before 40 days or 120 days according to other jurists⁽³⁾.

(1) The Association resolution dated 23-28 Safar 1418 A.H. / 28 June- 3 July in their meeting in Jeddah, KSA.

(2) This reservation confirms that the Jurisprudence Association has issued a fatwa before that allows pregnancy of the second wife in stead of the first under certain conditions, but soon they retreated and prohibited it absolutely when other scientific facts were know in which the real mother may not be known.

(3) Look Muhammad Nayem Yaseen's opinion: 'Juristic Researches in Comtempor-

Ibn-Hazm⁽¹⁾ believes that the embryo is a part of his mother and a piece of her flesh, but this opinion is not supported by anyone else.

Moreover, some jurists permitted abortion when the embryo is very contorted, under the condition that abortion takes place before 120 or 40 days if the doctors decided it is unavoidable. Some researchers claim that the embryo is not human⁽²⁾ before Spirit Breathing. However, Ibn-Rajab al-Hanbali⁽³⁾ said, 'our companions have proclaimed that if the embryo has developed into a clot, the mother is not allowed to drop it, because it is now a formed child unlike a sperm-drop'⁽⁴⁾. Nevertheless, this Hanbali view that goes to allow abortion before 40 days is not supported by clear evidence. In contrast, the Abadyya⁽⁵⁾ prohibit abortion entirely⁽⁶⁾ except in extreme cases that endanger the life of the mother, so do the Maliki and some Shafi'i followers. The Malikis go to the extent of prohibiting taking out sperm-drops that have reached the womb even before the 40 days,

ary Medical Issues' (Abhath Feqheya fee Kadaya Tebbeya Moasera) Published by Dar Al-Nafayes Amman 199, pp.105-106, who believes that an embryo is not considered a human before Soul Breathing. This opinion goes in parallel lines with the opinion of the foreign atheistic scholars.

- (1) **Abu Muhammad 'Ali ibn Ahmad ibn Sa'id ibn Hazm** (أبو محمد علي بن احمد بن سعيد بن حزم) (November 7, 994 - August 15, 1069) Muslim litterateur, historian, jurist, and theologian of Islamic Spain, famed for his literary productivity, breadth of learning, and mastery of the Arabic language. One of the leading exponents of the **Zahiri** (Literalist) school of jurisprudence, he produced some 400 works, the most famous is *The Ring of the Dove* (Tawq Al-Hamama). (the translator)
- (2) For example, Muhammad Nayem Yaseen: *ibid*, pp.105-106
- (3) **Imam Ibn-Rajab** (Arabic: امام ابن رجب), of the Hanbali school of Islamic thought, is considered one of the foremost authorities of prophetic tradition (hadith) of the 14th century CE. (the translator)
- (4) Jame' Al-Elm wa al-Hekam. (Collection of Science and Wisdom), p.157
- (5) **The Ibadyya sect** (also known as the Ibadī sect, or simply as the Ibadīs) constitutes one of the branches of Islam. The Ibadīs are relatively few in number in comparison to the Sunnis and the Shi'ah, and for many centuries they have lived largely in isolated areas, principally Oman and Zanzibar, Tripolitania in Libya, the island of Jerba in Tunisia, and the Mzab area of Algeria. (the translator)
- (6) Afish Muhammady Yusuf, *Sharh al-Neel*, vol. 15, p.152.

according to al-Dosouky, who is their authorized speaker⁽¹⁾. Muhammad Ibn-Ahmad Ibn-Jazey al-Ghernaty went to say, 'if the womb captured the sperm, it is not allowed to bother it, what is worse is if it began to form, and the worst is if the Spirit has been breathed into it, as this is agreed upon to be murder⁽²⁾'. Abu-Hamid Al-Ghazali, who is a Shafi'i follower, argues that abortion is a crime against an existing being, whose life cycle can be divided into ages: the first stage of existence is when the sperm drop falls into the womb, mixes with the female liquids, and prepares to accept life, and the act of spoiling of this cycle is considered a crime⁽³⁾. The Maliki and Ghazali views are the closest to what has been discovered by modern biology that the embryo is alive ever since fertilization, and accordingly his life should be respected and attacking it is considered a crime.

Islam esteems science and research, and emphatically insists on it. There is no doubt that technology is nothing but an implementation of science, an extension of it, and an outcome of its results. Science in Islam clearly leans towards scientific applied sides when these applications prove useful. In this sense, Muslims presented the European sciences with the backbone that uplifted its renaissance. That is why René Frydman says, 'the land of Islam is the land of science'⁽⁴⁾. Muslims have superbly excelled in medicine through experimenting and observation, and they established actual hospitals where they applied surgery, anesthesia, and fertilization, as well as manufacturing the tools needed. Cordoba alone had more than fifty hospitals, and the history of science is a poof on that. Acquiring knowledge is an Islamic obligation, **"Are the ones who know equal to the ones who do not know?" (Al-Zumar, 9).**

(1) Hasheyat Al-Dosouky ala al-Sharh al-Kabeer = Al-Dosouky Notes about the Grand Explanation. Vol.2, p.267.

(2) Al-Quanin al-Feqheya = Jurisprudence Laws, p. 235

(3) *Ihya' 'ulum al-din*, "The revival of the religious sciences", vol.2, p.110.

(4) Dieu, *La médecine et l'embryon*, P.48

What goes for medicine also goes for astronomy, mathematics, and physics. Muslims used to read sciences in other languages, translate them, and attribute them to their rightful owners, moreover, they used to add to them and not strict themselves to their boundaries. They did not hesitate to read for anyone and make use of these readings if they prove correct and beneficial. Acquiring knowledge is a form of worship in Islam, and we can see how Qur'an pointed out the developing stages of an embryo that goes in parallel lines with the modern scientific findings⁽¹⁾. Science in Islam is finding out Allah's ways in the Universe, and Islam does not prohibit indulging in any field provided that its applications do not harm Man or abuse his honor.

We can say that there are fanatic groups who interpret scriptures literally, while others explain them in the light of moderate reason. The history of Islam witnessed the people of hadith and those of retirement, the people of scriptures and those of meanings, and others who were moderate in between these two extremes like al-Ashaera. The same situation still exists today.

The relationship between the West and nature seems to be characterized by conflict and confrontation, and consequently, science and consequent technologies emerged. The Western way of life is colored by challenging the outer world and forcing it to yield to their desires. On the other hand, the Eastern Man adapts to nature and lives in harmony with it, in a similar fashion of the Japanese culture that embraces and enjoys life, so does the Indian culture that inclines towards mortality like the Nirvana in the Buddhist beliefs. According to Russell, Man is concerned with three kinds of conflicts, conflict against nature, against other people, and against himself. This view represents the Western ideology and culture, as they are concerned with the natural dilemma just as the Chinese are concerned with the social dilemma and the Indian with the psychological i.e. the inner self of Man in order to understand him. The West prioritizes intelligence and science through paying attention to the observed world, and

(1) See Maurice Bucaille's book: The Bible, the Qur'an, and science.

focuses on the well and the deed because they are the source of fulfillment and satisfaction. Therefore, the West is characterized by efficiency and the keen and endless pursuit of technological innovation. In this sense, the West has created another world beside the natural world; that is the world of technology. The effect of the second world has become profound, which made the Western Man scared from technology ‘Technophobia’, to the extent of rejecting technology and revolting against it. Consequently, a modern philosophical trend appeared lately in the West, which is called the philosophy of the machine or the technological philosophy. That is why we see philosophical critics like Husserl who says in his lecture ‘the dilemma of the European consciousness’ that science suffers from a black hole as scientist pursue weird methods to know things but they do not have a way of knowing themselves as creatures of their own individuality. This fact led the world to proceed blindfolded to an unknown destination. Just like Einstein once said, ‘when I sit to do some mathematical operations and I see a small insect that lands on my piece of paper, I feel that I need to shout out loud how great the Lord is, because in spite of the glory of our knowledge we are nothing but miserable germs⁽¹⁾’. This is because religion can assist science in staying humble, **"and in no way have you been brought of knowledge except a little."** (Al-Israe, 85).

Therefore, people should enquire about the applications of science and the aims behind using technology if it harms Man. However, the concept of ‘*Technophile*’ is most prominent these days in the West, in the sense that technology is comprised of tools that Man uses to make his life easier, and satisfy his desires. Thus, a trust in science and technology has been built out of their benefit for humanity. Considering these facts, one could say that the relationship between the Western Man and nature is a relationship that circles around conflict, domination, control, exploiting resources, destruction of environmental systems, pollution, and extinction of species. Hence, we find Western philosophers, like Hans Jonas, who reside to using metaphysical and

(1) Karl Jaspers, *Introduction à la Méthode de la Philosophie*, Paris, 1966, P.14.

religious conventions to answer the current technical problems, because science has cut all relations with ethics and religion when Man imagined that he is the centre of the universe, and that he is independent and able to create his own principles. Others believe in the quantitative relations, as the philosopher Karl-Otto Apel⁽¹⁾ stresses the need for what he calls 'Micro-ethics' that is a universally valid ethics shared between all the nations of the world, which would exceed the ethics of science. In that sense, the technical society would be governed by a code of ethics that control its relation with technology, because technical conduct is harming humans. He believes that this situation could only be cured through abstaining a part of it, and by ceasing to contribute in accomplishing new technological inventions unless we are certain of their effects in a comprehensive way, and leaving out inventions that cause impairment and destruction. The fatal end of technology would take place when it goes to the other extreme of acting in conflict with its original aims, and leads to catastrophic effects, including the increase of its domination. Some people used to think that there is no authority over nature unless the tri-relation between science, religion, and ethics is cut, and adopted the following as their slogan: 'accomplish all that is possible'. Hence, Nihilism and Post-Modernism agree on separation from any finite truth that could be of authority forced upon people, as it could act as a high arrogant prop they could hold on to in preventing distress and destruction.

An attempt should be made to set a clear ethical code that would govern scientific research concerned with humans, and to arrive at research protocols that are demonstrated by a scientific bureau responsible for protecting people in the biomedical field. Such bureaus should examine these protocols before embarking on such researches. This is because some researches were done using regular prisoners and prisoners waiting for execution. Therefore, strict terms should govern researches applied to children and pregnant women to ensure that they are not being exposed to grave angers. In addition, rules must be set

(1) **Karl-Otto Apel** is a German philosopher. He has combined the analytical and continental philosophical traditions. (the translator)

to fight the discrimination between the poor and other classes, and between the north and the south that take place through conducting researches for the developed industrial world at the expense of third world countries, while no interest is being paid to the diseases that endanger the developing nations alone. Therefore, media must play a key role, and a doctrine of a hospitalized patient's rights should be set, because s/he is an individual who has rights and duties even before being a patient, therefore s/he must not be exploited in research without her/his prior knowledge and acceptance in whatever action s/he would be a part of. Furthermore, the patient must be well aware of all possible or consequent dangers, and giving general inexplicit headlines is not enough, as they do not suffice in preserving the human heritage of genes.

Scientific research and technology should carry on and develop, but along with awareness and caution, because development could lead to insanity. Therefore, it is forbidden to cut embryos for the sake of research, and using them for industrial and commercial uses, which could happen in the absence of monitoring protocols governing scientific researches of human genetic heritage.

In fact, using genetic technology for remedial purposes, aiming at regaining health or consciousness, is vital, because the ultimate aim behind medicine is whether to preserve and protect health or to treat the patient in order to regain his health in case of any disorder. As for complementary medical treatment, I believe it to be unnecessary. However, if the person desires to do it and he was told about its dangers however minor or major, and if there were no dangers or very minimal, then it could be permissible. This is because the aim behind that is the development of the human capabilities using technology in a clear scientific way, and in a way that would guarantee that no consequent harm or abuse would happen in time to any organ of the body or to the patient's being. This should be monitored by a protocol that is examined by a designated bureau and after the approval of the person involved.

The shared destiny among all divine religions is mercy, for Allah is the Ever-Merciful as the name and its inflexions appears in the Noble

Qur'an 333 times, in Torah 266 times⁽¹⁾, and it appears in the Bible as well, "Blessed are the merciful, because they will be shown mercy" (MT, 5:7). Therefore, mercy, mutual acceptance, tolerance, and respect of the opinion of others should prevail between humankind if such an acceptance is not forced through domination or deception. Technology is merely a tool in the hands of Man; therefore, he should not ask more than what it could give. Science has not spoken its final word yet; therefore, Man should know the limits of science and expect it not to be able to answer all his questions. Science asks how, and philosophy asks why.

Accordingly, wise men of science and religion must not let religion dominate science nor science to dominate religion, as they are two parallel paths of knowledge that are not at odds with each other. Charles Townes⁽²⁾ was absolutely right when he said that, "science searches to know the world's mechanism, while religion searches for its meaning and significance."⁽³⁾

"We will soon show them Our signs in the horizons and in themselves until it is evident to them that it is the Truth. And does it not suffice as to your Lord that He is The Ever-Present Witness over everything?" (**Fussilat, 53**).

(1) Jean Delumeau, "L'Histoire face au fait religieux" In le fait religieux aujourd'hui, Rencontres internationales de Carthage 3eme session, du 1 au 6 Février 1999, P.82

(2) **Charles Hard Townes** (born July 28, 1915) is an American physicist and educator. Townes is known for his work on the theory and application of the maser, on which he obtained the fundamental patent, and other work in quantum electronics connected with both maser and laser devices. He shared the 1964 **Nobel Prize in Physics** with N. G. Basov and Aleksandr Prokhorov for contributions to planetary thermal radiation. Between 1966 and 1970, he was chairman of the NASA Science Advisory Committee for the Apollo lunar landing program. (the translator)

(3) Ibid, p.90

**ISLAMIC PERSPECTIVES ON GOD,
HUMANITY AND NATURE**

Muzaffar Iqbal

Canada

Islamic Perspectives on God, Humanity and Nature

Muzaffar Iqbal⁽¹⁾

Canada

Introduction

Most questions arising from recent developments in biological sciences can be best answered if they are studied from within a framework of inquiry with well-defined epistemological and ontological parameters. In fact it can be argued that questions such as the status of human embryo and foetus, various questions arising from the use of cloning techniques, questions related to the concept of human nature and dignity cannot be answered without first answering certain other questions: what is our concept of humanity as such? How do we understand the relation between the created universe, including all forms of life, and the Creator of the universe and all forms of biological and inorganic existents? These are primary questions and their answers provide a framework of inquiry and a matrix which can be used to answer secondary questions such as those which are being posed by the developments in life sciences and related technologies. This approach to the myriad questions arising out of recent scientific and technological developments also has the benefit of providing a solid foundation for future research in these areas and the ability to respond to any questions as and when they emerge. Considering these advantages, this paper will first sketch out a brief outline of the Islamic perspectives on the primary questions about the nature of human life and the relationship between the Creator and the created, and then explore the questions arising out of scientific and technological developments.

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Islamic Perspectives on the Creator and the Created World

Establishing the Epistemological Foundation

Of the three Abrahamic religions, Islam presents the most concise and preserved foundational book in the form and language in which it was revealed. The Qur'an is believed to be the *actual speech* of God, revealed in history, at a specific time and place, yet transcending that space and time. It is a Book which defines all things Islamic and, therefore, it is not surprising that all substantial issues in Islamic thought are always referred back to this Book which remains a living text, recited daily by millions of Muslims around the world. It is a Book unlike any other in human possession, simply because it claims to be so and it challenges its detractors to produce even a chapter like it⁽¹⁾-a challenge which has not been met by any over the last fourteen centuries.

Considering the fundamental importance of the Qur'an in Islamic tradition, it can be said that the Qur'an is the supreme source of all knowledge in Islam. It has served as an epistemological reference point for all discourses on God, life and the cosmos over a long period of time, giving rise to a formidable tradition of scholarship, solidly anchored in the Qur'anic worldview. Thus not only the traditional sciences of the Qur'an and the *tafsir* literature proper, but all other sciences are traced back to the Qur'an. "Has it not come to your knowledge," wrote Abu Hamid al-Ghazali, "that the Qur'an is [like] an ocean and that it is from the Qur'an that the sciences of the ancients and the moderns branch off, just as rivers and brooks branch off from the shores of an ocean?"⁽²⁾

Taking the Qur'an as the source of all knowledge not only provides a solid epistemological foundation for our inquiry, it also solves the problem of methodology, for the Qur'an has one of the simplest, yet most clearly enunciated schemes of creation and a solid

(1) Q. 10:38 and 11:13

(2) al-Ghazali, Abu Hamid, *Kitab Jawar al-Qur'an*, trans. by Muhammad Abdul Quasem (London: Kegan Paul International, 1983), 19-20.

and consistent framework of relationships between the Creator and the created.

The Qur'anic Concept of God

The Qur'an is emphatic about the unique oneness of Creator; *there is no deity except Allah*⁽¹⁾ it declares unambiguously. This declaration, which at once forms the core of Islamic belief and the first part of the *shahada*, the testimony pronounced by Muslims thousands of times in their lifetime as well as by those entering Islam for the first time - a testimony which actively and cognitively proclaims the unique oneness of the Creator and renders all other deities false (*batil*). The word Allah, the Qur'anic appellation for God denoting His essential or personal (*dhati*) aspect is mentioned in the Qur'an over three thousand times. To be sure, the word Allah predates the revelation of the Qur'an and was well-known to the Arab contemporaries of the Prophet of Islam. Denoting divinity in pre-Islamic Arabic literature, this word was dramatically recast in the Qur'an by removing from it all illusions of partnership, "by sweeping away any created impurity foreign to the idea of pure divinity (*uluhiya*), by weeding out every description, every adjective, *sifa*, suspected of directing our understanding (*ma'rifa*) or imagination (*tawahhum*) to a created object,⁽²⁾" Surah 112 of the Qur'an contains, in a highly condensed form, the first definition by *via negative*, of the transcendence of divine unity: *Say, He is Allah, the One. Allah, the Eternal. He begets not, and neither is He begotten; and there is nothing that can be compared to Him.*"

Let us note that this use of a pre-Islamic word, Allah, by the Qur'an did not in any way compromise the supreme uniqueness of the Qur'anic God; rather, it restored to the word its proper meaning by declaring that "this supreme God was not only supreme in the relative

(1) Q. 2:163, 255 and many other *ayahs*. In translating the verses of the Qur'an, I have drawn upon numerous sources, including commentaries and existing translations of the Qur'an. The Qur'anic verses appear without quotation marks and are italicized.

(2) Massignon, Louis, *The Passion of al-Hallaj*, trans. by Herbert Mason (Princeton, Princeton University Press, 1982), vol. 3, 125

sense of the highest in the hierarchy but *absolutely* supreme, and also unique, i.e., the one and only God in existence, degrading thereby other gods to the position of *batil* (false) as opposed to *haqq* (real), in other words, mere names without any reality, mere products of fancy and imagination.”⁽¹⁾ What you worship other than Him, the Qur’an declares, *is nothing but names you have coined, you and your forefathers.* (12:40)

As noted by Izutsu, this recasting of the concept of God did not mean a mere change in the Arab conception of the nature of Allah alone, but it meant also a drastic and radical change of the whole structure of the universe.⁽²⁾ Among the primary concepts radically transformed by the Qur’anic worldview is the concept of creation, including humanity. By recasting the concept of God, the Qur’an not only placed all existent things in their proper place, it also made them ontologically dependent on the Creator since, as far as the Qur’an is concerned, only Allah alone has real existence; all other existing things are merely in existence because of Allah-the Giver of being and existence. He is the Creator par excellence, the One who created the angels (40:18), the Jinn (55:14), the heavens and the earth (14:22), the sun and the moon, the day and the night (14:22), the mountains and the rivers (13:3), trees, fruits, grains and herbs (55:10-11), and all kinds of animals, *some of which go about upon their bellies, some on two feet, some, again, on four [feet]* (24:44). Indeed, the Qur’an affirms that *He is the Creator of everything* (6:102). It should also be stated here that the Qur’anic concept of God excludes any sharing between the Creator and the created. The Qur’an affirms the presence of an incommensurable hiatus separating the created beings from the divine essence and it emphatically declares that there is *none like unto Him (laysa ka mithlihi shaya: 42:11 and 112:4)*. This is mentioned in the Qur’an numerous times in various ways:

He is Allah, there is no god (ilah) except He; the Knower (al-

(1) Izutsu, Toshihiko, *God and Man in the Qur’an: Semantics of the Qur’anic Weltanschauung* (Tokyo: Keio University, 1964), 6.

(2) *Ibid.*, p. 7.

‘Alim) of the hidden (al-ghayb) and the manifest (al-shahada), the Most Merciful (al-Rahman), the Compassionate (al-Rahim). He is the One other than Whom there is none, the Sovereign (al-Malik), the Holy (al-Quddus), the One with peace and integrity (al-Salam), the Keeper of the Faith (al-Mu’min), the Protector (al-Muhaymin), the Mighty (al-‘Aziz), the Compeller (al-Jabbar), the Most Supreme (al-Mutakabbir). Glory be to Him beyond what they associate with Him. He is Allah, the Creator (al-Khaliq), the Maker (al-Bari’), the Bestower of form (al-Musawwir), to Him belong the most Beautiful Names. Whatever is in the heavens and the earth, extol His glories and He is Mighty, the Wise (al-Hakim). (59:22-24)

Creation and the Order of Nature

Islam shares its cosmos with the other two monotheistic religions; in all three Abrahamic faiths, God is the originator of everything that exists. In Islam, this creative act of God, through a simple command, *Kun* (Be),⁽¹⁾ became the subject matter of Islamic cosmogony which elucidates the modalities of creation. The Qur’anic creation theme, let us note, includes the physical as well as non-physical worlds - all ontologically linked and existentially dependent upon God.⁽²⁾ This intrinsic nexus between various levels of existence transforms the multiplicity of appearances into a unity. The ultimate foundation of their interrelatedness at the level of cosmic existence is their ontological dependence on God. Hence the world of nature is related to all other levels of creation. This common ontological foundation made it possible for the Islamic scientific tradition to forge links and share a language of discourse with other disciplines of knowledge which were all arranged in a hierarchy.

(1) Q. 36:81.

(2) The Qur’an speaks of God as being the Sustainer (*Rabb*) and Owner (*Malik*) of all the Worlds. Q. 1:1; 2:131; 5:28; 6:45; 6:162; 7:54, 61, 67, 104, 121; 10:10, 37; 26:16, 23, 47, 77, 98, 109, 127, 145, 164, 180, 192; 27:8, 44; 28:30; 32:2; 37:87, 182; 39:75; 40:64-66; 41:9; 43:46; 45:36; 56:80; 59:16; 69:43; 81:29; 83:6.

Since all things exist through and because of God, their ontological dependence on the Creator simultaneously ennoble them by raising their status from being mere things to signs (*ayat*) of a transcendent Real (*al-Haqq*), who, nevertheless, remains beyond them. Thus rather than being mere dialectical utterances, the “sign verses”⁽¹⁾ of the Qur’an have an irresistible urgency which draws our attention to that which lies beyond the phenomena being mentioned. It is this ennoblement that makes the rhythmic alteration of the day and the night⁽²⁾ and the regularities in the movement of the sun, which *traverses its course by the decree of the All-Knowing; and the moon-[for which God] has made stations [to traverse], till it becomes like an old [and withered] stalk of date-palm*⁽³⁾ The Qur’an asserts that commonly observable natural phenomena, such as the orderly movement of the planets, are, in fact, due to the design of the Creator. It draws the attention of its readers to the fact that *the sun does not catch up to the moon and the night cannot outstrip the day; [rather] each revolve in their own orbit*⁽⁴⁾ and asserts that this is not merely the result of certain laws of nature, rather these are “signs” for those who reflect. In fact, the concept of “Laws of Nature”, independent of a Law-Giver, is essentially a secular concept because it makes “nature” a law-giver; in Islam, the authority to make laws rests with God alone.

Thus seen from within the Islamic tradition, sciences which explore various aspects of the natural world actually explore one aspect of the Qur’anic cosmos. This cosmos is made up of both the physical as well as non-physical beings according to a grand scheme, conceived and executed by the Creator. The ultimate destination of this created cosmos is a secret that God shares with none. However, the Qur’an insists that humans discover the modalities through which nature works. It draws attention to the regularities, beneficence and design of

(1) So called because of a refrain that occurs in these verses in various forms such as: *And in this is the sign for those who reflect* (Q. 16:11), or *And in this is the sign for those who listen* (Q. 16:65).

(2) Q. 2:164.

(3) Q. 33:38-9.

(4) Q. 33:40.

various observable natural processes through concrete examples drawn from the world of nature. These processes fall in the domain of various scientific disciplines such as astronomy, physics, mathematics, geology, and botany. But when studied in their proper metaphysical context, these processes become means to gain knowledge of that which lies beyond the laws that govern them. This Qur'anic invitation to reflect on these natural processes is repeated with such urgency that the spatiotemporal plane which contains the world of nature seems to form the very background of the Qur'anic universe.⁽¹⁾

The creation theme of the Qur'an is one of the simplest in the sense that it relies on self-evident fundamental facts. The modalities of creation are not explained anywhere in the Qur'an. It simply states the basic facts: the creation of the seven heavens, placed one above the other, in perfect order, the lowest of these adorned and bejeweled and placed above our earth which is the chosen place for human habitat. Then there are the sun, the celestial spheres, the mountains, the stars and a small number of named plants, animals and even insects-all uniquely and seamlessly blended into a whole that springs forth from the same Divine source which gave birth to the first human being. The cosmos ('alam) came into existence as a sign ('alama). The order of nature is, therefore, an evidence and a pointer for that which lies beyond nature: the very source of that order. *Verily, in the creation of the heavens and the earth; in the alternation of the night and the day; in the ships that sail in the ocean with what profits humankind; and in the water which Allah sends down from the skies, giving life therewith to the earth after it had been lifeless and in the beasts of all kind that He disperses on earth; and in the change of the winds and the clouds which are driven between heaven and earth-surely in these are signs for people who understand.*⁽²⁾

(1) These so-called scientific verses of the Qur'an have been the subject of a large number of modern scientific commentaries. The Egyptian exegete Tantawi al-Jawhari (1862-1940) claimed to have counted all the verses which refer to natural phenomena; he fixed this number at 750 (with many others having indirect relevance to the physical universe). He also compared this number to the verses pertaining to legal matters which were "no more than 150". This approach, however, is very problematic.

(2) Q. 2:164.

The Qur'an also makes specific mention of the bee which received revelation (Q. 16:68-9); the spider whose "house" is described as the "frailest of all" in a parable narrating the state of those who take protectors other than God (Q. 29:41); Solomon's hoopoe who carried his message to the Queen of Sheba (Q. 27:28); the raven who taught Qabil how to bury his brother whom he had slain (Q. 5:31); the she-camel who was a sign to the people of Thamud (Q. 91:13); the ant who told her fellow ants to protect themselves from the army of Solomon (Q. 27:18); Jonah's fish (Q. 37:142); the wolf that did not eat Joseph (Q. 12:16); the donkey whose braying is the worst of sounds (Q. 31:19); the fly that the false gods could not create (22:73); the frogs, lice, and locusts that appeared in the plagues of Egypt (Q. 7:133); and the mosquito that God does not hesitate to cite as a parable (Q. 2:26). Among the plants and fruits mentioned by the Qur'an are the olive tree, which is blessed (Q. 95:1), dates, grapes, and pomegranate (Q. 55:68).⁽¹⁾

This physical cosmos observes a Divine Law just as humans are supposed to. Thus, the Qur'an tells us about the revelation sent to the bee (Q. 16:68); it mentions the submission of the heavens and the earth to God (Q. 41:11); it celebrates the glorification of God by all that exists in nature (Q. 59:1; 61:1; 62:1; 64:1); it unifies the whole of creation in a grand order and establishes the source and origin of that order and then, in a sweeping manner, states that all of this is destined to exist merely for a short duration after which all will perish—that is, all except God. This emphasis on the transient nature of the created world reverberates throughout the Qur'anic text as a reminder that none other than God is to be worshipped, for all except Him are mere creatures who owe their existence to His Will.

Within this broad creation theme, the sign verses of the Qur'an establish a nexus between the physical cosmos and the metaphysical realm by making the physical entity a projection of the unseen wherein resides its sustaining and governing principle. A fundamental characteristic of these verses is that they do not *always* refer to the natural

(1) The list is not exhaustive.

phenomena; historical events are also spoken of as signs with the same rhetorical embellishment and with the same urgency that is characteristic of those verses which mention natural phenomenon.⁽¹⁾ This establishes a further link, this time with the temporal realm and completes the spatiotemporal domain that is the necessary condition of existence.

Thus the natural world is placed in a created order in space and time. But then these verses make a metaphysical leap into the very heart of the Qur'anic message: the unique Oneness of the Creator: *Is He not the One who made the earth a stable abode and created rivers flowing through it, the Qur'an asks rhetorically, [the One who] created the mountains therein and created a barrier between the two seas? Is there, then, another god than Allah? Yet, most of them do not know*⁽²⁾ In addition, in the general sweep of its narrative, the Qur'an mentions the rain-bearing clouds and vegetation kingdom; it specifically cites the case of "dead earth" which is revived by God after it has been dead.⁽³⁾

The Qur'anic Concept of Man

According to the Qur'an, *Insan*, the Qur'anic term for human beings, is a special creation endowed with knowledge and certain resources unique to humanity. Created on the best of patterns (*fi ahsan al-taqwim*)⁽⁴⁾ from a clot of blood,⁽⁵⁾ externally a body (*jism*), a weak vessel made of clay, infused with spirit (*ruh*), endowed with an inner organ, the heart (*qalb*), which is a regular oscillation in the central inner void (*jawf*), the secret and hidden place of conscience

(1) For example Q. 2:248 (the example of the Ark); 2:252 (the case of Jalt); 2:259 (the case of the man with a donkey who was put to sleep for a hundred years and then brought to life) and many more.

(2) Q. 27:61.

(3) Q. 36: 35: *A Sign for them is the earth that is dead; We give it life, and produce grain therefrom of which ye eat; and We caused to grow in it gardens of palms and vines, and We caused springs to gush forth therein; that they might eat fruits; although it is not their hands that wrought this; will they not, then, give thanks?*

(4) Q. 95:4.

(5) Q. 96:2.

(*sirr*) whose secrets will be laid bare at the Judgment, this created being also has a soul, (*nafs*), an aggregate of sensations and actions, an incoherent and obscure mass-thoughts, illusions, desires, feelings-flowing through the body, the principle (*asl*) which unites the reprehensible qualities.⁽¹⁾ Fitrah, the primordial nature of human beings, in its uncorrupt state is capable of recognizing *tawhid*, the Oneness of the Creator. The Qur'anic creation theme specifies various Divine realms and then unites all forms and levels of existence into one organic whole. This unity is then projected on to the human intellect (*fahm, 'aql*) which is endowed with the power to comprehend that which lies beyond the realm of the five internal senses: *hiss mushtrik* (the sense that gathers all impressions); *khayal* (knowledge of the sentient kind); *wahima* (perception of particular significations: evaluative, estimative); *hafiza* (sensitive memory) and *mutakhayyila* (intellective reason).⁽²⁾ This characteristic is what distinguishes humans from other created beings—an ability acquired through the knowledge given to Adam, the first human being. This knowledge was bestowed upon Adam by none other than the Creator Himself, by teaching him names, *asma'*.

Since everything is existentially contingent upon God, it means that God is continually present in material things through His essential act as the Sovereign Creator (*al-Khaliq*), through His judicial Omnipotence, and through His exhaustive knowledge (*'ilm*). This ontological presence, declared by the Qur'an in the case of humans to be closer than the jugular vein (50:16) is temporally linked to human history through revelation (*Wahy*) and Prophethood (*Nubuwwa* or *risalah*).

The Qur'an seizes human beings in the very act of their creation, ennobles them through an eternal covenant (*mithaq*) and knowledge bestowed upon them by God. It raises humanity above all other creation because of the trust placed on the humankind by the Creator

(1) See the excellent explanation of the four terms, *al-qalb*, *al-aql*, *al-rh*, *al-nafs* in *Kitab Sharh Aja'ib al-Qalb*, in Book XXI of al-Ghazali's *Ihya'*.

(2) For a useful table of concordance between the principles of Kalam and the philosophical principles borrowed from the Imamites and the Hellenists before the fourth century Hijra, see Massignon, L. (1982), vol. 3, p. 70.

and because among all the created beings, it was only man who chose to bear the supernatural trust (*amana*) which was refused by the heavens, the earth and the mountains as being too heavy a burden.⁽¹⁾ The re-discovery of this covenant through remembrance (*dhikr*) acts like a flash of lightening which removes the veils from the *nafs*, unifies and transfigures it, makes it coherent and tranquil. It is this tranquil self, *al-nafs al-mutma'inna*, to which is said, *O soul at peace, return to thy Lord, well pleased, well pleasing*⁽²⁾ It is this unified self which can understand signs spread throughout the cosmos and within its own being: *We shall show them Our signs in the utmost horizons and in themselves, so that it will become clear unto them that this [Qur'an] is, indeed, the truth; is it not enough that thy Sustainer is witness unto everything?*⁽³⁾

The Qur'an treats as given the basic enigmas of life: birth (described as an embryogeny in several stages (Q. 23:12-14; 40:69); death, resurrection and life after death. It gives humans (and *jinn*s) the moral choice of accepting or rejecting its message,⁽⁴⁾ prescribes the legal limits of human activity and gives humans the freedom to choose between the two paths.⁽⁵⁾ The Qur'an also does not treat of abstract essences or types; it mentions particular, concrete and singular things and efficient names, *asma'* (sing. *ism*) such as the All Powerful (*al-Qadir*), the Irresistible (*al-Jabbar*), the Owner (*al-Malik*).

The Nature of Questions Raised by Scientific and Technological Developments in the Field of Life Sciences

As stated at the beginning of this article, all questions raised by the scientific and technological developments in the realm of life sciences can best be answered if we have a framework of inquiry. Now that we have constructed the framework, let us note that, according to

(1) Q. 33:72.

(2) Q. 89:27-8.

(3) Q. 41:53.

(4) Q. 2:256: *La ikra'ha fi'l-din* (There is no compulsion in religion).

(5) Q. 90:10: *Wa hadaina hun najdain* (And guided him about the two paths).

the Qur'an, all revealed religions have had the same basic concepts about God and creation. In fact, the Qur'an uses the term "al-Islam" for all previous religions revealed by God and it regards all Prophets before Muhammad as being Muslims. This means that, as far as the Qur'an is concerned, there is no essential difference between its teachings and those of previous books revealed to other Prophets. Hence, in their uncorrupted form, all revelation-based religious traditions view the relationship between human beings and the rest of creation in a like manner. In this view, humanity bears a relationship of trust, *amanah*, to rest of the creation. This relationship makes humans trustees, demanding judicial use of resources at their disposal.

It should also be noted here that creation is held inviolable in Islam and by extension in all revealed religions. Therefore, any concept of "improvement" of nature is utterly foreign to Islam. There is absolutely no ground for assuming that humans can "improve" upon God's design, Who, according to the Qur'an, is the best of Creators. No doubt, human beings have been given creative abilities, but the domain of those abilities is fundamentally different from the divine realm. This is clear from the fact that no human being is able to actually create anything from nothing; we can only modify existing things.

Since a certain degree of freedom has been given to us humans, we are free to exercise our abilities to modify existing things, including living beings, but this freedom comes with responsibility and consequences. The nature of this moral responsibility needs to be understood before any ethical questions can be answered: What precisely is the nature of human freedom in this realm? What are the consequences of modifying the essential nature of existing things? What are the purposes of such modification? What benefits can be derived from this exercise?

The Nature of The Body According to Modern Science

All of these questions assume a fundamental understanding of the nature of the human body, therefore, it is helpful to state that modern science conceives, as a basic premise, the entire created world,

including the human beings, as aggregates of matter. Matter, in turn, is conceived by modern science as autonomous, self-subsisting, and independent reality. Whether or not the result of some Big Bang, matter in view of the modern western science has little sanctity beyond what can be impressed on it through human volition. This basic assumption of modern science is considered to be valid for all domains of existence, including the human existence, which is generally accepted to be the result of random chance processes occurring in an evolutionary fashion.

More important for our discussion is the specific concept of evolution which is now regarded a fact by modern science. True, certain Christian theologians have inserted the hand of God in the evolutionary chain⁽¹⁾ through verbal acrobatics, but even these so-called theistic evolutionary theories remain contrary to the Qur'anic descriptions of human creation, placement in the heavens and subsequent descent (*hubut*), though there is no dearth of Muslims who have accepted Darwinism without any reservation due to an awe of western science and technology.⁽²⁾ The acceptance of any form of Darwinism necessarily leads to the acceptance of human body as an autonomous, self-subsisting entity, produced by random chance processes. No matter how cleverly this preposition is justified, the end result is the reduction of human dignity to the level of a species among other species.⁽³⁾

(1) One such recent work is Peters, Ted and Hewlett, Martinez, *Evolution From Creation to New Creation: Conflict, Conversation, and Convergence* (Nashville: Abingdon Press, 2003).

(2) For a detailed account of impact of Darwinism in the Arab world, see Ziadat, Adel A., *Western Science in the Arab World-The Impact of Darwinism, 1860-1930*, (London: Macmillan Press, 1986).

(3) Hussein al-Jisr, for instance, makes efforts to reconcile the theory of evolution with the Qur'anic teachings. He quotes 21:30 (“*We made every living thing from water. Will they not then believe?*”) and then agrees with the theory of evolution. “There is no evidence in the Qur’an,” he wrote, “to suggest whether all species, each of which exists by the grace of God, were created all at once or gradually.” A full treatment of this theme of accommodation was to find its way in the works of Abu al-Majid Muhammad Rida al-Isfahani, a Shiite theologian from Karbala, Iraq who wrote a book in two parts, *Naqd Falsafat Darwin, Critique of Darwin’s*

In order to understand the acceptance of Darwinism in the Arab world, we must recall that early acceptance of theory of evolution in the Arab world (and to some extent in the Indian subcontinent and Turkey) took place in the political and social milieu of colonization. It was in 1924, that Haeckel's book on evolution was translated into Arabic by Hassan Hussein, an Egyptian Muslim scholar, as *Fasil al-Maqal fi Falsafat al-Nushu wa-al-Irtiqā* (*On the Philosophy of Evolution and Progress*)⁽¹⁾. In his seventy-two-page introduction Hussein agreed with some scientific ideas propagated by Haeckel but he refuted all ideas against religion, though he tried to reconcile Islam and science. He insisted on a non-literal reading of six days verses in the Qur'an and he claimed that what Darwin was saying was heavenly wisdom (*Hikmah Ilahyya*)⁽²⁾. Four years after the publication of Hussein's book, Isma'īl Mazhar translated the first five chapters of Darwin's *Origin of Species* into Arabic, adding four more chapters in 1928. The complete translation was published in 1964. He also wrote a book on evolution in 1924.⁽³⁾ Mazhar is one of the many secularist Arabs who saw nothing of value in his own civilization. He advocated adoption of the scientific method not only in education but also in life.⁽⁴⁾ He also published a journal, *al-Usur*, which had, as its motto, the phrase *Harir Fikrak*, 'Liberate your thought'. He thought man must be free in his thoughts, in his speech and even in his religion in order to progress.

Philosophy, in 1941. Isfahani defended a God-based version of evolution and counted Lamarck, Wallace, Huxley, Spencer and Darwin among those who believed in God. He referred to the works of Imam Jafar bin Muhammad bin al-Sadiq (especially to his *Kitab al-Tawhid*) and to those of Ikhwan al-Safa' to point out anatomical similarities found in Man and apes, claiming that Darwin could never provide full treatment of these similarities as compared to the Ikhwan. But he disputed the embryological similarities between man and other animals. He affirmed that the structural unity of living organisms was a result of heavenly wisdom and not a consequence of blind chance in nature; he also demanded identification of first causes.

(1) Cairo: 1924, cited by Ziadet, p. 110.

(2) *Ibid*, 114

(3) Mazhar, Isma'īl, *Malqa al-Sabil fi Madhhab al-Nushu wa al-Irtiqā*, Cairo: 1926, quoted by Ziadet, p. 114.

(4) *Ibid*. 116

He also saw religion as being a private thing, between an individual and his God. He claimed that Islamic Law may have been suitable for the Arabs of the seventh century; it was totally incompatible with modern Arab society. He was, to no one's surprise, an ardent follower of Mustafa Kemal of Turkey.

In Turkey, until about 1850, higher education in the Ottoman Empire was controlled by the Ulama (religious scholars) through religious institutions headed by Shaykh al-Islam. But as a result of contact with the West, these educational institutions lost popularity and these fossilized structures, which used to be the hallmark of Islamic learning, had run out of creative energy and were totally abolished along with the Ottoman Caliphate in 1923 when Mustapha Kemal solidified his power and became the president of the new Turkish Republic. In that defining year, Turkey became a country rooted in contradiction of terms: a secular Muslim state, a state whose constitution forbade religious laws from having any role in the state and society (Article 2 of the Turkish Constitution, revised in 1982). During the initial fervor of Kemalism, the ruling junta tried to purge all expression of religion from public life: Arabic alphabet was replaced with Roman alphabet, Islam and its study was taken out of the educational curriculum, prayers which had always been recited in Arabic were translated into Turkish, religious education in traditional Tariqas and Zaviyes was banned, a new legal system based on the European model was adopted and, most important for our study, the theory of evolution was introduced as an important component of biology curriculum. By the time Mustapha Kemal died in 1938, Turkey had been transformed into a secular state run by men and women who were fiercely against Islam as a way of life.

While Islam remained the religion of the majority of Turks, the elimination of Arabic from public life, the forced removal of Islamic studies along with the traditional dress, practices, and norms of a society based on revealed doctrine made it increasingly difficult for the adherents of Islam to articulate anything based on their faith. The dominant voices were secular voices that considered anything that came from the West a divine writ. This is not to say that there was no

resistance to this secularism. In spite of state violence against religiosity and religious worldviews, there remained, at all levels of society, Islamic organizations that tried to preserve values, ethics, and worldview based on Islam.⁽¹⁾

In 1998, the Turkish Academy of Sciences (TUBA) issued a declaration on September 17.⁽²⁾ It opens with a quote from Mustafa Kemal, which states: “I do not leave any scripture, any dogma, any frozen and ossified rule as my legacy in ideas. My legacy is science and reason.”

The declaration states:⁽³⁾

Science is the most successful enterprise developed by mankind in order to understand and explain the universe and nature, we live in, by the way of observation, experiment, and testing. For centuries scientists have not submitted [to] oppression and obstruction, defending the supremacy of man’s reasoning and intellect, and its ability to attain the truth against prejudiced ideas and traditions. Today science is the greatest and most reliable pathfinder for human civilization’s goals of investigating nature and magnifying and advancing the happiness of societies. Science, due to its nature, works through free thought and its product of testable hypotheses. Scientific facts can only be endorsed and approved by the international scientific community after long years of unfettered debate and repeated testing by indepen-

(1) In the political arena, there has a long tradition of declaring Islam-oriented parties illegal. The Progressive Republican Party, the Free Republican Party and the National Party were all banned before 1955. The National Order Party was outlawed in 1971. The National Salvation Party (NSP) became popular in the 1970’s but on September 12, 1980 a military coup crushed it, its leaders were persecuted and imprisoned and the military, which is the stronghold of Kemalists, tried to push the country into the secular state model. The most recent example of this tradition of outlawing Islamic parties is the ban on the Welfare party on February 28, 1997.

(2) Complete text of the declaration is available at:
< <http://www.geocities.com/Athens/Cyprus/8732/tubabildiri.html> >

(3) Emphasis added.

dent methods. Those opinions which pass this merciless test of science, which can explain many phenomena at once and which make it possible for new hypotheses to be tested, receive the right to be called scientific theories. Science, being a system of thought which assumes the existence of an external reality and its comprehensibility, is differentiated from dogmatic systems of faith primarily through its continual openness to debate, and the fact that even the theories considered most successful can be revised when a more advanced explanation appears.

In the past few years an organized campaign against modern science and science education has been started in our country. These efforts, which especially manifest themselves through attacks on scientific theories concerning the origin and development of the universe and of life, are furthered by the collaboration of certain religious groups from within the country and from abroad. In reality, the concepts these groups proposed are nothing but opinions that various Christian organizations have tried to spread for many years but which have been wholly rejected in scientifically advanced countries. These groups, which see the belief that the universe and life was created within a very short period of time by extraordinary and paranormal forces as an un-debatable fact, have especially declared war upon the theory of evolution, which determines that all life is derived from common ancestors over long periods of time and that they undergo constant change. *Today the theory of evolution is a fundamental concept that brings clarity to many problems concerning life; it finds very widespread acceptance in the world of science and it is strongly supported by reputable scientists and scientific organizations. Furthermore, though evolution was first proposed in the biological sciences, it has today found extremely interesting applications in fields such as epistemology, sociology, and economics, being used to investigate and explain all processes of development where acquired information is passed from one*

generation to another. The dogma-based propaganda which claims that the theory of evolution is no longer accepted and that it has been demonstrated to be scientifically false is totally incorrect.

The true purpose of these attacks on accumulated scientific tradition, which is centuries old, is to bring up unthinking, unquestioning and uncritical individuals who do not test ideas and who accept dogmatic and incorrect information exactly as they are given to them. It is obvious that those circles who conduct an open or covert war against secular government, freedom in education, and advancement in science and technology in our country do not desire independent-thinking civilized people. These segments of society initially work towards including non-scientific beliefs along with scientific ideas in educational curricula, and in the long term they have the goal of totally eliminating the theory of evolution from textbooks. Such primitive enterprises have been rejected years ago in countries with a high and established tradition of science and removed from the agenda.

The Turkish Academy of Sciences (TUBA) believes that science is the correct path and approach to understanding the universe in which people and societies live, defining nature and determining its laws, and progressing in social, economic and cultural platforms. The citizens of our country have the right and responsibility not only to consume the products of science reflected in technology, but to learn the methods and ways of thought of science and contribute to its progress. Therefore we consider it our duty to warn and inform the public on the matters of eliminating the non-scientific elements of our educational system, installing modern methods of scientific thought and its products in our educational curricula, and taking necessary precautions to ensure that as we hail the twenty-first century a democratic and secular generation with “free thought, free knowledge, and free conscience” is brought up.

In the Indian subcontinent, there were only a few responses to Darwin. Muhammad Iqbal (1876-1938) has two oblique references to Darwin in his *Reconstruction of Religious Thought in Islam*⁽¹⁾. Originally delivered in 1930, these six lectures form an early Muslim response to materialism. Iqbal wrote:

The discoveries of Newton in the sphere of matter and those of Darwin in the sphere of Natural history reveal a mechanism. All problems, it was believed, were really the problems of physics. Energy and atoms, with the properties self-existing in them, could explain everything including life itself, thought, will, and feeling. The concept of mechanism - a purely physical concept - claimed to be the all-embracing explanation of Nature. And the battle for and against mechanism is still being fiercely fought in the domain of Biology. The question, then, is whether the passage to Reality through the revelations of sense perception necessarily leads to a view of Reality essentially opposed to the view that religion takes of its ultimate character. Is Natural Science finally committed to materialism?⁽²⁾

Iqbal further states that though natural science can produce verifiable data about matter, life and mind, it merely generates “a sectional view of Reality”. He then delineates the limitations of natural sciences: “... the moment you ask the question how matter, life, and mind are mutually related, you begin to see the sectional character of the various sciences that deal with them and the inability of these sciences, taken singly, to furnish a complete answer to your question.”⁽³⁾

Muhammad Hamidullah, perhaps the best Muslim scholar of the

(1) Iqbal, Muhammad Allama, *The Reconstruction of Religious Thought in Islam*, ed. by M. Saeed Sheik, Lahore: Iqbal Academy, Pakistan and Institute of Islamic Culture, 1986, p.33 and 154; of the two, only the first has a discussion on biology, the second is merely a passing reference mentioned for the sake of pointing to Nietzsche's failure to grasp the spiritual aspects of Reality.

(2) *Ibid*, p.33

(3) *Ibid*, p. 33-34

twentieth century to write in French, delivered a series of twelve lectures at the Islamia University Bahawalpur, Pakistan in March 1980.⁽¹⁾ The lectures, delivered without even the help of notes, covered a vast range of areas, ranging from the history of the Qur'an to the educational system in Islam and they truly reflect the depth and breadth of a unique scholar who has devoted his life to solitary pursuit of scholarship. Each lecture was followed by a question-answer session. During the question-answered session that followed the lecture on "Religion", someone asked Dr. Hamidullah: "If Darwin's theory of evolution is correct from the scientific point of view, there is conflict between science and Islam. Kindly explain."

Dr. Hamiduallah said:

It has been presumed that Darwin's theory has been rejected by Islam. It appears to create complications for us because we presume that Darwin was an atheist, although he believed in God. When he completed his medical education and entered his family profession, Darwin went through a metamorphosis. Being sick of the world he became interested in God. He studied Christianity in the Faculty of Religion at the University of Cambridge. Comparative Religion was one of the subjects taught in the University. Darwin also learned Arabic in order to understand Islam. In the collection of his letters that have been published, a number of them are addressed to his Arabic teacher. They are couched in extremely reverent and respectful language.⁽²⁾

This is indeed an amazing statement that belies all known information about Darwin and what is more disturbing is the authoritarian tone of the statement. Dr. Hamidullah then goes on to state another astonishing theory:

Among the text books prescribed for Arabic studies at that

(1) These twelve lectures were first published in original Urdu and later translated into English by Afzal Iqbal as *The Emergence of Islam, Lectures on the Development of Islamic World-view, Intellectual Tradition and Polity*, Islamabad: Islamic Research Institute, 1993.

(2) *Emergence of Islam*, op. cit., 143-44

time were selections either from *The Epistles* of Ikhwan al-Safa” [Brethren of Purity] or *al-Fawz al-Asghar* of Ibn Maskawayh. Both the books mention the theory of evolution. Nobody ever criticized their Muslim authors on this account nor were they dubbed as unbelievers. The books in question belong to the third or fourth century of the Hijrah.⁽¹⁾

One can only say that it must have been the blind desire to accommodate Darwin within the Islamic worldview that produced this statement for it is inconceivable that Dr. Hamidullah would not know about the true nature of this theory or hundreds of criticisms that exist on *The Epistles* of the Brethren of Purity, including the well-known and reasoned attack by al-Ghazali who states in his *al-Munqidh min al-Dalal*: “Among them [the Ta’alimites] was one who claimed to know some of their lore. But the substance of what he mentioned was a bit of the feeble philosophy of Pythagoras. The latter was one of the early ancients, and his doctrine is the feeblest of all philosophical doctrines. Aristotle had already refuted him and had even regarded his teaching as weak and contemptible. Yet this is what is followed in the book of the Brethren of Purity, and it is really the refuse of philosophy. One can only marvel at a man who spends a weary lifetime in the quest for knowledge and then is content with such flaccid and thin stuff! Yet he thinks he has attained the utmost reaches of knowledge!”⁽²⁾

Dr. Hamidullah then elucidates the theory contained in “these books” which, according to him,

state that God first created matter and invested it with energy for development. Matter, therefore, adopted the form of vapour which assumed the shape of water in due time. The next stage of development was mineral life. Different kinds of stones developed in course of time. Their highest form being mirjan (coral). It is a stone which has in it branches like those of a tree. After mineral life evolves vegetation. The evolution

(1) Ibid. 144.

(2) al-Ghazali, *Al-Munqidh min Al-Dalal*, tr. by Richard Joseph McCarthy as *Freedom and Fulfillment*, Boston: Twayne Publishers, 1980, p. 89.

of vegetation culminates with a tree which bears the qualities of an animal. This is the date-palm. It has male and female genders. It does not wither if all its branches are chopped but it dies when the head is cut off. The date-palm is therefore considered the highest among the trees and resembles the lowest among animals. Then is born the lowest of animals. It evolves into an ape. This is not the statement of Darwin. This is what Ibn Maskawayh states and this is precisely what is written in the Epistles of Ikhwan al-Safa". The Muslim thinkers state that ape then evolved into a lower kind of a barbarian man. He then became a superior human being. Man becomes a saint, a prophet. He evolves into a higher stage and becomes an angel. The one higher to angels is indeed none but God. Everything begins from Him and everything returns to Him.⁽¹⁾

This statement, which even does not state the thesis propounded by Ikhwan, as we will see shortly, is revealing for it shows how certain Muslim thinkers can "Islamize Darwinism". But what follows is even more revealing of this attitude.

Dr. Hamidullah states that

when all this has been stated by Muslim thinkers and no Muslim scholar ever took them to task for making such statements, one should pause and ponder over these facts. In the Qur'an it is stated that God made man out of clay. Our concept of the creation of man is that God, like a potter, molded clay into shape and breathed His spirit into it and Adam was thus created. Possibly this was the process but what does one do with verses 18:37, 22:5, 35:11, 40:67 which state time and again that God created man from clay and sperm? It is obvious that clay does not create sperm; it comes from an animal and a human being. It means that the mention of all intermediary stages of evolution has been omitted and attention is drawn to the original source which is

(1) *Ibid*, 144.

clay. The last cause is the sperm of man which stays in the womb of a woman.⁽¹⁾

But perhaps the worst example of this attitude is the definition of evolution that he produced from the Qur'an: "Take yet another verse of the Qur'an (71:14): "He created you in stages". The word *tawr* is the basis of *tatawwur* which means evolution."⁽²⁾

This is then further defended: "This can also mean that God created man as a mineral in the first instance. Minerals developed into vegetation which developed into animal life. There is no contradiction."⁽³⁾

We have discussed Muslim responses to the theory of evolution in some detail because through this theory, or its various modern versions, science now accepts human body as a body among other existing bodies, without any special Divinely imparted status. Therefore, all questions about the human body can be tackled, as far as modern science is concerned, according to the dictates of science rather than that of religion. There are, of course, dissident voices within the scientific community which oppose such a treatment of the body and there are numerous groups in the West lobbying for the recognition of status of the human embryo and foetus, but the dominant scientific view holds human bodies, including the embryos, to be no more than organic matter at its disposal.

Seen from an Islamic perspective, intentions, ends and means are all important for answering specific questions regarding the nature and use of genetic technologies. Specific responses to specific issues have to be formulated in view of the well-established and broadly accepted fiqh. This is a task that requires cooperation among Muslim scientists and religious scholars. A few examples of such cooperation in the past exist and these have been fruitful.⁽⁴⁾ A certain degree of unanimity

(1) *Ibid.* 144-5

(2) *Ibid.* p. 145

(3) *Ibid.* 145

(4) A useful summary and analysis of two such rulings can be found in Ebrahim Moosa, "Interface of Science and Jurisprudence: Dissonant Gazes at the Body in

exists among Muslims on various aspects of the debate. One common strand is the near-unanimous agreement on the need to pursue science for the benefit of humanity and not to indulge in matters which are of no use. Another aspect of the debate is the fact that most of these issues are foreign to the actual ground realities of the Muslim world and they only arise in the context of modern scientific practices in the West. Because of this, whatever opinions are held, they have little relevance to the actual state of scientific research *within* the Muslim world where, for most of the population, organ transplant and other such procedures are simply not a choice at this stage. Needless to say that this does not exclude the need to exercise *ijtihad* in these matters, but this activity needs to be undertaken with the realization that certain questions arising from within the Western cultural matrix may not be relevant to the Islamic polity.

Modern Muslim Ethics” in Peters, Ted; Iqbal, Muzaffar; and Haq, Syed Nomanul, *God, Life, and the Cosmos: Christian and Islamic Perspectives* (Aldershot: Ashgate Publishing, 2002), 329-356.

DISCUSSION

Third Session

Chairman: Dr. Haitham Al-Khayat

Rapporteur: Dr. Maher Abdel Quader

Chairman: Dr. Ezzeddin please.

Dr. Ezzeddin Ibrahim: My friend Dr. Refai quoted a Hadith, a prophetic tradition, which means that ALLAH has created Adam in his own image. But, he didn't have enough time to amplify and to explain. This Hadith, which is related by Al-Muslim, as well as by Al-Bukhari and Ahmad Ibn-Hambal, has been interpreted accurately that the pronoun in 'Ala suratihi' refers to Adam and not to ALLAH. So, our friends, the Christians and the Jewish people can understand the statements they want that God has created man in his own image referring to God, which is very important concept in Christianity. But, the Islamic concept is ALLAH created Adam in the shape known about Adam not more, not less. Thank you very much.

Chairman: Thank you! May I solicit some comments? May I ask Dr. Ted Peters, if he has any comments.

Dr. Ted Peters: Not at this time.

Chairman: What about Dr. Rabbi David.

Dr. David Bleich: I would like to address a question to the first speaker. He alluded to a topic that's not on the special agenda and that is the Darwinian notion of evolution. The question is whether within Islamic traditional theology there is an interpretation of the Qur'anic verses that would provide for evolution of species in the form of intelligent design or in any other form that is acceptable?

Chairman: Thank you very much. I think, he will answer the question after we finish the round. Dr. Winslow, please.

Dr. Gerald Winslow: Thank you! Actually, I am going to ask the same question which Dr. Rabbi David just asked. I would like to hear from any of the commentator bit about the place of evolutionary theory and its relationship to Islam.

Chairman: Thank you very much! Bishop Camillo.

Bishop Camillo Ballin:

If that pronoun refers to Adam and not to Allah, can there be more freedom in intervening with fetus or man's life?

Chairman: Good Question, Dr. Sahmarani.

Dr. Assad Al-Sahmarani:

In fact, I have a problem due to a point raised by Dr. Iqbal about "soul" and "spirit". In Arabic, it is known that the word "Ruh" (spirit) is a power of giving life which is governed by Allah. "Nafs" (soul) on the other hand is the power of disposition which is governed by educators and man himself. This finds substantiation in the divine words, "By the Soul, and the proportion and order given to it" (Al Shams: 7). The second issue is about "Fitra" (natural disposition). "Fitra" is the monotheism of Lordship. With the religious obligations, this turns into Monotheism of Divinity. The second point is the willingness of epistemological and intellectual acquisition. Thank you!

Chairman: Dr. Omer Sulaiman.

Dr. Omer Sulaiman: I would like to go to another dimension of excellent speeches. I am not a religious scholar, any way. I derive from all the speeches and comments of the people that according to all religions, a religious scholar or a religious person or religious student should be trained not only in religious issues, but also in the science and in the way of thinking, the skills of thinking. Because, this way he will be completely in shape to really have the spirituality, well understood by him, as well as he will ensure the science will be used in accordance to moral codes. Further, there were very important questions raised by Dr. Aqeel and those questions were not answered. I would like to say, generally, if something is for treatment, is it safe? I mean, even ordinary medicine, when we introduce them we take a lot of time for them to be verified, to be useful to human use. Why are you rushing this? Did we apply the remedies which Islam has put or another religion has put? The last speaker spoke mainly about two important issues, which is the lifestyle, the Islamic lifestyle and the environment. And, all people spoke about this. We know that most

common cause of disease and death the world over is negative lifestyle, environment deterioration and poverty. Did we do enough, what we were supposed to do? These will eliminate the health problems, which we are addressing. Why don't you address the things, which are easy, cheaper and more practical?

Chairman: Dr. Peters.

Dr. Ted Peters: In the third address, I think, I heard the speaker said that if we would kill a soul, we would be properly punished for that on judgement day. I would just like to ask theologically whether in fact, is it possible to kill a soul? For many Muslims or Roman Catholics, the soul is immortal by nature. Non-metaphysical interpretation of soul would be in the dimension whereby we relate to God and we are really going to defy God's will. So, those of you who believe that the soul can be killed, please tell me what that means? And, I think, that is important for a conference of reproductive technologies because many, specially the Vatican assumes that it is this dimension which provides moral dignity, protectable dignity to the early feelers and the logic of relating the mortal soul to temporal dignity I think should be spelled out.

Chairman: Dr. Ajeel, Any other, yes, Dr. Hamid, please.

Dr. Hamid Ahmed: I just have a bit of difficulty understanding the concept of creation or creator. I understand from the last session and this session that Islamic perspective of creation is that Allah Sub'hana Wata'Aala created "*insaan*" in the best state '*fee ahsani taqweem*'. Many Hadiths narrated by brother Refai and verses, alluded to that fact *insaan 'fee ahsani taqweem'*, in the womb.

Christian concept, even, I think, Judaism have the concept that Allah Sub'hana Wata'Aala created man half-baked in process and gave the human being sort of his hand to perfect that human being. So, is there any dichotomy in this concept that we in the Muslim tradition, said that *Allah Sub'hana Wata'Aala* made the human being in his best image as an Adam. But, Christianity and Judaism say that it is in process and should be allowed for more perfection. That's one concept, which I would like the panelist or any of our Jewish or Judaism scholar to comment.

The second one, actually, I have for Dr. Refai. My fellow Abdel Rahman Al Refai has raised many issues. I wish there would be enough time for him to explain them for us. We understood that electing the fetus sex is not allowed in Islam. But if there is a sex link to disease, can we elect the other gender? The second point has to do with the Prophetic Hadith you cited about making the fetus happy or sad in his mother's womb. Does this not contradict with the Divine Justice for one? In another verse we read, "By the Soul, and the proportion and order given to it; and its enlightenment as to its wrong and its right" (Al Shams: 7.8). Does this not go counter to the concept of choice? Would you clarify this for us, please? Thank you.

Chairman: Dr. Taha Abdel Rahman:

Dr. Taha Abdel Rahman:

First, there are many points raised. I go back to the issue of Fitra (natural disposition). I believe that if we looked at the concept of fitra within the Qur'anic text, it would fall within the meaning of the values inherent in man. Man is created of a set of values. One of the Qur'anic verses reads, "And He taught Adam the names of all things" (Al Baqarah: 31). In my opinion, which is strictly personal ijtiḥad, the word "Ism" (name) has two meanings in the Arabic language. The first is derived from the word "Wasam" which means "assign a mark to". Such a mark may be to distinguish between things and it may be to evaluate them. This is evidenced by the fact that in Arabic when we call a person named "Abdullah", we are calling upon one of the values which is worshipping Allah, the Glorious. In this way, to teach Adam the names of all things can mean teaching him the values which Allah Almighty made inherent in man. Such values are the ones that constitute the religion of Islam. This is -as formerly denoted- a personal ijtiḥad and I wish I were correct. Then comes the issue of creation. I personally spot a difference -not a vast one- between the non-Islamic and Islamic visions of the concept of creation. In Islam, man can never contribute with Allah Almighty in the former's creation at all. On the other hand, Christians and non-Muslims believe that man might share creation with Allah, Exalted be He. Nonetheless, they think that such participation is inferior to the Divine creation

which is not our point here. However, the concept of man's participation in creation is there- a highly serious issue. This seriousness can be attributed to the fact that this non-Islamic culture had its impact on even the Islamic culture which comes to describe artists and poets - among many others- as creators and innovators, why? This is because man imagined that he can create as Allah does. Thus, when man affects things, he merely works on them and creates nothing. This is my second point. Thirdly, there is an issue unsolved till this time: the relation between man and God. The Divine Will is always pictured as opposing the human will. In other words, if man's will is involved, he becomes a god. Hence, man's will is set as conflicting with god's. Similarly, when God wills a thing, man automatically becomes obliged to do things (fatalism) and lacks the power to choose. This relation is far from being understood in writings in general and the Islamic writings in particular. It might happen that the Divine and human wills get in no conflict whatsoever. Allah can will something to happen and man can still have the ultimate freedom to behave as he wishes. I believe that the Divine Will can never be set in comparison with the human will. Therefore, all analogies set from the ancient times till this day comparing the human will with the Divine one are completely invalid. Had languages had other convenient words, it would have been better to assign the word "will" exclusively to Allah Almighty and use a completely different word for man's will. These are the points I have concerning this session. I extend my thanks to the Chairman of this session. I wish that our brother Jewish and Christian participants would come out of this gathering with a clear vision about the Islamic perspective of the same controversial issues they face. The difference in perspectives does not but add more depth to the way of handling the issue. Thus, we would come out with various perspectives tackling the same problem. This results in enriching the mind, widening its scope, spreading peace and multiplying the potentials of addressing the problem. Thank you.

Chairman: Dr. Bruce Foltz.

Dr. Bruce Foltz: Thank you very much! There is a very ancient distinction in protestant Christianity, which is very important in

orthodox Christianity. Another distinction between image and likeness. God has created human beings in his image. We can't do that for ourselves, nor can we diminish that, every human being is an image of God. Not every human being is a likeness of God and in fact, most of us do not get very likeness. In orthodox and protestant Christianity our task as believers is to transform ourselves into increasingly more likeness of God. We can never make ourselves images of God. God learned and done so, humans are absolutely not co-creators. We can neither add that nor we can diminish.

Chairman: Thank you very much! Dr. Malik Badri.

Dr. Malik Badri: *Bismillah Hirrahma Nirrahim! Wassalatu Wassalam Ala Sayidina Muhammad Wa Ala Aalihi Wa As'habih!* I would like to mention a few things. I am sorry, I have come bit late and I don't know whether what I am going to say, in some way, would have already been mentioned in earlier sessions.

My comment is concerned to Dr. Iqbal. First of all, I do agree with him, I support the point of view, because we Muslim scholars have different point of view about the spirit and soul. I feel that talking about two different entities, soul and spirit would go along very well with the spirit of Islam and the Qur'an. For example, the 'Ruh' or 'Spirit', if one reads the Qur'an from cover to cover, will never find the word 'Ruh' mentioned in any negative sense, whereas the word 'Nafs' at times is mentioned as negative " *Akhriju Anfusakum Al Yauma tujzauna Ajabal hoon bima kuntum ta'malun.* and we hear " *Yaa ayyatuhan Nafsul Mutma'innah Irji'ee Ilaa Rabbiki Raadiyatam Mardiah*" So, 'Nafs', at times is spoken about as good accepted by God and at other times it has (*Nafs*) gone with its dirty instincts that pulled it down and accordingly it is going to be punished for what it did. The 'Ruh' here, would stand in opposition to *Iblis* or devil. Because, now we have man in the middle. So on one side there is the devil that can pull him to go away from his 'Fitra' and, on the other side there is the 'Ruh'. The 'Ruh' is blowed into man in order to help him stand against the other 'Ruh' or 'Iblis' who swore to ALLAH that he is going to take HIS slaves into disbelief.

And, here I would like to put something, which is my own. When

blew spirit, and here the spirit is a spirit that HE has created. And this spirit has been blown into Adam. Was Adam at that time shaped in the form of clay and then the spirit was blown into him, then he became alive and became Adam or was he already flesh, blood, bones and nerves as a human being and then ALLAH blew a spirit into him? “*Sawwahu Wa nafakha fih Min Ruhih*” What is it? Was it simply a fashioned clay? Or he was already a human being? “*Fee Ala Suratih*” in the way he is created? And, if the latter is true, then ‘indeed’ the story of Adam and blowing of the spirit into Adam, is some thing which is repeated with the birth of every child, because when the Hadith says that the angel goes to blow the spirit to the child into the fetus, the fetus is already alive, may be already it has a soul, which is not yet developed. And then the spirit comes into it after that.

I would like very quickly to mention something, which you have mentioned about the ‘*Fitra*’. And it is of great interest that one great scientist of today Herbor Benson, the author of “Timeless Healing”, and the Director of the Mind-Body Institute in Harvard University, says that his studies showed him quite clearly that belief in God is something in our genes that man has found that belief in God is useful and gives it some evolutionary concept. But he speaks about it as though he is speaking about the concept of Islamic *Fitra*.

And finally, I want to say something about the heart ‘*Al-Qalb*’ which you have mentioned. There is also a great writer, his name is Pears and he was very old when he wrote a book called “**Evolution In**”. He said that there is a spirit outside the heart and one of the evidences he put that if you bring a cell of the heart, you put it in a dish, it begins to react until it dies. If you bring two cells, you put them near to each other, but they don’t touch, they begin to meet in uni-cell. He says, how come these are beating in this form? He says that heart is not simply a pump. It has something to do with our very existence. Al-Ghazali in his “*Yahya Olum Al-Din*” says that there is a relationship between the soul, spirit and the heart, but this is one of the secrets of God that has been given to me, which I cannot write in my book. Thank you very much.

Chairman: Thank you very much! Dr. Nasr Farid Wasel

Dr. Nasr Farid Wasel:

I have a comment. In the Name of Allah, Most Gracious, Most Merciful. The point is on the issue of fate and destiny or man's power of choice and fatalism. We should understand that one of the Attributes of Allah Almighty is Knowledge. This Knowledge is an unraveling Attribute that has to do with the imperative, the probable and the impossible. In another sense, Allah knows that He has no partner and that this universe cannot be but Allah's. The probable is that which can undergo change in this Worldly life. The impossible is the existence of associates to Allah, Exalted be He. The imperative is that Allah Almighty knows what He has created the way He created. He knows all that will be involved in this creation: man, plants and inanimate objects till Doomsday. Allah also knows all the changes that will affect His creation. In Allah's Knowledge, all these creatures are unraveled to Him even before their creation. Hence, Justice prevails. Allah did and does know that He would create this creature- man- the way he is. Allah further gave man mind, ability, will and power of choice. Before this, Allah Almighty had shown man what can be of harm and what can be for his best interest. Allah Almighty set the permissible and the impermissible demonstrating that the former is for the best interest of man. At this point, Allah left man act as he wishes in life. He let man choose whatever he likes. All the choices man makes from the moment of his birth are written down and registered in the Preserved Tablet. This is in Islam what is called the belief in fate and destiny. In Islam, nothing in Allah's dominion can happen against Allah's Will. The ability, will and execution of the act of creation are all to be attributed to Allah, The Glorious. The Knowledge of Allah Almighty unraveled that a given man would behave in a certain manner. Thus, Allah Almighty in writing man's fate chooses what this man chooses for himself later. In other words, Allah's Will here hinges upon man's own will. Presume that there was no such thing as "the Preserved Tablet" and that there is only the Book and the Pen! The Pen was the first to be created. Presume that Allah Almighty ordered the Pen to write all that would happen till Doomsday! Thus, what is

recorded in the Preserved Tablet goes in accordance with Allah's Knowledge which encompasses all that can be till Doomsday. It follows that Justice prevails. This is because Allah created for us mind, will, freedom and choice. Allah further showed us what is good and what is evil for us. He also bestowed on us a mind that distinguishes between good and evil. Moreover, Allah Almighty has sent Messengers to assist the mind and show us the way of righteousness and that of evil. Thus, people would have no excuses on the Day of Judgment. Building on all this, the belief in fate and predestination in Islam is based on faith, the Islamic creed, knowledge, monotheism, the science of monotheism, the Attributes of Allah, the human characteristics, man's rights and Allah's due rights. This is one point. Another point is Allah's creation of Adam as he (Adam) is. It is well known that each religion and Revelation came to the Messenger in the language of his people. We know that the Holy Qur'an -the source of Islamic Law and Islamic Teachings- is in Arabic. In Arabic, pronouns always refer to the last noun mentioned before it. Thus, Allah almighty has created Adam in his (Adam's) present image. For a pronoun to refer to any word other than the last one mentioned, this needs a certain evidence to validate- not available in this case as agreed upon by the scholars of Islamic Law and Jurisprudence.

Chairman: Dr. Salami

Sheikh Mohd. Mokhtar Salami:

In the Name of Allah, Most Gracious, Most Merciful. O Allah, may Your Peace and Blessings be upon Prophet Muhammad, our Imam and intercessor. Peace and Blessings of Allah be on all of you. I beseech you listen to me and excuse me beforehand for I am exhausted. I spent all the previous night traveling and arrived at 3.30 A.M. I have attended this session which I hold dear to my heart and had the pleasure of listening to the speakers who enriched the outcome of this most esteemed organization. This session handled three of the greatest issues that occupy the mind of humanity: creation, spirit and predestination. These issues are far from simplicity. They rather represent the questions that have been obsessing man in his life while searching for the Truth. Speaking about the "spirit", the best answer I

can have lies in the Qur'anic verse, "They ask thee concerning the Spirit (of inspiration). Say: "The Spirit (cometh) by command of my Lord: of knowledge it is only a little that is communicated to you, (O men!)" (Al Isra': 85). Considering the beginning and the end of this verse, we would find that it refers to two points. First, the knowledge of spirit is a fact admitted to Allah Almighty. Second, if man attempted to reach the knowledge of spirit, he would never succeed. This is because he can never have the ample information that can lead him to this rank of knowledge. Thus, it is not an impossible task. Yet, man cannot perform it. Man cannot succeed in detonating the atom unless he achieves scientific progress in various fields. The human science lags behind in this issue of spirit. With all the information he acquired, man can never reach the essence of soul, or understand and realize it fully. As for the issue of creation, creation has two meanings. Creation can mean "to cause something to exist". This is an attribute exclusive to Allah, the Glorious. No man and no being can create a thing out of nowhere. Yet, man can interfere with the things Allah already created, for instance to beautify them. For example, the sculptor takes stones or pieces of iron and handles them with his chisel only to produce very beautiful shapes. The fact is that he is not the creator of all that is between his hands. The material as well as his own mind and creativity are not of his own creation, but of Allah's. Nonetheless, when he works and produces a new entity, the western culture describes him as the creative mind and the creator. As for us, Muslims, we do not understand the word create but its first sense "to cause something to exist from nowhere" which is exclusively assigned to Allah. The third issue tackles predestination. The Grand Mufti has explained the two kinds of knowledge involved in this issue. We should know what the concept of knowledge is? Knowledge is not an active deed. It is a mere revelation. Thus, knowing something does not mean that I affected it. So, one of the colleagues claimed that writing man in the Preserved Tablet to be sad or happy contradicts free will. Yet, this is not true because it is not the kind of knowledge that influences events. Allah's Knowledge affects not the universe. Yet, His proportion and Will do. Thus, we should not confuse Proportion, Will and Knowledge: three different ranks. As I said before, I am too

fatigued to expatiate properly on this issue. Thank you and peace be with you.

Chairman: Dr. Al-Bar

Dr. Mohd. Ali Al-Bar:

In a Hadith narrated by Al Bukhari, the Prophet (PBUH) found a man beating another. So, the Prophet said to the former, "Do you hit him and Allah created Adam in his image?". Abu Hajar Al Asqalany commented on this Prophetic Hadith and added to the two hadiths in the way explained by the eminent sheikhs. This is a closed issue. I find it strange that the title of this lecture is "*Genetics and Human Reproduction, its ramification From the perspective of the three Divine Religions*" and I haven't heard what the perspective of the three religions are in this regard. This lecture should have had another title. Still, it is a good lecture. Yet, it has nothing to do with its title.

Chairman: Dr. Ezzeddin

Dr. Ezzeddin Ibrahim:

A question was posed and remained unanswered. Were it not from this, I would not ask to have the floor again. The question as you, chairman, described is a good one. The Bishop here said that we deny that the pronoun refers to Allah and say that it exclusively refers to Adam as Most interpreters hold. Given that can Muslims interfere with the fetus' life? The reason behind this question is that the Christian Theology attributes the sacred nature of man to its resemblance to the Lord. On the other hand, Muslims attribute this sacred nature to a number of other reasons. One reason can be found in the Holy verse, "We have indeed created man in the best of moulds." (Al Tin: 4). Another reason is that Allah has lauded His own creation of man by the following words, "then We developed out of it another creature. So blessed be Allah, the Best to create!" (Al Mu'minin: 14). Being created in the best of moulds by the Best to create, man is not to be encroached upon whether as a fetus or an adult. The latter case needs no explanation, for the good Muslim kills not, Dr. Bruce. As for the fetus, the rule is not to intervene with abortion neither in the first day of its formation nor after 120 days. The intervention within

the first 120 days must be for necessities detailed by Muslim Jurists. Other than that, the rule is not to intervene at all. Some of the Muslim scholars, including Hassan, hold the opinion that it is not permissible to interfere with the fetus life whether in the first or the last days of its creation. Thank you.

Chairman: we should be fair enough to give the speakers the floor.
Dr. Muzaffar Iqbal

Dr. Muzaffar Iqbal: I think, it was probably very unwise to open-up such serious issues so late in the day. Because, I feel we are running into semantic problems now. People are thinking in one language, they are expressing themselves in a second language and many meanings are being confused. I will answer the questions raised about my presentation. But, let me first go back to clarify one thing that the Chair had mentioned soon after as I finished my talk, about the concept of *Haboot*. I don't know, if it was the translation or misunderstanding. I actually said that concept of fall as understood in Christian theology is absent in Islam and I said that, and I quoted the *aayah* that Qur'an simply says 'Go down without carrying any sin, any association with sin' because, before the descent to earth, the supplication of Adam *Alaihissalam* "*Rabbana Zalamna Anfusana Wa Illamtakfirlana Watarhamna Lana Kunanna Minal Khasireen*" had already been answered. Now, this is very new thing to me to say that *Jannah* could have been on earth. This goes against 1400 years of the *tafseer* literature, it goes against of the Hadith that we have about the creation of Adam in *Jannah*. *Jannah* not being on earth and to my mind, it also goes to the second part of *aayah* that I quoted "*Walakum Fil Ardi Mustakarrun Wamata'un Ilaheen*" if they are already on earth, it makes absolutely no sense to say "*Walakum Fil Ardi Mustakarrun Wamata'un Ilaheen*". So, I am very intrigued by your interpretation, perhaps, that is to allow some degree of evolution, something like that. I am very intrigued by your interpretation of the concept of *Haboot*.

Second, very strange semantic interpretation that I heard was again, perhaps, to do with the translated version, and I am not blaming you translators, because you are trying to do your best in technical terminology. The word '*Fitra*' you created with value, if that

is true, that is again a strange interpretation, because the word 'Fitra' is an Arabic, and word 'value' is an English. The Arabic 'Fitra' comes from the root, as you know 'fa, tha, ra' and there is absolutely no connection anywhere in the root meaning of 'fa, tha, ra' with the English word 'value'.

Again to remain on the point of semantic, I think, when the translators translated the Arabic word 'Nafs', in the Hadith in your lecture, and Ted Peters understood as killing a soul. Again, the translation didn't come through correctly. Because, what you are saying, I have nothing with killing the soul itself. 'Nafs', in the Hadith in this particular situation was referring to a person, to human being, not to the soul. Now, let me go back to the essential questions raised about my presentation. I think, today was the devoted one. I congratulate the organizers to devote the first day to create the framework, in which the genetic aspects of the human person could be understood, could be explored. This is where all sessions of the day have concentrated. What is the concept of human beings themselves and it is, in this connection, the theory of evolution plays a very important role. And, it's not on agenda, per say, but because today's session is dealing with creating that frame-work of understanding what can be done with the human person and unless we have an understanding of the human person, we cannot go further. Theory of evolution provides one of the perspectives on the human person. And, to answer both of your questions about Islamic responses on evolution, there is a very good survey done by 'Ziyadat Adal' published in 1986. The title of the book is "*Western Science in the Arab World - The impact of Darwinism*". I am sure it's available outside and there are 10 pages devoted to Islamic, I said about Muslim reaction to the theory of evolution, right from the beginning up to now. I also mentioned there are at least 23 other sources, there is at least one excellent book published in London by Sheikh Abdul Mabud "*Islamic Perspectives on Theory of Evolution*". So, it is a very short but excellent book. There are lots of other references that you will find in the paper, which I am sure you will get it from outside, the photocopies are available. But the things, which have been said in

response to evolution, also carry a political weight. And, this is something that Adal's book does not bring out. There are few things floating on the web as well, which do point out that the political weightage of the theory of evolution arrived in the Muslim world when most of the Muslim world was under colonial rule. And, when the science came, people translated the words from English. So, the political element has to be understood within the perception of theory of evolution in the Muslim world.

Chairman: Thank you! Dr. Refai

Dr. Abdul Rahman Al-Refai:

The Prophetic Hadith says that Allah has created Adam in (his) image. This is an authentic Hadith narrated to be said by the Prophet (PBUH) and is enlisted in the authenticated books of Hadith. The Hadith scholars explained this hadith in two ways. A team agrees with the opinion of the Grand Mufti that Allah created Adam in his (Adam's) image. They added that by this text uttered by the Prophet (PBUH), Allah denies the proposition that man developed out of one isolated cell like fungal, bacterial, or unicellular cells into a whole human being. This is Darwinism that presumes that the origin of man to be a cell or a moss. Then, he changed in shape till he took the shape of a human being. Seemingly, this Darwinian theory builds on an old idea. Therefore, the Hadith scholars said that this Hadith at hand denies the idea that man developed out of a monocellular being into a human being. They rather said that man was created by Allah as a whole human being from the beginning. That is why the Angels prostrated to man and Allah taught him the names of all things. Another team of scholars held the opinion that the image here can be taken as figurative speech as the case is in some religious texts like the verses:

"The Hand of Allah is over their hands" (Al Fath: 10)

"But will abide (forever) the Face of thy Lord- full of Majesty, Bounty and Honour." (Al Rahman: 27)

"It is He Who is God in heaven and God on earth; and He is Full of Wisdom and Knowledge." (Al Zukhruf: 84)

This team says that man was indeed created in the image of Allah; for man has the attributes of power, love, and compassion. Man even enjoys the attributes of creation. Man creates "...out of clay, as it were, the figure of a bird..." (Al Ma'idah: 110). Man makes figures, takes actions, wills, moves and chooses. All these are characteristics attributed to Allah, Exalted be He. Such attributes were studied by philosophers and people of Monotheism in their sciences. All the same, there is a great difference between the Attribute and Names of Allah Almighty which are absolute and unconditioned and those attributed to man. Man's power, will and all traits attributed to him are within the limits of his ability. Even his knowledge is limited by his ability. Thus, there is a great difference between the same trait when attributed to the creator and when attributed to the creature. To Allah, the Glorious, belong the Most Beautiful Names. Thank you.

Chairman: Sorry for this lengthy session. The session should have ended 30 minutes ago but we did begin 30 minutes late. Thank you and peace be with you.

**Topic II:
Genetics, Reproductive
Technologies and The Family**

**Fourth Session
Tuesday, 7 February 2006**

**Philosophy of Genetic and Human
Reproductive Technology - Islamic,
Christian and Secular Perspectives**

**Chairman : Dr. Abdul Rahman A. Al-Awadi
Rapporteur : Dr. Ali Yousuf Al-Saif**

Speakers:

- 1 - Dr. Lisa Lehmann*
- 2 - Dr. Mounir A.M.S. Farag*
- 3 - Dr. Sheikh Mohd. Mokhtar Al-Salami*

**PRE-IMPLANTATION
GENETIC DIAGNOSIS (PGD)**

Dr. Lisa Lehmann,
U.S.A.

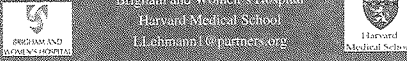
Pre-implantation Genetic Diagnosis (PGD)

Dr. Lisa Lehmann

U.S.A.

Pre-implantation Genetic Diagnosis (PGD)

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Overview

- ◆ Definition
- ◆ Motivation for PGD
- ◆ Conceptual categories of argument
- ◆ Use of PGD for medical reasons
- ◆ Sex selection for non-medical reasons
 - Moral permissibility of sex selection
 - Societal regulation of practice to prevent systematic social policy

Definition of PGD

- ◆ Creation of an embryo by in vitro fertilization (IVF)
- ◆ Removal of one or more cells from embryo
- ◆ Genetic testing of cells
- ◆ Selection of unaffected embryos for implantation in a woman's womb
- ◆ Discarding of affected embryos

Motivation for PGD

- ◆ Assists infertile couples with pregnancy
- ◆ Allows high risk couples the opportunity to eliminate or reduce the risk of a genetic disorder in a future child
- ◆ Avoids dilemmas of prenatal diagnosis encountered by high risk couples
 - Pregnancy termination

Conceptual Categories of Argument

- ◆ The status of the embryo
- ◆ The act of implementing PGD
 - Sorting of embryos
- ◆ Consequences of PGD

Perspectives on the Status of the Embryo

- ◆ Judaism
 - An embryo before 40 days is "mere water"
 - Distinguish an embryo inside and outside of a womb
- ◆ Catholicism
 - Life begins at conception
- ◆ Islam
 - Human life begins with ensoulment at 120 or 40 days
- ◆ Secular
 - Embryo is a ball of cells with potential life
 - May be used to help advance science and cure disease

Ethics of Implementing PGD

- ◆ **Sorting embryos**
 - Is it morally permissible to sort and reject embryos that have anomalies?
 - Response depends on the moral status of the embryo
 - If it is not morally permissible to reject a defective embryo does this imply that we are obligated to harm ourselves and others by creating children with severe disabilities?

Ethics of Embryo Sorting

- ◆ Can the act of sorting and rejecting embryos be reconciled with a physician's ethos of healing?
 - Prevention of disease and disability
- ◆ Should there be restrictions on the types of cases in which sorting is permissible?
 - Only in severe disability
 - Avoidance of selecting for positive traits (eugenics)
 - Difficulty of drawing the line

The Consequences of PGD

- ◆ **Concerning possible consequences**
 - Increased stigmatization and/or discrimination of the disabled
 - Use of PGD for gender selection
 - The slippery slope
 - PGD as a stepping stone to positive eugenics
- ◆ Consequences are negative based on moral criteria of a violation of principle of equality
- ◆ Are these good reasons to prohibit PGD?

PGD & the Disabled

- ◆ PGD does not imply that the disabled have lower moral status
- ◆ Unclear if use of PGD would lead to a worsening of their social situation
- ◆ PGD may offend their self esteem
- ◆ Societal attention to the conditions necessary for enhanced self respect
- ◆ Given potential benefits to future persons these are not compelling reasons to prohibit the use of PGD

Generally Accepted Uses of PGD

- ◆ **Severity and likelihood of future disease that PGD is intended to prevent**
 - Families at risk for genetic disorders that cause life threatening, incurable disease in infants
 - Avoidance of sex linked diseases
 - Women of advanced age who prefer to select out embryos with chromosomal abnormalities instead of terminating a pregnancy
- ◆ Justification based on best interests of child & physicians' duty to treat disease

Questionable Medical Uses of PGD

- ◆ To avoid a risk of late onset disease
- ◆ To select out a predisposition to future disease
- ◆ To avoid or select for life compatible genetic handicaps (e.g. deafness)
- ◆ General screening by couples without any increased risk to ensure a healthy baby
- ◆ Creation of a transplant match for a sibling

Non Medical Uses of PGD

- ◆ To select for sex
- ◆ Enhancement of traits
- ◆ Selection of non-pathological behavioral characteristics

Gender Selection for Non Medical Reasons

- ◆ Family balancing
- ◆ Socioeconomic
 - Family assistance
 - Avoidance of dowries
- ◆ Socio-religious

Religious & Social Reasons for Sex Selection

Orthodox Jewish couple with male infertility. The husband was a Kohen, a patrilineal status that designates membership in the priestly class and passes from father to son. Rabbi permitted artificial insemination by donor and selection of female embryos in order to spare the parents the social embarrassment that would ensue from having a son that was not a Kohen.

Folk Methods of Selecting Gender

- ◆ Diet
- ◆ Timing of sexual intercourse
- ◆ Sexual position
- ◆ None of these effective
- ◆ None questioned as unethical
 - Because not effective
 - Because they do not require medical assistance
 - Because perceived as natural
 - Unwilling to interfere with parents' reproductive freedom

Spectrum of Ethical Positions on Sex Selection

- 1 Sex selection only justified to prevent sex-linked diseases
 - Intrinsically wrong to select sex for non medical reasons
- 2 If IVF is being done for medical reasons is it permissible to choose embryo gender
- 3 Sex selection for non medical reasons is ethically permissible

Critique of Positions

- ◆ Arguments about the intrinsic wrongness of sex selection are not compelling
 - ? Slippery slope, erroneous perception of genome manipulation
- ◆ Inconsistent to claim that sex selection should only be allowed where IVF already being used
 - Falsely implies that the risk of IVF and PGD is the reason for prohibiting sex selection

Theoretical Risks of Non Medical Sex Selection

- ◆ Risk to future child of IVF
- ◆ Risk to mother associated with IVF
- ◆ Risk to society
 - Demographic imbalance
 - Prevalence of female abortion and infanticide to guarantee male children in China and India

Is There Really a Risk to Society?

- ◆ Historians have documented that gender imbalance usually corrects itself over time
 - *Man's Crumbling and Fall Second, The Economist, 1961*
- ◆ Preference for males over females is only a problem in a few countries
 - Western countries actually prefer a balanced family
- ◆ Recent data on India- Lancet January 2006
 - Selective abortion of millions of female fetuses since the advent of prenatal ultrasound

Possible Objections to Non Medical Sex Selection

- Challenges traditional concept of reproduction
 - General reluctance in society of playing God
- Unacceptable to create & destroy embryos not selected
- Anxiety regarding demographic balance
 - Implies objective superiority of selected sex
- Slippery slope
 - It will lead to genetic engineering
 - Does not involve manipulation of the genome
 - No relation to eugenics

Distinguishing Features of Sex Selection

- ◆ Does not raise fundamental questions about the nature of reproduction (unlike cloning)
- ◆ Does not challenge traditional conceptions of parenthood and family
- ◆ Does not involve manipulation of the genome

Justification of Permissibility of Sex Selection

- ◆ Refutation of opposition to practice
- ◆ Positive Justification based on personal autonomy
 - May be benefits to families to have gender balance
 - Gender preference is understood as legitimate in cases of adoption
- ◆ Distinguish personal preference from systematic social norm or policy

Reproductive Autonomy

- ◆ Women should decide if, when, and how many children to have
 - Women have a moral right to decide autonomously
- ◆ Negative right
 - Right to non-violation and non-interference

Social Policy Concerns

- ◆ Distorted gender ratio in some societies
- ◆ Resource allocation
- ◆ Cost effectiveness
- ◆ Equitable access to PGD
- ◆ Negative impact of PGD on status of handicapped in society
 - Erroneous perception that all genetic disorders are preventable
 - Furthers eugenic attitudes

Conclusions

- ◆ Moral status of embryo central to permissibility of PGD
- ◆ Evaluation of consequences of PGD
- ◆ Medically acceptable and questionable uses
- ◆ Non medical reasons for PGD
- ◆ Moral permissibility of sex selection
 - Societal regulation of practice to prevent systematic social norm

**ETHICAL PROBLEMS OF PRENATAL
AND PRE-IMPLANTATION
GENETIC DIAGNOSIS**

Dr. Mounir A.M.S. Farag,

Egypt

Ethical Problems of Prenatal and Pre-Implantation Genetic Diagnosis

Dr. Mounir A.M.S. Farag

Egypt

INTRODUCION

The ever-expanding knowledge of intrauterine life and the development of instruments granting access to it make it possible nowadays to diagnose prenatal life, thus opening the way for ever more timely and effective therapeutic interventions.

Prenatal diagnosis reflects the moral goodness of every diagnostic intervention. At the same time, however, it presents its own ethical problems, connected with the diagnostic risk and the purpose of its being requested and practiced.

From an ethical point of view, prenatal genetic diagnosis (PNGD) and pre-implantation genetic diagnosis (PIGD) are situated in a very confliction, debate and even opposition.

In fact, PNGD is permanently stressed between respect for (genetically damaged) human beings and the tyranny of normalcy. In the real world, there is an unavoidable ethical connection between PNGD and PIGD on one side, and, on the other, the alternative between acceptance and elimination of the victims of genetic disease. PNGD is, therefore, dangerously related to eugenics, frequently masked under the disguise of reproductive confidence.

[I] Prenatal and Pre-Implantation Genetic Diagnostic Tools:

Prenatal diagnosis is as old as obstetrics and having babies. Prenatal diagnosis has had a special role to play in the ongoing evaluation and management of pregnancy and the fetus.

Over the last 20 to 25 years, there has been an explosion in technology which now allows for the application of testing for the evaluation of different genetic abnormalities. At least 20 different

chromosome anomalies can now be identified and 700 to 1000 different biochemical or molecular conditions with a genetic basis can also be evaluated.

Historically, then, prenatal diagnosis has had as its major emphasis the diagnosis or assessment of conditions which by way of such diagnosis and assessment would assist the physician in helping the fetus to a more normal and healthy life. Such an objective has carried with it an objective moral good for which the ethical physician responded by seeing such diagnosis as not only a duty but a very special responsibility.

Unfortunately, the stated objective of prenatal diagnosis in the 1990s is "to offer the widest range of informed choice to couples at risk of having children with an abnormality, and to allow such couples the opportunity to achieve a healthy family by avoiding the birth of affected children through selected abortion"⁽¹⁾.

It is proclaimed that such information "should provide accurate genetic information yet dictate no particular course of action"⁽²⁾, a form of non-directional or non judgmental counselling. Despite the difficulties of being truly objective, one should attempt to provide information and then support the couple's decision⁽³⁾. Such non-directive counseling, it should be pointed out, is an aberration in medicine since patients come to the physician not only for an evaluation and diagnosis but also for the physician's informed and experienced counsel with regard to the appropriate remedy.

I'll try briefly to present those tools which are currently being used for the prenatal and preimplantation evaluation of genetic abnormalities. Using of ultrasound, amniocentesis, chorionic villous sampling, the evaluation of serum markers such as alpha-fetoprotein, the Triple

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- (1) **PENKETHR.**, The scope of preimplantation diagnosis, in **EDWARDS R.G.**, Preconception and preimplantation diagnosis of human genetic disease, **Cambridge: University Press**,1993:82.
 - (2) **SIMPSON J.I.**, Genetic counseling and prenatal diagnosis, in **GABBE S.G. NIEBYL J.R., SIMPSON J.L.**, *Obstetrics: normal and problem pregnancies*, New York: Churchill Livingstone, 1991:277.
 - (3) **SIMPSON**, Genetic counselling...p.277

Test, percutaneous umbilical blood sampling (PUBS), along with fetal skin biopsy and the preimplantation diagnosis of genetic disease.

A) Ultrasound

Can be used for fetal abnormalities, echocardiography of the fetal heart, and blood flow within the uterine and fetal-placental units.

B) AMNIOCENTESIS

Can be used for the diagnosis of trisomy 13,18 and 21, Turner's syndrome indications" for and triploidy.

The list of the accepted medical indications for genetic diagnosis:⁽¹⁾"

- 1 - *Advanced Maternal Age.*
- 2 - *Previous Child with Chromosomal Abnormality*
- 3 - *Parental Chromosomal Rearrangements*
- 4 - *Increased Risk of Aneuploidy.*
- 5 - *Prenatal Diagnosis of Mendelian Disorders*
- 6 - *Inborn Errors of Metabolism*
- 7 - *Others*

C) THE TRIPLE TEST

Can be used for Down Syndrome with age combination. Both MSAFP and HCG increase in Down syndrome while Estriol decreases. False positive rates range from 3.8 to 7.2%⁽²⁾

(1) **SIMPSON**, Genetic counselling..., p.277.

(2) **CHARD T.**, Macintosh M.C.M., Screening for Down syndrome. Perinate Med 1995,23:d, after ultrasound assessment, 2.8%.

Table I. The results of a meta-analysis of prospective studies for the triple test screening for Down syndrome

	Number	Percent
Pregnancies	57.676	100.0
Number of Down Syndrome	103 (1:555)	0.18
Down syndrome Detected	67 (1:862)	65.0
Initial False Positive	3.638	6.3
False Positive after Ultrasound	2.347	4.1
False Positive: True Positive Ratio	54.3:1	98.2
After Ultrasound	35.0:1	97.2

N.B These data reveal that for every positive result in which a Down syndrome fetus is present, there are 54 normal fetuses with a false positive result (98.2%). If one takes into account an adjustment based on ultrasound findings, there will be one Down syndrome affected fetus every 35 otherwise unaffected fetuses with false positive results (97.2%). In other words, a positive result carries with it only a 1.8% actual incidence of Down syndrome, and after ultrasound assessment 2.8%.

N.B. A recent study of 69 IVF pregnancies revealed that 21 (30.4%) screened positive for Down syndrome, four (5.8%) for neural tube defects and three (4.3%) for both conditions. However, at birth, none of the infants had a neural tube defect or Down syndrome. (*FRISHMAN G.N et al. Serum triple marker screening 1997, 90: 98-101*)

D) CHORIONIC VILLUS SAMPLING

Chorionic Villous Sampling (CVS) allows for prenatal genetic diagnosis. CVS is used for chromosomal status, enzyme levels, DNA patterns, etc. CVS is less reliable than amniocentesis. (See Table II)

Table II. Chorionic villus sampling, recently published risks of spontaneous abortion

Author	Year	Number CVS	N	Spontaneous abortion %
Borrel A. et al	1996	335	11	3.28
Sundberg K.et al	1996	579	27	4.66
Yang Y.H. et al	1996	750	18	2.40
Cederholm M.et al	1997	174	3	1.72
Brambati B. et al	1998	10.000	258	2.85
Total		11.838	317	2.68

E) FETAL SKIN BIOPSY

This particular technique is quite rare and thus the loss rate due to Fetal skin biopsy is not known although it does seem reasonable to consider it in the same range as fetoscopy (2.5% to 6%) - {*EDWARDS R.G. Preconception and pre implantation diagnosis of Human genetic diseases, Cambridge Press, 1993*}

F) PRE IMPLANTATION DIAGNOSIS

Here genetic diagnosis is being applied to embryos prior to the time of Implantation. Those who might "benefit" from preimplantation diagnosis are identified as the following:

- Women Who are Already Sterilized
- Women with a Moral Objection to Termination of Pregnancy.
- Women Who are Infertile and at Risk
- Genetic Disaster Families.

The methods that are available to achieve diagnosis with PGD include the following:

- Embryological Methods
- DNA Techniques
- Chromosome Analysis

[III] Ethical and Moral Considerations:

Over the last 35 years, we have moved, in prenatal diagnosis, from making a diagnosis for the purposes of assisting the patient (in this case the fetus), to making a diagnosis so that the patient can be eliminated. This shift has already taken place and to a great extent, has taken a strong hold in medical practice.

For this we have to highlight the following issues:

- 1 - It should be pointed out that diagnostic information, of and by itself, is not morally corrupt although the means by which it is accomplished must be carefully evaluated and questioned from medical perspective. Any technique that carries with it a direct intervention in the life of the embryo cannot be considered to be morally acceptable.
- 2 - Even those techniques which carry with them a risk of an embryocidal outcome must be carefully evaluated from a medical perspective to see whether or not they are at all justified.
- 3 - Invasive procedures which jeopardize the embryo and fetus are medically unnecessary within the context of a medical practice in which the physician and the patient do not wish abortion.
- 4 - There are few select cases in which having adequate advance knowledge of a particular condition will be helpful in guiding appropriate management at the child's birth. In those circumstances, with very careful technique and application of the principles of procedure so as to lower the risks to the lowest possible, such intervention could be considered justified.
- 5 - However, in a case such as the "Triple Test" where 54 to 55 positive results are false, amniocentesis, with its minimum 1% fetal loss rate cannot be medically or ethically justified.
- 6 - It should also be noted that prenatal diagnosis can be used to assist the embryo and in such cases, depending upon its effectiveness and associated risk factors, can very much be of assistance.
- 7 - These techniques are rarely used for the diagnosis and subsequent treatment of the fetus (a clear moral good). They are being used for recommended destruction of the embryo or the fetus. This

approach has had a profound and destructive impact on the practice of medicine. It clearly devalues the respect and sacredness of human life that was the foundation of medical practice for so many years. Truly Catholic institutions, with their programs of assistance and their witness, will offer some hope for this trend to be reversed.

[III] THE MEDICAL ETHICAL MEANING of PNGD

When doctors proclaim, at the time of being admitted as members of the medical profession, the Geneva Declaration of the World Medical Association as their pledge, they promise that they will not permit that considerations of age, disease or disability intervene between their duty and their patients.⁽¹⁾

As the **Charter** for Health Care Workers of the Pontifical Council for Pastoral Assistance to Health Care Workers⁽²⁾ summarizes with unusual precision and concern the objectives for which prenatal diagnosis is requested and practiced should always be for the benefit of the child and the mother; their purpose is to make possible therapeutic interventions, to bring assurance and peace to pregnant women who are tormented by doubts about fetal deformations and tempted to have an abortion, and to prepare, if the prognosis is an unhappy one, for the welcome of a handicapped child.

PNGD can bring a message of reassurance and can help parents to prepare themselves for the care of those weak among their progeny, or to accept its premature loss. **PNGD** can urge doctors to fulfill the professional and humane tasks of curing or alleviating genetic anomalies, to search for new and humane ways of preventing them, and to investigate their pathogenesis and mechanisms. **PNGD** is bound to contribute to the creation of a just and truly compassionate society,

(1) WORLD MEDICAL ASSOCIATION, Declaration of Geneva, Handbook of Declaration S.I.: The Association 1995 (promanuscripto).

(2) PONTIFICAL COUNCIL FOR PASTORAL ASSISTANCE TO HEALTH CARE WORKERS, charter for Health Care Workers, Vatican City: Pontifical Council for Pastoral Assistance to Health Care Workers, 19

not only free of discrimination against the weak, but compassionate and concerned for their care.

PNGD is being frequently used as the trapdoor of their elimination as unwelcome and too expensive people. In fact, eugenic mentality is becoming the undisputed and official orthodoxy among human geneticists. The principle opposition of many Christians to eugenic abortion is being denounced in scientific circles as paradoxical and contrary to the current opinion.⁽¹⁾

The **United Nations Declaration** on the *Rights of the Mentally Retarded Persons*⁽²⁾ could be the point of reference for such sister Declaration on the rights of genetically defective people.

New human right: the right of genetically defective people to be respected as such that is, the right to be wrong, to be blemished with physical or mental handicap, and to be respected despite that and because of that.⁽³⁾

THE ETHICAL CONFRONTATION AROUND PNGD AND PIGD

We want to offer a brief consideration of some of the main dimensions of the ethical professional debate around PNGD and PIGD. The medical indications for genetic diagnosis and its use in the clinical setting are determined by the consideration given to some societal and ethical issues and, above all, the value invested on the human value of genetic handicap.

The topics to be considered are the confrontation between:

1 - *Quality vs. Sacredness of life*

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- (1) HANDYSIDE A.H., DELHANTYJ.D.A. Preimplantation genetic diagnosis: strategies and surprises, Trends Genet 1997,13:270-275
 - (2) UNITED NATIONS, GENERAL ASSEMBLY, Declaration on the rights of mentally retarded persons (1971), in Reich W.T. (Ed) Encyclopedia of Bioethics, New York: Simon & Schuster Macmillan, 1995:2619
 - (3) Cf. HERRANZ G., En que' consiste el respeto al patrimonio gene'tico, in ASSOCIATION MONDIALE DES AMIS DE L'ENFANCE, L'enfant au risque de la science, Monaco: AMADE, 1989

- 2 - *Acceptance vs. Termination of handicapped life(the economic burden)*
- 3 - *Concerned vs. Carefree happiness (the familial and medical framework)*
- 4 - *Genetic diagnosis: (medical service vs. Eugenic consumerism)*

[IV] THE SPECIAL ETHICAL FEATURES RAISED BY GENETIC TESTS

Number of factors inherent in genetics that should heighten our sensitivity to the human values involved. Murray and Borkin⁽¹⁾ mention seven factors.

- 1 - First factor: Genetics is likely to give us the ability to predict diseases long before it will allow us to prevent, treat, or cure them, that is, *prophecy precedes cure*.
- 2 - Second factor: *ambiguities in the concept of genetic disease*.
- 3 - Third factor: The risk is a sort of *morbidity involved in genetic testing*.
- 4 - Fourth factor: The *emphasis on genetic differences* forms the basis for stigmatizing certain persons and groups among the population.
- 5 - Fifth factor: The influence of genetics on personal identity
- 6 - Sixth factor: Genetic information is also information about others.
- 7 - Seventh factor: One must recognize that the *greatest burden of genetic screening is often borne by women*.
- 8 - In addition we have to consider that: The right to know and the right not to know.⁽²⁾ So genetic counseling must be an integral part of genetic testing.

(1) MURRAY, BOTKIN, Genetic Testing...,P.1005ss.

(2) The matter was recently dealt with in the volume we have already cited, in which different aspect (philosophical, juridical, sociological) that ground these rights are considered. We refer to this work because of some considerations that follow (cfr. HADWICK,SHICKLE (eds.) The Right to know and the Right not to know...)

[V] Experiences

It is clear that the predominant attitude within medicine has quickly developed, in an abortion environment, to presume that this information will lead to the decision by the woman to abort the child if the baby turns out abnormal.

Many women who have told their physicians that they would not consent to such prenatal diagnosis because of such reasons and their physicians have had significant emotional outbursts of anger towards the patient.

What is often not considered by health care providers is the psychological and spiritual benefit that comes with a mother and a father reaching out of themselves toward a child who is genetically impaired. In our counseling work as doctors often we had the opportunity to work with a number of such patients and in every case with both the mother and father have, on their own accord, indicated that they have been enriched by this experience. This enrichment is emotional and psychological as well as spiritual.

Often, it helps to bound spouses together especially if this occurs within the context of a supportive environment first within physicians' office then from friends and community.

In our St. Joseph Institute counseling experience, every child is conceived for a particular reason and purpose. If this child is conceived with a significant chromosomal abnormality which is fatal upon birth or before birth, for example, then it is the role of that baby to extract from its parents and those around them the love, concern and prayer that only a human being, falling into the grips of such a mishap, can extract. Those parents who refuse to accept such precious life, are exposing themselves to psychological regret and emotional and spiritual restlessness.

CONCLUSION

The Beginning of life and birth: New Human Individual

From the moment the ovum is fertilized, a life is begun which is

neither that of the father nor of the mother; it is rather, the life of a new human being with its own growth. It would never be made human if it were not human already...Right from fertilization the adventure of a new life begins, and each of its capacities requires time, "a rather lengthy time" to find its place and to be in a position to act.⁽¹⁾

Prenatal Diagnosis: Evaluation of the risk factors

The risk factor concerns the life and physical integrity of the embryo, and only partly of the mother, in relation to the various diagnostic techniques and the percentages for risk which each presents.

Hence there is need "to evaluate carefully the possible negative consequences which the necessary use of a particular investigative technique can have" and "avoid recourse to diagnostic procedures for which the honest purpose and substantial harmlessness cannot be sufficiently guaranteed." And if a certain amount of risk must be taken, recourse to diagnosis should have reasonable indications, to be ascertained at a diagnostic center."⁽²⁾

Licit diagnosis: proportionate risk

Consequently, "such diagnosis is licit if the methods used, with the consent of the parents who have been adequately instructed, safeguard the life and integrity of the embryo and its mother and do not subject them to disproportionate risks."⁽³⁾

Diagnosis contrary to the moral law

The *objectives* for which prenatal diagnosis is requested and

(1) CONG Doct Faith, Declaration on procured abortion, June 18, 1974, in ASS 66 (1974) 738.

(2) Cf. John Paul II, To the participants at a Congress of Movimento per la Vita, Dec.4,1982, in Insegnamenti,v/3, p.1512, n.4.

(3) Cong Doct Faith, Instruct.Donum Vitae, feb.22,1987,in ASS80 (1988) 79-80.With regard to the diagnostic techniques mostly used, which are echography(and amniocentesis), it can be said that the former appears to be risk-free whereas the latter contains elements of risk considered acceptable and therefore proportionate. The same cannot be said for other techniques, such as placentocentesis, fetoscopy and the taking of villous conalus which have more or less high levels of risk

practiced should always be for the benefit of the child and the mother; their purpose is to make possible therapeutic interventions, to bring assurance and peace to pregnant women who are tormented by doubts about fetal deformations and tempted to have an abortion, to prepare, if the prognosis is an unhappy one, for the welcome of a handicapped child.

Connection between Prenatal Diagnosis and Abortion

Prenatal diagnosis "is gravely contrary to the moral law when it contemplates the possibility, depending on the result, of provoking an abortion. A diagnosis revealing the existence of a deformity or a hereditary disease should not be equivalent to a death sentence."⁽¹⁾

Equally illicit is any directive of program of civil and health authorities or of scientific organizations which support a direct connection between prenatal diagnosis and abortion. The specialist who, in carrying out the diagnosis and communicating the result, would voluntarily contribute to the establishing and support of a connection between prenatal diagnosis and abortion would be guilty of illicit collaboration.⁽²⁾

Experimentation on Embryos and Human fetuses

Since the human individual, in the prenatal stage, must be given the dignity of a human person, *research and experimentation on human embryos and fetuses* is subject to the ethical norms valid for the child already born and for every human subject.

Research in particular, that is, the observation of a given phenomenon during pregnancy, can be allowed only when "there is moral

(1) Ibid. "Prenatal diagnosis, which presents no moral objections if carried out in order to identify the medical treatment which may be needed by the child in the womb, all too often becomes an opportunity for proposing and procuring an abortion. This is eugenic abortion, justified in public opinion on the basis of a mentality...which accepts life only under certain conditions and rejects it when it is affected by any limitation, handicap or illness"(EV,14).

(2) Cf. *ibid.*" The embryo, since it should be treated as a person from its conception, should be wholly defended, treated and cured, as far as possible, like all other human beings" (CCC 2274).

certainty that there will be no harm either to the life or the integrity of the expected child and the mother, and on the condition that the parents have given their consent."⁽¹⁾

Therapeutic criteria only

Experimentation, on the other hand, is possible only for clearly therapeutic purpose, when no other possible remedy is available. "No finality, even if in itself noble, such as the foreseeing of a usefulness for science, for other human beings, or for society, can in any way justify experimentation on live human embryos and fetuses, whether viable or not, in the maternal womb or outside of it.

To use human embryos or fetuses as an object instrument of experimentation is a crime against their dignity as human beings. "The practice of keeping human embryos alive, actually or in vitro, for experimental or commercial reasons," is especially and "altogether contrary to human dignity."⁽²⁾

Medical - Ethical problems in PNGD & PIGD

Genetic control through the combination of PNGD with eugenic abortion presents itself to wide circles of society as a beneficent and compassion solution for the pains of the family, the problems of medicine, and the costs to society, induced by genetic anomalies.

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- (1) CongDoctFaith, Instruct. Donum Vitae, in AAS 80 (1988)81-83.
"This Evaluation of the morality of abortion is to be applied also to the recent forms of intervention on human embryos which, although carried out for purposes legitimate in themselves, inevitably involve the killing of that embryos..The use of human embryos or fetuses as an object of experimentation constitutes a crime against their dignity as humman beings that have a right to the same respect owed to a child once born, just as to every person"(EV, 63)
 - (2) Cf. *ibid*, "I condemn in a most explicit and formal way experimental manipulation of the human embryo, because it is a human being; from the moment of its conception until death it can never be instrumentalized for any reason whatsoever"(John Paul II, To the participants at a meeting of the Pontifical Academy of sciences, Oct.25,1982,in AAS75(1983)37).
"Respect for the human being excludes all kinds of experimental manipulation or exploitation of the embryo"(Holy See, Charter on the Rights of the Family,4/b,inOssRom,Oct25,1983).

It's a harm for the family as it changes the relationship between parents and children, because it destroys one of the main sources of human compassion: concern of family members for their extremely weak relatives.

In the measure that genetic selection eliminates the victims of genetic disease, medicine loses the presence of sufferers, one of the main stimuli to research. Following present day eugenic bias, most research efforts in the area of human genetics are concentrated more on the wider application of secondary prevention. The consequence is the development of more and more technology for PNGD and PIGD. Diagnostic prowess is far ahead of therapy and rehabilitation.

A society which allows the elimination of the genetically underprivileged, or encourages a general feeling of low-esteem towards those who survive to PNGD, is a society that does not respect human rights and creates deliberately an oppressed minority group.

Evangelium vitae:

John Paul II qualifies prenatal diagnosis as a complex situation which demands an accurate and systematic moral judgment. The late Pope acknowledges candidly and clearly that PNGD is placed in the strong field of moral and social tensions, where the attitude towards anomalies in the unborn child divides the hearts of humankind. The conditions for the application of prenatal diagnostic techniques are acceptable, says the Encyclical with wisdom and compassion, " when they do not involve disproportionate risks for the child and the mother, and are meant to make possible therapy or even to favor a serene and informed acceptance of the child not yet born". In turn, the ethos of rejection of the genetic handicapped is condemned in reason of its intolerance towards suffering and its tyrannical imposition of the normal: " But since the possibilities of prenatal therapy are today still limited, it not infrequently happens that these techniques are used with an eugenic intention which accepts selective abortion in order to prevent the birth of children affected by various types of anomalies. Such an attitude is shameful and utterly reprehensible, since it presumes to measure the value of a human life only within the parameters of "normality" and physical well-being, thus opening the way to legitimizing infanticide and euthanasia as well"

**REPERCUSSIONS OF HUMAN
ENGINEERING AND REPRODUC-
TION: THE PERSPECTIVE OF THE
THREE REVEALED BOOKS AND
THE SECULAR CONCEPT**

Sheikh Mohd. Mokhtar Al-Salami

Tunisia

Repercussions of Human Engineering and Reproduction: The Perspective of The Three Revealed Books and The Secular Concept

Sheikh Mohd. Mokhtar Al-Salami

Tunisia

It's my pleasure to accept the generous invitation the IOMS extended to me to contribute in this forum which aims at highlighting the ethical aspects in the four pivots defined and best known by the participants and aims at empowering men of religion, in the three Revealed religions, to show the religious view concerning the proposed problems through prudent scientific dialogue void of hot emotions with an eye to attaining the truth, which is one and only. It also aims at giving the secular a chance to unravel their visions and approaches. I do this under the general Qur'anic guidance as regards dialogue. By this I mean that in a dialogue the Muslim should focus on the commonalities between him and the other party so as to achieve the notion of human fraternity on which depends the world development into perfection in all its aspects. Allah Almighty says:

Say: O People of the Book! Come to common terms as between us and you: that we worship none but Allah" (Ali 'Imran: 64)

Al-Razy says: "Come to an approach which every sound mind and straightforward nature testifies that it is based on fairness and rules out argumentativeness. In other words, hurry to the word of fair judgment on us." (Al Tafsir Al Kabeer, vol.7, P. 91)

The first fact:

Defining man's mission in the universe.

In Islam, man is not created to behave like a utilitarian owner of the world. He is created to shoulder the responsibility of constructing the world and developing the good aspects put in it so as to better his life in pursuit of possible perfection.

This goal cannot be fully achieved but through cooperation among

all human beings as well as the scientific research that unravels man's points of strength, his secrets and the laws of creation that fall under perfect controlled regulations. In these laws, there is no room for either coincidence or chaos. Allah Almighty says: "Behold, thy Lord said to the angels: I will create a vicegerent on earth." (Al Baqarah: 30).

In his expatiation of this verse, Sheikh Ibn Ashur says: "Unlike animals, man is the only creature who could - with what Allah bestowed on him- manipulate other creatures on earth in countless magnificent ways." (Al Tahrir wal Tanweer, vol.1, P.399)

Sayyid Qutb says: "This creature (man) has been entrusted with highlighting the Divine Will in innovation, construction, analysis, combining, transformation and change. He has also been entrusted with discovering the powers, energies, treasures and raw materials hidden in this earth and utilizing all of this, with the Will of Allah Almighty, to accomplish the gigantic mission Allah gave him."

Thus, man has been given potentials and preparations equal to all the powers, energies, treasures and material on earth and he was blessed with hidden powers that enable him to achieve Allah's Will.

It follows that there is a conformity and coordination between the laws governing this earth and the whole universe on the one hand, and the laws governing man's powers and energies on the other hand. This is to guarantee that these two types of laws would not collide and to make sure that man's energy would not be smashed against the huge rock of the universe. Allah Almighty says: "He Who has made everything which He has created most Good" (Al Sajdah: 7).

This verse induces senses, mind and heart to contemplate on this creativity in the shapes and functions of everything as well as the creative greatness in each one of them on its own and in the coordination between them when in groups. This is evident in their shapes, statuses, activity and motion. Contemplate the first cell, the planet and the infinite galaxy so as to perceive the precision, extreme consistency and beauty in creation.

Man is not the master of this world. Thus, he doesn't have a free rein to develop and reform the world or sabotage and corrupt Allah's

creation in it and mutilate its beauty. Further, there is no animosity between man and the powers of this world. Neither of them can gain victory over the other. Rather, all the powers are in mans service provided that he knows their non-changing rules. Allah Almighty says:

“It is Allah Who hath created the heavens and the earth and sendeth down rain from the skies, and with it bringeth out fruits wherewith to feed you: it is He Who hath made the ships subject to you, that they may sail through the sea by His Command; and the rivers (also) hath He made subject to you. And He hath made subject to you the sun and the moon, both diligently pursuing their courses: and the Night and the Day hath He (also) made subject to you. And He giveth you of all that ye ask for. But if ye count the favours of Allah, never will ye be able to number them.” (Ibrahim: 32-34)

Laws of creation are reasonable, consistent and harmonious. By this I mean the natural laws in the physical world: inanimate things, plants and animals. This is alongside with the laws governing man’s spiritual, mental, sensual and instinctive aspects as well as the laws of society. Allah says, “No want of proportion wilt thou see in the Creation of (Allah) Most Gracious.” (Al Mulk: 3)

The second fact:

Man’s vice regency in this universe is continuous and related to what Allah bestowed on him: the powers of developing existing things, the inheritance of the past and the preparation for what is coming. This is a non-broken chain. So, the human effort cannot come to a stop and no one generation can accomplish the mission in a point of time, supposing the full utilization of the potentials relevant to man’s vice regency.

According to this, Allah Almighty embedded in man an instinct that enables him to go on in life with virtue of his kind and not individuality. Allah, by this, made it possible for man to overcome the doomed end awaiting each of the human kind: death. Thus, the instinct of survival goes in tandem with the instinct of sex and hence the human reproduction is different from that in animals and plants.

Man projects into the far future and prepares himself with

whatever ensures his needs and more his luxury and assurance. Man also seeks more than whatever he consumes. Getting ready for the future extends to preparing whatever enables his siblings to enjoy a prosperous life. This includes having his siblings educated and assisted in all the phases of their lives. It also comprises passing over the best of his efforts and savings to his children who would inherit this along with lots of physical and mental characteristics.

Since order is the rule and chaos is the corrupting exception that leads to disequilibrium in the individual and social life, Allah regulated the human reproduction on two levels. First, Islam considers the continuity of the human existence in this universe one of the necessities. In other words, species survival is one of the facts that requires no reasoning (Ijtihad). Achieving this end should have priority over any other human choices, if a conflict arises. The second level is that Islam defines one way only to maintain human survival; that is marriage. This means that each of the married couple who give the posterity half their genetic material abides by a certain contract, the consequences of which s/he cannot escape. This contract makes it incumbent on him/her -among many other matters- to shoulder the responsibilities and consequences of reproduction.

Islam confirms that it is the religion of natural disposition (Fitra), for its legislation is harmonious with the human nature. The Islamic Law does not run counter to the human nature or underestimate it. Responding to the calls of nature, the Muslim is considered a normal person. What makes the Muslim even more humane, faithful and straightforward is setting lofty goals for satisfying his desires: thinking of the good his deed can bring to this world. Thus, fulfilling man's desires must go in accordance with the public order regulations which ensures man's conformity with the group within the social bond that elevates or degrades depending on the existence or absence of the members' loyalty to it.

Man, with virtue of Allah's creation of him, has a bond with the elements of this universe. This is referred to in the emphasis reiterated in numerous Qur'anic verses that the physical aspect of man's creation can be traced to the elements of this earth. Allah says, "Behold, thy

Lord said to the angels: I am about to create man from clay” (Sad: 71) The Divine has perfected the stages of these elements development in a way suitable for the human being. Allah Almighty says: “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” (Al Muminun: 12-13)

Food undergoes a lot of changes throughout the scientific journey of unraveling many of its secrets. Foods are the development of the elements of dust and water (mud) in plants, animals and the body of human beings described in the Qur’an as “a quintessence (of clay)”

Man is not the total of different chemical elements in exact amounts. Had he been so, he would have been a trivial being of no value at all. Beside these earthly physical elements, man’s creation has been perfected by another aspect that holds him distinct from all other creatures, to wit, the spiritual aspect. Such an aspect includes the instinctive behaviour and deploying the senses in communicating with the world. Pondering on both the above mentioned levels, the mind reaches two judgments. First, the instinctive disposition is true or false and whatever is perceived by the senses is correct or incorrect. Second, the value that all this pertains to good or evil; and integrity or corruption.

In all the above stages, Islam lays emphasis on man’s freedom and responsibility for free choices. The lofty dimension of this responsibility is that it is not confined to this life but transcends it to the Hereafter. By this I mean the metaphysical aspect of which no human talents, instinct, senses and mind, can form a detailed vision. To date, the metaphysical does not go counter to reason. Thus, man’s journey of knowledge and influence continues in harmony beginning with the call of desire. The most influential desire in man’s life is the instinct of having the power of faith that prevents his confusion, denial or puzzlement as for the unknown as a result of his inability to understand it. Denial is never a proof on the absence of the metaphysical aspect the presence of which is felt by all human beings.

This introduction is considered to be a basis for understanding the second pivot and suggesting solutions for its problems. The second pivot is genes, reproductive technology and family. For me, the so-

called reproduction is working on the human kind survival described by the Islamic Fundamentals scholars as keeping the posterity. Human kind survival is one of the five necessities specified by Islam. Many of the Muslim scholars maintain that keeping the posterity is like the other necessities agreed upon unanimously by all religions.

Keeping posterity is achieved through providing it with whatever guarantees its existence and protecting it from any potential jeopardy that can put an end to it. The first is represented in calling upon man to get married and holding marriage as an element that perfects his humane aspect. Further, this does not contradict with the difficult and sophisticated missions entrusted to some of the distinguished human beings. Allah Almighty says: "We did send messengers before thee, and appointed for them wives and children" (Al Ra'd: 38).

Muslim narrated that Abu Dharr reported that the Prophet SAW said: Having a sexual intercourse with your wife is an act of charity. They said, "O Messenger of Allah! The one amongst us satisfies ones (sexual) desire and is (further) rewarded? He (Messenger of Allah) said What do you think if he satisfied it illicitly, would he be punished? Similarly, doing it in a permissible way entails rewarding him (Ikmal Al-Ikmal: vol.3,P.145).

Keeping posterity is also maintained through obliging the parents to tend to the welfare of their children till they come off age and have their physical and mental talents perfected. Only then, they can be independent and make their own way in life.

Islam also makes it incumbent on parents to pay attention to bringing up their children. Allah Almighty says: "and say: My Lord! Bestow on them Thy Mercy even as they cherished me in childhood" (Al Isra: 24).

The civilized experience and storage is passed on from parents to children. This storage and the results of this experience are the indispensable bases on which humanity draws in its way to more perfect aspects of life. This maintains man's trusteeship on earth and his construction of the universe, the most important aspect of life in which man and animals differ. The life of all other animals is but a reiteration of the species characteristics, but man always modifies and

develops life. Thus, generations come and go leaving their indelible imprints to be further developed and expanded by the next ones and so on and so forth.

The second important aspect is that posterity absorbs the lofty noble emotions on which the social life builds. Family raises their children within the frame of these emotions that take various shapes: love, altruism, compassion and cooperation.

Keeping posterity, in Islam, is not a manifestation of man's ability to be the trustees of this earth unless the family embraces its children in a sincere way that conforms to the natural laws and void of all falsity.

The meaning of this sincerity and truthfulness is kept by the Islamic Law through enforcing that the children's parents must be well known and tied with the bond of marriage. On consummating marriage, the wife's egg is united with the husband's sperm in the Fallopian tube and the resultant zygote adheres to the uterus wall. This is the normal and lawful condition of conceiving children where the first cell of the embryo receives 23 chromosomes from the mother and the same number of chromosomes from the father. This way comprises two natural human instincts. The first is the instinct to preserve the private life in the shape of the parents' posterity. The second is the sex instinct with all the emotions and joy it bears. This first cell that undergoes general and later specialized divisions carries a map to each and every function-distinctive cell of the human being. As for the genome passed on from the parents, it is the same in all these cells.

The aspects of breaching the aforementioned normal and lawful way in all ages are numerous. Examples of this are the following:

1- Separating the two instincts stated by Allah Almighty in the Qur'an:

"It is He Who created you from a single person, and made his mate of like nature, in order that he might dwell with her (in love). When they are united, she bears a light burden and carries it about (unnoticed). When she grows heavy, they both pray to Allah their

Lord, (saying): If Thou givest us a goodly child, we vow we shall (ever) be grateful.” (Al Araf: 189)

2- The sex instinct overwhelms the couple and entices them to fulfill their desires. This results in the conception of a zygote (a union of her own egg and a man’s sperm). The man often abandons his own child leaving the responsibility of the child during and after pregnancy to be shouldered by the woman alone. This has negative impact, psychologically and physically, on the resultant child. If the woman is married and conceived this child out of wedlock, the child would then be to a person other than his biological father. Thus, he becomes a member of a family with which genome he has no relation whatsoever. The types of adultery are various and are rejected and prohibited in all the Divine religions. Further, adultery goes counter to the straightforward nature and normal instinct. Allah almighty says in the Holy Qur’an: “Not come nigh to adultery: for it is a shameful (deed) and an evil, opening the road (to other evils)” (Al Isra’: 32).

In his comment on this verse, Sayyid Qutb says: "Adultery involves murder in many ways. It misplaces the essence of life and is always followed by the desire to kill the embryo before or after its birth. Even if the conception of this embryo is brought to term, it would come out to an evil or humiliating life lost in society one way or another. Adultery is murder of the community it spreads in; hence, lost genealogy lines, confused relations, distrust in people’s honor and children. Thus, the disruption of the community bonds that end up with a death-like status.

3- Adoption: this is another aspect of separating the two instincts. When a couple fails to reproduce, but are eager to have a child that brings them the joys of life, breaks the monotony of life and inherits them, they resort to adoption. Thus, they bring a complete stranger and register them as their son. The helpless little child cannot help complying with their will. His age does not give him the right to choose either to accept or reject such procedures. Hence, his life with them is a fake life based on deception. Islam prohibits adoption, Allah says: “...nor has He made your adopted sons your sons. Such is (only)

your (manner of) speech by your mouths. But Allah tells (you) the Truth, and He shows the (right) Way”. (Al Ahzab: 33).

Adultery and adoption are both destructive to the social order. They undermine the family structure and include dark sides of injustice and wrongdoing to the little child.

Understanding the family-based social structure has widely been shaken. This is due to the overwhelming independence disposition enhanced with women’s conquering the labour market on the same footing of man. This can also be traced to the misleading studies that shed light on the dark sides of family life. In his book (Away from the right and the left), Anthony Jeddins says, "the family life in old ages had a well-established dark side. This had many manifestations like children’s physical and sexual abuse and battering of wives." (Arabization by Shawqy Jalal, ‘Alam El Ma’rifa, P. 23)

He further feels the big problem posed by the conflict between the concept of integrity, the pillar of civil life, manifested in family life and that of independence which showered down the sense of bondage as a result of Modernism and its impact on thought and society. He also proposes a vision to the purport that “Some of the ways of achieving such a goal (the balance between individual independence and integrity) are evident to a great extent. Attaining a well-established integrity in a society void of values and traditions depends on what is called the active trust. This activates arouses the sense of individual and social responsibility towards the others. It is noteworthy that the personal trust is not the result of predominant situations or gender, it is rather acquired and implanted. This trust presupposes the existence of independence and not combating it. Such a trust further represents a strong source of social integration, for obedience in this case is voluntary and not imposed by the traditional constraints.

He gives examples of this, “to exemplify, acknowledging the maximum importance of the children’s rights as well as social responsibilities towards them can pave the way to enhance the relation with one’s new kind of kin witnessed nowadays among some parents that shoulder the responsibility of their non-biological children whom they work as partners to raise”. (the same reference).

The bases of family life are depicted to be traditional, irrational and unjustifiable. They are further said to be imposed by force and coercion. They can be dispensed with in favour of convincing people of solidarity, shouldering responsibility and codifying the rights that ensure man's independence and dignity in all the roles he plays. It is also claimed that the family institution is outdated with the advent of modernism and what it brought to mankind. Yet, all these are like sand castles built by children on the shore and uprooted in a second by the tide.

Nature that guides him who contemplates its ways, enables man to distinguish between the true and the fictional. Behold the hens, they throw out any chick other than their own and refuse to care for it. Even cows do not allow any calves other than their own to suckle from them. They only do so when the farmers trick them into doing so. Family union is not based on hegemony and dictatorship, it rather stems from an instinctive sense that reaches its peak and highest level in man. For man feels lost and miserable if separated from family.

Highlighting some of the transgressions of perverted persons, generalizing them and turning a deaf ear to the rejection of religion and society to these encroachments is an unacceptable twisting of the truth.

Treating any ailment cannot be conducted through enacting relevant laws, persuading people and societies of behaving in a certain way. This is the same fault perpetuated by Communism that tried to divert people's natural instincts away from possessiveness, religion and individuality to the extreme opposite. It tried to do so through generalizing such notions in a brainwash process.

The proposed treatment becomes more effective and influential with starting a family. For, in this case, the process of persuasion goes in harmony with man's intact natural disposition. Thus, the world solidarity becomes strongly rooted.

The idea of attacking the notion of the family that relies on the blood relationship among its members and replacing it with the personal trust notion stems from the bestial Liberalism that magnified

the individual independence the way the cancerated cells magnify and multiply to destroy the body.

Marginalizing the role that used to be entrusted to the family and did bear its fruit and substituting it with visions that did not hold the test of time, is very dangerous to the future of humanity. The weakness of the family union was the hotbed of deterioration, vice and violence. This is similar to putting a person in a labyrinth and diverting his attention away from the paved way that surely leads to the set goal.

Family union is the fortress of social solidarity that teaches us the fact unanimously agreed on in the past and nowadays, to wit, man is naturally civilized. Building on this fact, I reached the following intellectual structure:

The results of the scientific progress

A) In- vitro and then in-uterus fertilization

Science has witnessed rapid progress. Therefore, it could overcome various types of infertility. In 1978, an egg was successfully fertilized outside the uterus of a woman suffering from a dysfunction in the Fallopian tube. This egg was then implanted in the uterus leading in the end to the birth of Louise Brown, the first human to start her life outside the uterus and was brought to life -delivered- naturally. This experiment was reiterated more than once afterwards. This technique was applied in labs in various parts of the world and the success rates differ from one lab to another. The ovary is activated and the ova are collected and put in a special liquid. Then, a previously prepared man's sperm is added to them. If, after 40 hours, the fertilized ova were developing naturally, one or more zygotes are to be implanted in the uterus.

This technique was followed by another in which the ovum and the sperm are implanted directly into the Fallopian tube and fertilization takes place in the uterus, rather than out of it.

These human reproduction techniques have to be controlled so as to be acceptable. Such controls are:

- A - Both the sperm and the ovum in the zygote (the fertilized ovum before its division) must be taken from a married couple.
- B - The zygote is to be implanted only if the couple is still married.
- C - To implant the zygote only in the wife's uterus.

These three constraints make some of the medical practices in this regard unacceptable from the perspective of Islam. If a woman, for one reason or another, is infertile and cannot produce a fertilizable ovum, it is impermissible for her to borrow another's woman's ovum to conceive. This is because the ovum carries 23 of the donor's chromosomes. Similarly, if a man is sterile, his wife cannot use another man's sperm to conceive. In these two cases, the genealogy gets mixed as it does in adultery. In the same way, it is not acceptable to search for a surrogate mother to implant the zygote in her womb for any reason. This is because a psychological bond grows between the pregnant woman and the fetus growing within her. This bond creates psychological problems to the woman when forced to be separated from the baby she has been carrying and feeding from her own blood throughout her pregnancy, the baby that has been interacting with the health and psychological conditions she experienced during pregnancy. Even if this surrogate mother holds on to the baby, it is not her biological baby and has no bond whatsoever to her genome. As for the condition that the implantation must not take place but within the wedlock, this has a good reason. If marriage is put to an end through divorce, this means the end of all the relations between them. This definitely includes her conception of an embryo, half of whose chromosomes come from the husband. Add to this the consequent problems that erupt on the husband's death and the distribution of his inheritance.

One of the problems of this technique is activating the ovary so as to secrete as much ova as possible and fertilizing it. Then, these ova must be taken care of to grow through unfertilized and then natural division. It also entails keeping some other ova through cryo-preservation to be available for future utilization without repeating the steps already taken at the first time.

Storing excess zygotes involves the jeopardy of mixing them up despite the efforts exerted to avoid such a risk. These zygotes double

in number with the passage of time and those handling them change, which increases the possibility of making mistakes. The French newspaper (La Figaro) reported that the ratio of error in England is 10%. This is despite the strict precautions and high caliber of those in charge of this technology in England. Therefore, I say for sure that keeping the excess eggs is impermissible in Islam. This is due to the condition of having a clear-cut and definitely correct genealogy set by Islam as a necessary prerequisite. This prerequisite does not contradict the facility of re-implanting the zygote in uterus at minimum expenses and shortest time.

b) Cloning:

The beginnings of this technique can be traced back to 1891 when the German scientist and philosopher Hans Driesch noticed -during his experiments on the sea urchin- that if he separated the two cells after the separation of the first fertilized cell, he would have two living embryos, though smaller than the original embryo. Then, his fellow citizen, Hans Spiemen, separated a frog's fertilized cell and got two living identical twins. This area of research moved from the invertebrates to the vertebrates and finally the mammals. In 1993, two American scientists, Jerry Hall and Stell Man applied the cloning technique on humans. They could have 48 identical cells in an incubator outside the uterus. Then, they were freezed and destroyed. In July, 1996, Dolly the sheep was the first clone to be produced in a lab in Scotland. Then, cloning extended to other kinds of animals. In 2002 the Raeliens declared the successful birth of a human being through the cloning technique. This was condemned by the scientific, religious and political circles. Many others questioned the credibility of this declaration and said that it is likely a fake news item released to prepare the public opinion for accepting such news item, if this really happens in the future. Many scientists overruled the possibility of this happening in the future as mere science fiction. They further emphasized that personality features does not have to do with the genome only but also the surrounding environment, upbringing and lifestyle. All this influence man's life. This can find proof in the personalities of two identical twins. This is also evident in the cases of animal cloning

where the clone egg is not identical to the origin, though it bears great resemblance to it.

These are the reproductive techniques experimented so far to treat infertility, along with some other visions. These visions have to do with attempts to prolong man's existence with all his congenital traits and pass man's genome to the enucleated egg fertilized with man's somatic cell to produce an identical clone of the cell donor. Yet, in-vitro or in-uterus fertilization with the aim of treating some of the reproductive problems in man or woman under the aforementioned constraints is not permissible. It is rather desired in pursuit of keeping posterity, making the couple happy and helping them play the role of kind keeping; the aims of the Islamic Law. The interference of this technique in conceiving a child does not have any negative impact on the latter's relation to his biological parents.

However, I think that the second type, cloning, is a sin or an impermissible act that must not be done. Cloning involves a transgression of the creation nature put forward by Allah Almighty. This nature requires the cooperation of the married couple concerning their child in terms of bringing it up, supporting it financially. The parent's degree of caring for the child affects the development of culture and civilization as referred to in the former verse of Al Araf. Moreover, cloning involves a transgression of parenthood. The normal family rules oblige the children to tend to the parents if necessary. Allah Almighty says: "We have enjoined on man kindness to parents" (Al 'Ankabut: 8).

This motif was reiterated in different wording 14 times in the Holy Quran. Cloning deprives the parents, when weak and vulnerable, of this reassurance. Cloning also involves injustice to the child. The appearance of the clone child was manipulated by the parents as if it were one of their possessions: jewelry, clothes, houses, etc., This overlooks the human dignity. Add to all this the discovery that the cells of Dolly the sheep were older than those of the origin. This means that cloning will produce children whose cell functions at birth are similar to those of the middle-aged persons. Hence, the misery of

the child that does not enjoy his childhood as the way of Allah in nature.

Affecting some genes to produce a posterity with the characteristics desired by the origin:

Scientific progress gave the physicians techniques with which they can affect the genes they could read in a way to mutate them so as to give the one with these mutated genes new characteristics. Is this interference acceptable? Is it a manifestation of the hegemony of the strong over the weak; a kind of totalitarianism?

The ways of natural creation, some of which are known to us, specify the characteristics that form man's congenital traits. According to this, the child never objects to the way he was created whether as a child or when he comes off age.

No one can possibly know what the characteristics a child must or must not have are. Some people's selfishness deceives them into thinking that some traits are better and more perfect than others. For example, the white think that black complexion is a defect and that black people are inferior to them. This is far from being true, for many black and white people are happily married. Each of these couples could have married to a person similar in color. I also found out that some of the black sects in America think that God is black. This is because, for them, black is more perfect and loftier than white and God cannot be but Most perfect.

(البخاري: فتح الباري ج ١١ ص ٣٦٧/٧٧) الطفل الأبيض وحررة

The Arabic literature is rich in praising the eye beauty described as the intense black and white colours of the eye. Some people maintain that blue eyes are bad omen. Others dream of blue and green eyes. Thus, beauty differs according to people's tastes, measures and environments. Therefore, the parent's control of their children in terms of changing their body features is a transgression of children's rights and is counter to ethics and justice.

Affecting some genes to eliminate mutations or deficiency:

The rule is the intact nature of creation, for Allah Almighty says, "We have indeed created man in the best of moulds" (Al Tin: 4).

In his comment on this verse, Sayyid Qutb said: 'Allah's care of this creature - as weak, corrupt and deviant from the innate disposition as it is - shows that he is of great value for Allah and that he is important to the order of this world. This care is widely evident in man's creation in this perfect manner in terms of his precise, sophisticated physical construction; his unique mental construction or his incredible spiritual composition. (Fi Dhilal Al Qur'an, vol. 30, P. 194).

If, as a result of a given gene damage, a mutation or a mutation risk arises and science can save the person in this danger by fixing the source of risk, Islamic Law does not hold this to be impermissible. It rather entices such actions. Yet, it should be warned that these genetic tests must not turn into a scary obsession generalized and run on all embryos to ensure their safety. This way, genetic tests become a source of worry and fear, noting that fearing the diseases is harsher than developing them. This fear destroys man's happiness. This is exactly the same as the healthy person's obsession with his health and his pursuit to discover the possibility of developing any of the diseases without even having their symptoms.

Some of the scholars of Islamic jurisprudence tackled a case that can be assimilated to this one. If a new-born has six fingers, is it permissible to have his extra finger cut off? Some held this to be impermissible, on the pretext that this is change to Allah's creation. They hold the cut-off permissible only if this extra finger causes the child any sort of pain. (Al Jami' Li Ahkam Al Qur'an for Al Qurtuby, vol. 5, P. 393). However, I think that they probably held the cut-off impermissible in this case because surgery at that time was not a safe procedure. So, they feared that man should be in jeopardy so as to perfect an aesthetic aspect. Thus, if the procedure is likely safe and involves no risks, it is not impermissible. This can be proved by the fact that Islam admonishes circumcision and established it as a sunna though it involves a change of the male persons creation. Islam also holds paring nails as a sunna. All these are evidences that if a certain

gene cannot function because of a given damage and this damage can be fixed, there is no reason to abstain from having the specialized physician fixing this gene so as to avoid the risk of mutation or disability. The paper reports that some of the disabled organizations protest that prenatal genetic selectiveness is a type of discrimination against them. Yet, this assumes that their lives are of less importance. It is not a reasonable protest. Even the adult who suffers from a given disability seeks the help of medicine to end his disability. This cannot be said to be a discrimination against or underestimation of the other disabled persons lives. It is the same in prenatal and postnatal cases. Saving some embryos from the risk of disability is a good permissible deed that incurs no harm on others: disabled or healthy. Further, good natured men feel better to see other people overcoming their disability.

Affecting the genes to produce male or female embryos to conform with the parents' desire:

Defining the embryo's gender is not a right to either of the parents, for converting the embryo's gender is a major encroachment. Human dignity prevents the elder from affecting their child's creation. The Holy Quran confined this right wholly and solely to Allah, the Creator, without any human intervention. Allah says,

“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, and He leaves barren whom He will: for He is full of knowledge and power”. (Al Shura: 49-50).

Towards the end, the verse reminds us of Allah's Knowledge highlighting the fact that this act of reproduction is not a chaotic one. It is not the act of him who lacks relevant knowledge and does things randomly. Allah affects these acts according to precise knowledge and His Power goes in conformity with such knowledge. Those monitoring the status of human kind noted that after great wars, the delivered babies are often male ones. This is due to the fact that war results in the death of many men and only a few women. The All-Knowing, then, affects whatever regains the gender balance to this world the

needs and status of which He knows best. Both male and female children are a blessed gift of mercy from Allah Almighty.

The survival of human kind depends on the existence of both sexes. The Divine Will is the guardian of creation. It grants some people female babies only, and others male babies only. Some people are given both male and female children. And another group of people is deprived of posterity and made sterile. Man, before all these signs of Wisdom governing the world from the dawn of humanity till now without the hazard of the extinction of human kind, is forbidden from breaching the balance of the universal order. The individual knows not the destiny of human kind and cannot guarantee the survival of his kind whether he admitted this or not. This individual is not to intervene with defining the foetus gender in order not to make a disequilibrium. On the other hand, man cannot help being male or female. So, how can one control others and make them comply with one's desires?

It is not accepted that the parents impose their will on the coming posterity, gender wise. Similarly, they are not allowed to set a perfect model of certain color and features for their still-to-come children. They are not permitted to enforce the features they desire on their children. If the parents desire a certain form of creation, this is not to be imposed on their posterity who do not have the luxury of choice. This is injustice and transgression of the children's and thus the human rights.

The paper proposed by the General Secretariat reads that parents, with their upbringing, behaviour and care, affect the child's personality and hence the features of his future life. So, how come that they do not have the right to affect some of his genes?

These issues cannot be more different. It is the responsibility of parents to rear the child in a way that provides him with food, enables him to acquire the habits necessary for his individual life as well as preparing him for mingling with the group. This is the responsibility of parents and whoever dumps this responsibility or shoulders it not properly is to be held accountable for this, for he has both a right and an obligation to raise his children. He can prevent others from

interfering with his children's upbringing provided that he shoulders this responsibility fully and properly. Allah says, and say: "My Lord! Bestow on them Thy Mercy even as they cherished me in childhood". (Al Isra': 24).

As for man's creation - the result of existential and effective gene characteristics - it is not man's responsibility and lies not within his capabilities. Allah says, "Is then He Who creates like one that creates not? Will ye not receive admonition?" (Al Nahl: 17). Thus, if one resorts to professionals to alter the creation of a person whom one is not to control and who asks not for that, this will be a fragrant transgression on the part of the professional and/or one or both parents of the child and human rights at a time when the child is helpless and defenceless.

Allah Almighty is Most Knowing and Most Wise. Sufficient unto me is Allah, the Best of helpers and supporters. There is no strength nor might but through Allah the Almighty.

Written by the humble slave who aspires at Allah's Forgiveness and Grace.

DISCUSSION

Fourth Session

Chairman: Dr. Abdul Rahman Al-Awadi

Rapporteur: Dr. Ali Yousuf Al-Saif

Dr. Gerald Winslow: Good morning! I would like to address my question to any of the speakers, perhaps, specially to Prof. Lehmann. Many years ago, 30 years ago, Prof. Paul Ramsy, a theologian in atheism viewed that we would move toward a time when birth defect would not be viewed as the tragedy, they would elicit compassion, but they would be viewed as a technological failure. They would bring forth disappointment, perhaps, even disaster. Think, for example, a couple very carefully chooses gender, but it fails. This could happen, it is bound to happen actually, that the child would be born of the gender naturalism, despite considerable efforts and expense. Can you see any wisdom in Ramsy's concern?

Chairman: Thank you. I think, we keep on with the questions, and then we try to get the reply. So, we have to cover as much as we can. Dr. Hamid, please.

Dr. Hamid Ahmed: For Lisa Lehmann, when she mentioned about the method of selecting gender, she pointed out that these methods existed in our Islamic heritage. We used to choose Diet, timing of sexual intercourse, or sexual position so as to choose the fetus sex. In principle, this can be titled "we can choose fetus sex" but these are old mechanisms. Science has provided us with more advanced techniques of fetus sex selection. Is this permissible in Islam in absence of sex link diseases?

Chairman: Dr. Ibrahim Badran.

Dr. Ibrahim Badran:

In the Name of Allah, Most Gracious, Most Merciful. In fact, the discussion in today's session left me sure beyond doubt of the incessant intellectual development undergone by the followers of Judaism, then Christianity and finally Islam. This highlights "a chain of thought". I think that this can be a new classification of the

gatherings that take place amongst men. Thank you for gathering people who agree on the needs that define the future of the relation amongst people on this globe created by Allah Almighty. The followers of the three Divine religions believe in Allah as much as they are connected to Him as their Creator. Their faith is gradual and growing. I think this is a characteristic new to the religious realm. Did Allah make a mistake led to creating the mutilated? May Allah pardon us! Or did Allah create them to be an admonition for ordinary people? One cannot notice the color of black clearly unless there is white next to it and the opposite is true. The impermissible becomes more glare if put next to the permissible. The same applies to health and sickness. My point is that the deformed person exists and its existence can never be prevented. It happens and will always happen presuming that Allah Almighty creates opposites for a Wisdom. Why? To learn compassion, and gratitude. To learn that this deformed person may present us with a chance to do charitable deeds. Further, this deformed person may prove to be highly beneficial. For three consecutive years, I have attended the Papal Academy as the head of the Scientific Research Academy in Egypt then. The former Pope, may Allah bless his soul, used to extend the invitation to me. There I saw Steve Crolcus who was completely paralyzed and had sensors fixed on his vocal cords. This man is the greatest scientist in theoretical Biology and applied mathematics in the twentieth century. 90% of the theories of this Steve Crolcus were put by him in this state of deformity and disability. Does this not confirm Allah's Ability to render this fragile person so beneficial? I lived through these obsessions for many years. Taha Husein- the blind- wrote what could not be written by those who can move and learn and experience life. Shortly before his death, Egypt's philosopher -Tawfeek Al Hakim- wrote a small book called "Balance in Islam"; it tackled the relation between man's mind and heart. If mind overpowers man, there will be ruin. If heart rules, there will be poverty and weakness. The mind is power, deduction and development while heart is the balance that curbs the mind. In the issue of the deformed fetus, we act according to the mind and the overwhelming science. Had the heart been involved, we would have wondered how can we kill a soul? In my opinion, the planet of earth

would never be void of deformed people. This is similar to the issue of human integration and solidarity between the weak and the strong. If we are to eliminate deformed people, we should also eliminate all the weak and needy. Thus, the strong would retain his strength and the weak would go to hell. My last point is a confirmation of the opinion of the Muslim Sheikh. In the next phase till the end of the 20th century, the earth population will increase another billion within the next 10-13 years. The population explosion will continue whether we accept it or not. Therefore on creating people and the world, Allah Almighty created the genetic engineering of plants and animals so that man does "...not to go hungry nor to go naked," thank you.

Chairman: Thank you, Dr. Ibrahim. I just have a comment on the issue of deformed or disabled people. Allah has granted me a disabled child. Once we had this child, the whole family fell in love with him. He taught us new things like compassion. Because of this child, my wife majored in disability. This demonstrates the Greatness of Allah in granting man with this kind of persons to teach him a lesson. I can never be happier for having such a child amongst us. You cannot be more correct. There is a Divine Wisdom behind creating deformed and disabled children.

Chairman: Sheikh Salami

Sheikh Mohd. Mokhtar Salami:

In the Name of Allah, Most Gracious, Most Merciful. I'd like to point out that my intervention has to do with the rich and beneficial lecture delivered by Prof. Lehmann. I'd like to raise a number of points in this regard. First, she said that Islam agrees with Judaism that in the first 40 days the fertilized egg is no more than water. I have a different opinion based on my understanding of Islam. I do not say that this opinion received the unanimity of all Muslim scholars. In my opinion, once this fertilized egg is implanted in the uterus wall, it becomes a human being. Thus, the provisions concerning human beings are to be applied to this fertilized egg. This egg is treated as such from day one till the ninth month. It follows that aborting the fetus or harming it intentionally is an impermissible act whose perpetrator should make it up or the family of the fetus in return for

their loss. Another point relates to the egg outside the uterus. On the intercourse, the woman's body can secrete an egg which is fertilized by the man's sperm. But this egg may not go to the Fallopian tube and thus does not get implanted in the uterus. It rather goes out with the body wastes. The fertilized egg gains its value once it gets implanted in the womb. Before this, it does not have the same value from the Islamic viewpoint. This last point leads to a number of important deductions. It is not impermissible to elect the eggs as long as they are not implanted in the uterus yet. It can also be well implanted, cast away or improved before implantation. On implantation, another set of rules is to be applied.

Second, the results derived from the process of selection outnumber the premises. I do not know whether Prof. Lehmann wants to implement this process in all fertilized eggs whether this fertilization happened inside or outside the uterus and whether it was natural or artificial fertilization. If she means to generalize the implementation of this process in all cases, this is not our point here. Yet, if she means IVF, the result will be the improvement of the human race. Another issue that captured my attention is having a baby so as to treat his elder brother. Does this happen during the phase of fertilization outside the uterus or after implanting the egg in the womb? Most of all, is this fetus -whether inside or outside the uterus- affected in any manner by this procedure that aims at assisting his brother to survive? I did not get this point clearly during the lecture and it is highly important for passing a religious judgment on the procedure. Thank you.

Chairman: As regards your last question, to help his brother survive, the fetus must be fully grown. Dr. Aly Mishal

Dr. Aly A. Mishal: I will talk both in English and Arabic for the benefit of our scholars. My point is about the PGD. This mechanism diagnoses diseases that had been plaguing humanity for several centuries. No solutions were found for these diseases which are highly serious and have no treatment. Thus, we should consider this case with open hearts, eyes and minds. Some diseases are agreed upon to be highly serious. The rule "Prevention is better than treatment" applies

to these diseases. These kinds of diseases should be considered separately. Other kinds of diseases appear in the age of 40 or 50. This is a different category. There is a third category addressed by Dr. Lehmann of cases not regarded as diseases. This category requires to be considered from a different perspective. Given the sophistication and high cost of these diseases and discoveries, each society arranges its priorities. I think that religious scholars set rules for these cases in cooperation with physicians and scientists. Diagnosis during pregnancy is completely different from PGD. If diagnosis during pregnancy shows that the fetus will have a fatal disease, this would lead the parents to the issue of abortion which differs morally and religiously from the PGD conducted in labs on cells on the first, second or third day of pregnancy. PGD detects a large number of diseases in England. I would like to ask about the concept of penetrance, when you are talking about genetic cancer, how does that apply in PGD? And also, the use of the umbilical cord, blood from umbilical cord otherwise, will be discarded any way, for the use of the sick or ill previous sibling of the patient? Thank you very much!

Chairman: Shukran doctor. Dr. Mamdouh Gabr.

Dr. Mamdouh Gabr:

Thank you, Mr. Chairman. In the Name of Allah, Most Gracious, Most Merciful. I have a brief comment or rather a question. In real practical world with the awesome scientific progress witnessed in this realm of research, some performances cannot be put to hold no matter how much we speak of moral considerations. I may agree with Prof. Badran and Prof. Al Awady as concerns the Creator's Ability and Options of creating the normal and deformed persons for several purposes. But some questions remain unanswered. Once an early diagnosis shows that a fetus suffers from malformations, it is possible with all the scientific progress to treat these malformations surgically or even with no surgeries at all. If an early diagnosis may show that the fetus would suffer from heart diseases, brain damage, a shortage in the secretion of the thyroid gland or the amino acids. This early diagnosis will undoubtedly lead to a probably 100% cure of such deformities. Within this context, I think that all the interventions and

discussions we heard call upon Dr. Awady and Dr. Gindy to formulate a specialized working group to conduct a profound research on these issues. Thus, the nation would benefit from this scientific advance and at the same time avoid the serious harms referred to by Prof. Lehmann like the Iogenics and the days of the Nazi's when the unable or undesired for reasons of gender, race or any other reason. Among the hazards involved in this process is conducting abortion after the allowed age. For such issues, we need behavioral criterion for physicians and a legal one for states. Moreover, the civil community should observe the enforcement of these criteria. This way, science can be benefited from without suffering from the abovementioned hazards. One last advise, I listened in this case to lectures about fetus diagnosis. Yet, there is also some diagnosis that can be performed before marriage. I know that this is not our topic. Yet, Prof. Raga'i and Prof. Badran reminded me of the fact that such diagnosis is often conducted in Cyprus, Israel and other countries where the cases of marriage within the family are numerous. Marriage within the family is undesired in our religion of Islam. But we advise any future spouses to run such genetic tests and evade any future problems. Such health matters are worth running the test. Thank you, Mr. Chairman.

Chairman: Shukran Dr. Mamdouh. Pre-marriage tests are now obligatory in Saudi Arabia. Dr. Taqi ul-Osman.

Dr. Taqi Osman:

In the Name of Allah, Most Gracious, Most Merciful. Praised be to Allah, the Lord of the Worlds, and May the Peace and Blessings of Allah be upon His Honorable Messenger, his folks and all his Companions. The issue we study in this blessed forum is a sensitive and crucial case that emerged due to the medical progress achieved. Thus, we cannot find a clear religious verdict for it in the Book of Allah, the Prophetic Tradition or the Jurists' books. We rather need to know the general principles mentioned in the Holy Qur'an, the Prophetic Tradition and the books of Muslim Jurists. In this intervention, I do not aim at reiterating the *Fatwas* issued before in this concern. I'd rather like to think of the principles that may help us

conclude a Fatwa or collective ijihad. This so-called genetic technique may be opposed by some people nowadays considering them acts of intervention with Allah's creations, His Fate and Ability. However, this technique and the process involved with are no more than means to an end. As long as man deploys any process believing that it is not the reason behind the desired result and having faith that the real reason is Allah's Will, this goes not counter to the belief in fate and destiny. These techniques are merely means that may be culminated in either success or failure. Either way, the result is subject to the Will of Allah Almighty. Thus, we cannot put this technique to halt on this pretext. The second opinion mentioned in a number of the lectures delivered today and yesterday is that these techniques affect changes in Allah's creation. This is prohibited in Islam as there is a clear Qur'anic verse to this effect describing the change in Allah's creation as a satanic act. Yet, I think that these techniques do not fall within this category of prohibited change. What I understood through the exegesis of the Holy Qur'an in the Prophetic Tradition is that the prohibited change has to meet three conditions. First, the change should be a mutilation of the image created by Allah Almighty or for the mere sake of change. Thus, this is prohibited and unlawful. Second, the change should be based on sincere faith. People in the pre-Islamic era used to have their she-camels slit-eared and they called them Baheera on false belief. Thirdly, the change in image should be for the mere sake of beautification and not for any other purpose. This was forbidden by the Prophet (PBUH) who said, ""Allah curses those ladies who practice tattooing and those who get themselves tattooed, and those ladies who remove the hair from their faces and those who make artificial spaces between their teeth in order to look more beautiful whereby they change Allah's creation." thus, I believe that the change in the human body or the fetal body which does not meet these three conditions, do not fall within the frame of the prohibited change in Allah's creation which is prohibited in the Holy Qur'an. The second point I'd like to raise is that the treatment processes involved

in these techniques should conform to all the provisions of Hijab and covering the private parts in Islam. These are basic rules to be respected. Yet, there are other rules to be observed so as to reach a conclusion in this regard. One of these rules mentioned by Muslim Jurists is that no harm is to be removed through affecting a similar or greater harm. Thus, if the procedure results in harm greater than the one we try to eliminate, it will be impermissible. The second rule says, "Fending off evils is prior to bringing about benefits", this rule also needs to be considered. Other rules of honesty and transparency are involved in this regard. Thus, the procedure and the results should be explained to the patients. The physicians performing such operations and processes should adopt transparency. They should state clearly the success rate of the process whether low or high. The third point is about abortion and the topic raised by Prof. Lehmann in her valuable and beneficial lecture. By this, I mean, is abortion to be held lawful for these purposes? The Islamic stance towards this issue is clear. In the first four month of pregnancy though abortion is impermissible, it is allowed to abort the baby if necessary. This is agreed upon unanimously by the Muslim jurists. After four months, abortion is completely forbidden. Thus, if it is proved - and not only suspected- in the first 4 months of pregnancy that the fetus will suffer from deformities or defects that lead to disability; abortion is allowed. This also applies to abortion for the fetus sex. In my opinion, there is no religious text forbidding this. It is rather a perfect case for the rule "Fending off evils is prior to bringing about benefits". As for the opinion that Allah Almighty is the One That differentiates between male and female, this technique does not contradict this rule. What is affected even through this technique happens by Allah's Will. It is not an act of man. This is an opinion based on the rule "Fending off evils is prior to bringing about benefits" and not on any of the texts in Qur'an and the Prophetic Tradition. Thank you.

Chairman: Shukran, Dr. David Bleich.

Dr. David Bleich: I would like to thank Dr. Lehmann for pointing

on the similarity between Judaism and Islam within the early period of gestation, in so far as the structure of fetus is concerned. However, I would like to offer just one point of clarification with regard to the nature of that agreement. I would like to read a paragraph from a publication, which was just given to me by Dr. Shahid Athar, who is the former President of the Islamic Medical Association of North America:

“ Fetal congenital malformations in which abortion can be sought and is permitted are lethal malformations not compatible with extra uterine life such as bilateral renal aplasia, Trisomy13, 18 etc.,” The very next paragraph says *“ In non-lethal malformations such as severe hydrocephaly, cervical meningo myelocele, Down’s syndrome and unbalanced translocations, abortion may be permissible before the 120th day of conception after consulting Islamic scholars and medical experts in the field”*.

Apparently, there is some confusion within Islam with regard to the status of that embryo in that early stage. And, I can say there is similar confusion within Judaism. I would also like to thank Dr. Al-Salami, for enunciating very clearly his view that tampering with the life of the fetus even in the earlier stages of gestation is prohibited in his view of Islamic law. I would add, that I am in full agreement with him from a Jewish perspective. I would make the same comment with regard to extra-uterine development of the fetus. There is, however, one point that I would like to make. There is a sanctity in fetal life at a given stage of pregnancy. It is extremely difficult and certainly requires evaluation why it should be permissible to intervene for purposes of eliminating that life, not remedying the situation, but eliminating that life, simply because of the problem the neonate will bear. But it is not acceptable to intervene for reasons of eugenics or purposes of improving the quality of a life ultimately to be born. You are dealing here with the fundamental issue. The issue of sanctity of life at the point of intervention. The nascent life deserves the same degree of respect and non-curative intervention is not acceptable. Again, the proposition is that the fetus is a human life and that life cannot be destroyed. Then there is a fundamental question in my

mind, almost a fundamental contradiction, inherent in the action of a physician who engages in such intervention.

Chairman: Thank you Dr. David! Dr. Taha Abdul Rahman, please.

Dr. Taha Abdul Rahman:

In the Name of Allah, Most Gracious, Most Merciful. The presentations we heard this morning which are very important revolve around two issues: PGD and pre-implantation diagnosis. The discussions tackling pre-implantation diagnosis tackled it from religious and moral prospective. This gives us the impression that secular people have no ethics. In other words, all those who act in contradiction with the religious ethics must be unethical and immoral. I think that some secular scientists say that their stance towards diagnosis hinges upon ethics. The final objective of this gathering is to have concurrence on some points. In my personal opinion, once there is a concurrence amongst religions concerning these two issues and a concurrence between the religions on the one hand and the secular scientists on the other, this would be possible. I will propose some criteria. What is the main difference between the religious ethical handling and the secular ethical handling of these two issues? The main difference lies in the word "sacred nature". Religions consider these issues in terms of the sacred nature of the fetus. On the other hand, secular ethics say that there is no such sacred nature and that things should be judged in terms of the best interest. The best interest is also regarded by religions but is limited by the religious verdicts while in secularism the only limits are the worldly ones. Thus, the question is how can we and secular scientists have common ethics as regards this issue? I think and suggest that there are universal values to which the secular as well as the religious person adheres. We wished there were a presentation based on the universal values binding for both parties and deploy them in handling these two issues. This is my first point. The second point has to do with religions. What is the difference between the ethics of Christianity, Judaism and Islam in tackling this issue? I think that the difference lies in the source of sacred nature. As the secular believes in no sacred nature, the difference between the three religions

must be this point. I am not a specialist in comparative religion, but I perceive this matter from a philosophical point of view. The Jews for instance attribute the sacred nature to the spirit, while Christians attribute it to life. Muslims, rather, attribute the sacred nature to the creation. The permissible and impermissible differs according to each of these three ethics: those of the spirit, life and creation. What is permissible in one can be completely unlawful in another. In other words, the scope of the impermissible becomes broader on moving from the spirit to life and it broadens again on moving from life to creation. This is my philosophical vision. All the three religions agree on the spiritual ethics. Then comes the difference between Christians and Jews; for the ethics of life permits acts unlawful in the ethics of the spirit. In the same manner, Islam differs from Christianity; for the ethics of creation allows matters impermissible in the ethics of life. This is what I wanted to highlight. Thank you.

Chairman: Shukran doctor. Dr. Abdullah Basalamah, please

Dr. Abdullah Basalamah:

In the Name of Allah, Most Gracious, Most Merciful. Peace and Blessings of Allah be upon Prophet Muhammad. This forum is more of a religious, philosophical and technical nature than a scientific one that sets rules. As Mr. Cahirman already said in his address today, the medical issue has become of an overwhelming nature. It might be entrusted to mad people desperate to achieve their final goals irrespective of the hinderances they face. Seemingly, we give ourselves here the right to protect whoever comes after us: the fetus, children and the future. We also gave ourselves the right of protecting the weak: the woman aching for a baby but have no ovary and the fetus in the womb. In this forum, we have given ourselves myriad rights. But today we wonder about pre-plantation diagnosis. We could not adopt principles or draw red lines in this concern; we just wondered. Can we draw red lines in this respect? What are our criteria in drawing such lines and forcing others to respect them? Is the criterion here "the sacred nature"? is it ethics? Do the lines to be drawn need a scientific power or a power of faith? Do we have the power of faith? Do the lines need the power of responsibility? How would we affect reform?

How would we draw some lines in conformity with the Divine religions, our legal responsibility and our human desire to be adopted nowadays? One last point to go. Dr. Jabr said that marrying relatives is undesirable in Islam. Yet, I'd like to demonstrate that this is not true. The proof is that the Holy Qur'an made it permissible for the Prophet to marry his cousins from the maternal and paternal sides. Among the Prophet's wives were his cousins and relatives. In the Gulf area about 57% of marriages are family marriages. Does the problem lie in the criterion of choosing the wife or in her being one of the relatives or not? Thank you.

Chairman: Dr. Ezzeddin Ibrahim!

Dr. Ezzeddin Ibrahim: Mr. Chairman, due to the rich and beneficial nature of the session, my intervention will be no more than a summary and a demonstration of success. We have listened to and read about Islamic, Christian, Jewish and secular opinions. All of us, except for secular scientists, have things in common. All of us, except the secular, have three considerations in common. The first is a theological and religious consideration: associating not man as a partner to Allah in the attribute of creation. The second consideration is a social one: doing no harm to the institutions of marriage and family. The third consideration is a humanitarian one. By this I mean the degree of confidence in the harmless nature of these technological procedures. Thus, we all agree on these three main considerations. As for the secular, they may disagree upon the theological religious consideration. But they agree with us on the other two. This can be summarized as follows: in English: 1. Don't play God, 2. Don't destroy the institute of marriage and family, 3. Don't cause harm. Agreeing on these three considerations, we can conclude beneficial verdicts for people. In his astounding lecture, the Muslim Mufti almost concluded most of the acts which are in conformity with logic and are permissible in Islam, Christianity and Judaism. He also warned us against some fields. The warning covered two fields. The first is intervention by artificially making a fetus believed to be deformed or disabled. The second field is the choice of the fetus sex. Here, the third consideration plays the greatest part; the evasion of harm. Are we perfectly sure that we will

not cause any harm by intervening with the fetus sex. In the Islamic Law, there is a great generative rule stating, "Do no harm and take no harm!" As Muslim Jurists know, this rule generates another ten rules amongst which are the following: "The harm is to be eliminated.", "The harm is not to be removed through affecting similar harm." And other rules mentioned by Dr. Hassan Hathout during the course of his lecture. To wrap up, Mr. Chairman, we agree on the main considerations. But we are short of striking coordination amongst us. There are many permissions and agreements. Yet, caution should be heeded in two fields: evading the fetus who is suspected to be unhealthy and evading intervention with the fetus sex. Thank you, Mr. Chairman.

Sheikh Mohd. Ali Al-Taskhiri:

I just wanted to refer briefly to a certain point. We hold that the mere possibility of pregnancy renders it forbidden to abort what is judged as the fetal clot. This is substantiated by a story told about the Imam Al Kadhem. A man said to the Imam that he fears that his wife might be pregnant and asked him if he could make her take medicine. The Imam prohibited him from this act saying, "No". But the man said, "It is just a mere sperm." The Imam retorted, "what is man but a mere sperm?" Therefore, if a woman suspects that there is a possibility of losing pregnancy due to taking a given medicine, she is not to take this medicine. We, as Muslims, respect man. The second point is that I agree with Sheikh Salami on the opinion that we cannot apply the legal rules of the egg fertilized in the uterus to that which is artificially fertilized. The latter may be of a less sacred nature. We may not even attach to it the description "a man project". Based on this fact, scientists can terminate such an egg if proved to be suffering from a certain malfunction or if it is not needed. Thank you.

Chairman: Dr. Issam Ghannam.

Dr. Issam Ghannam: Thank you very much Mr. Chairman! *Assalam Alaikum Warahmatullah! Bismillah Hirrahma Nirrahim!* I like to talk primarily to Prof. Lisa Lehmann. A lot of research is appearing in front of me from France, Germany and one from Holland. That's recently lot of investigations and work done in the consequences of testing the fertilized egg. There is a lot of volume coming up that I am

quoting here. Abortions are used for minor anomalies, a lot of fertilized eggs destroyed, because people have become over demanding. We abort the Asian, we don't like, we abort, and we don't actually implant the fertilized egg, which has the wrong behaviour. And there is more work actually done in abortion consequences. In Britain, 175 thousand abortions last year. And, a lot of consequences. So, we are opening the gate to yet another disaster in the world. Nuclear studies the first time, its use killed 200 thousand in Hiroshima and Nagasaki. So, the other thing actually benefiting super mankind, benefiting those super age, which can pay for all these research and benefit from it and drain the third world from the resources. We are not helping actually the world, we are helping only the super age people who have means. The other thing, which probably secularist will not accept that religions came from GOD almighty, and the prophet means prophecies. So, the prophecies of the prophets what made *haram*, because, it is going to cause problems, which you will not discover until you will be too late, when you are 10, 15, 20 years down the line, and then what happened with the abortion? So, really we need that the people of faith to have to keep the people of no faith in check. Whatever they say good or not, we have prophecies from GOD that it is going to be harmful. I think, we need to rethink. *Assalam Alaikum!*

Chairman: Shukran doctor. Dr. Mohd. Ali Al-Bar.

Dr. Mohd. Ali Al-Bar: *Bismillah Hirrahma Nirrahim!* I will speak in English. There are three magnificent lectures this morning, specially the lecture of Dr. Lisa Lehmann. It is a fantastic lecture, thank you very much for that. But, I would like to be a little bit more pragmatic than theoretical. First of all, pre-plantation diagnosis is limited to very few countries at the moment. 2. It is expensive, and 3. It cannot expose the genetic disease. You have only few tests either for chromosomes or few suspected genetic diseases. There are thousands of genetic diseases. You cannot test all these diseases, it is just impossible. You have presumptive diagnosis that you are expecting some diseases or a list of diseases and that is the maximum that you can go for. You cannot examine all the genetic diseases. Let alone, the characteristics and behaviour of the people. This is just completely

rubbish, it is impossible to study the behaviour of human being, which is so intricate and so complicated. There is no genetic testing for the behaviour. This is a scientific fiction, which is not realized at the moment. So, we have to drop that non-pragmatic or theoretical imaginative discussion. This is completely imaginative. Now, I would like to ask Dr. Lisa Lehmann about the side affects. There are side effects of in-vitro fertilization at the moment, we know it. There is, of course, hypersensitization of the ovaries of various syndrome, which is serious, can be fatal. Now, there is also an increase of congenital anomalies recorded. Now, the problem, which was raised all through the PGD (Pre-Implantation Genetic Diagnosis), I think, it is inter-oven with the question of abortion. Because, now unfortunately, there are about 40 million abortions annually in the world for non-medical reasons. This is a big calamity and it has been going on. Most of the countries of the world are allowing elective abortion, not only medical abortion. Almost, more than two third of the United Nations governments and countries allow elective abortion at the moment. PGD is difficult one, if we go through, we should know its limitations first of all. And, whatever side effects might be there, it is limited, cannot change the demography of the population and it can help many families avoid abortion. Abortion is the extraction of the contents of uterus, out of the uterus. There is no abortion in pre-implantation stage at all. We have fatwas; I will show it in my lecture later on. But, we have a lot of fatwas allowing abortion for serious congenital diseases. Now, how serious? This is another question. Is Trisomy 21 is serious congenital disease or only Trisomy 18 or 13? What type of congenital even hereditary disease? Now, the question of control of transplantation, you bring at child, during HLA typing for that cell that you make, and then you can, of course, help in bone marrow. Transplantation of organs will not be allowed in Islam. For my child, even if he is already born that will not be allowed, because he is under age and, he is a minor, he should be a major to have consent, a free consent. And, that is not a free consent at the moment, except for bone marrow transplantation, which will be accepted.

Chairman: Thank you! Dr. Abdul Gaffar Al Sharif

Dr. Abdul Gaffar Al Sharif:

In the Name of Allah, Most Gracious, Most Merciful. In these valuable lectures and the following comments, many issues have been raised. The first serious issue was raised by Dr. Taqī ul-Othmani. I'd like to finish what Dr. Othmani has begun. No one thinks of taking over the Divine role of creation. The issue of interfering with genes and procedures does not fall within the category of Fate and Destiny. It is not a defiance of Allah's Ability; for Allah Almighty wrote this Fate since the beginning of existence. This is similar to the issue of endeavoring to secure provisions and the pursuit of treatment. I do not want to deem that everything contradicts Fate and Destiny. We have to behold the origins of things. The Fate means that Allah Almighty has willed some of the matters to be in this way for certain reasons. The second issue is that I believe that everyone has ethics, even the secular. Nonetheless, the ethical viewpoint differs from the religious who derives his ethics from the religious teachings and the irreligious, to whom the ceiling would be the interest of all human beings. Deep within, both religious and secular scientists seek the attainment of the human happiness. Yet, the ways differ. The religious have a Law and ethics sent down on them from heavens and are relied upon in judgment. The serious issue is that for centuries, the scientific research has overlooked the ramifications on human sciences. Nowadays, it is not the physical scientists that steer the world. It is rather scientists of human studies, sociology, psychology, political sciences and economy that master the people's destiny. Unfortunately, this scientific progress had a negative impact even on the human sciences. This is due to a modern theory put late in 1980's. Sociologists held the opinion that the scientific progress led to eliminating many diseases, prolonging man's life span and increasing the number of population. They further believed that the earth resources are limited. These limited resources mean that the universe will end sooner than it was formerly expected or anticipated. So as to discover other resources on other planets, we invaded and explored the other planets. During this process, the number of consumers had to be defined. Thus, people were divided into productive advanced people and consuming people;

e.g. the third world. Therefore, one of the most dangerous theories of sociology and political science today is the theory of made disasters. This theory proposes that the developed nations must create problems and disasters, wars and diseases, amongst the backward nations to reduce the increase in their population. This is because these nations are no more than consumers that give no chance for those producing to search for other resources. The problematic issue is that everyone claims to have ethics and talks about them. In many universities- the national and international ones, the professional ethics are taught. But the question is whether there is a practical momentum or not to practice these ethics. The problem is that scholars of human sciences paid attention to such things like intellect and overlooked the spirit which as a result became hollow. Moreover, there are no drills or exercises on these ethics. The former nations, be they Jews, Christians or Muslims, had spiritual and religious drills and exercises. This was embodied in the Sufi movements that aimed at reviving man from within. Even the provisional religions like Buddhism had such drills. I believe that we think of making use of the benefits of such practices so that their influence is reflected on science and scientific progress. Thank you.

Chairman: Now, I will give each speaker 10 minutes for answers.

Prof. Lisa Lehmann: Thank you for all the excellent questions. I don't know if I can be spared in 10 minutes. I can get to attempt all of them and I hope that over course of the future sessions in the conference, we will have chance to further discuss about these very important issues.

First, in response to Sheikh Al-Salami. Thank you so much for your comments as well as for your comment on Islamic law. I want to be very clear that I in no way meant to draw any conclusion about what is acceptable at any of the religions with regard to abortion. I only wanted to comment on my understanding of the status of the embryo. Because, I thought that there was an important foundation and principle for further understanding of these issues. I also want to be very clear that all of my comments were about the use of the embryo prior to implantation. The idea of PGD (Pre-Implantation

Genetic Diagnosis) is not at all referring to the manipulation. I was talking about the manipulation of an embryo. Let us say, sperm in egg outside of the uterus. I am sorry, I just want to be extremely clear about the context of the conversation.

I think, there is importance of comments about the overlap between the different religions, between Christianity, Islam and Judaism. I wish to actually point to some interesting differences from Catholic perspectives, whereas my understanding in Judaism and Islam will view the embryo differently, when it is outside the uterus. I differ from you on the comment on this that the embryo outside the uterus from the Catholic perspective, may be comparable to the embryo inside the uterus. And, therefore, one of the implications of that is the ability to manipulate the embryo, either to remake cells or to test, to allow the permissible PGD may be very different from a Catholic and Christian perspective than Islamic and Jewish perspectives.

The other point, the issue of the areas of overlap between different religions, because, it is a task to understand where there are areas of consensus and where we differ and to understand different religions better. I think that Judaism, I want to be very clear, Judaism tells tremendous emphasis on the sanctity of human life. I don't know who made the comment that Islam is at the sanctity of life and that Judaism sanctity is in the spirit. I don't think that is accurate. The picture of Jewish perspective, Judaism does play tremendous emphasis on the sanctity of life. However, that sanctity, first of all, I should point out that there is no one Jewish on ethical issues in medicine and there are a variety of Jewish perspectives. That's an important thing that people from other religions to be aware when we talk about Judaism. There is not one Jewish perspective, there are multiple perspectives within Orthodox Judaism, and even beyond that, within Judaism broadly in different branches of Judaism, they vary in different perspectives. Having said that, even within the most conservative elements in Judaism, even within orthodoxy, the sanctity of human life is not unlimited. There is also recognition of individual suffering and human need. So, there was also a comment on it in terms of the interests. The religions and focus on religious law, where

the seculars approach is more focused on interest. I think, it is interesting to note from the Jewish perspective, human needs and sufferings are a significant factor in decision making about these issues. So, in that sense, it is not just a secular perspective that takes emphasis on human interests, sufferings particularly in the way these decisions have arrived from Jewish perspective.

The other area, I think, is interesting in terms of looking at areas of consensus. There was a comment about GOD being a creator, no one else is the creator. And, the questions about should we blame GOD for children born with genetic defects and mistakes? I don't think we need to go to that to claim that just to argue that we are trying to prevent disease. It is also interesting to note from Jewish perspective, although, we don't necessarily believe the people should play GOD. Our understanding, man's prophecies in the world is to improve the world. The man is created in the image of GOD and GOD is the creator. There is strand in Judaism that emphasizes the creative capacity of human beings. Therefore, that gives us the permission to use technology, to heal, trying to cure disease. Thank you very much.

Chairman: Thank you. That was the thing, but a lot of questions you have to answer to. But, you can have dialogue with whoever has raised it. Yes, Dr. Mounir Farag.

Dr. Mounir Farag: Thank you Dr. Awadi. To answer to Dr. Lehmann, I think the Catholic position concerning the IVF, or embryo outside uterus also is morally unacceptable. Because, it is considered also a human being. And also, the technique itself, or the way to do it itself is not morally acceptable. Because, as it is considered a human being since the fertilized ovum which is supposed to be implanted later on in uterus, so the life starts since that stage and here also, it is not morally acceptable. Because, you are going for selection for someone. So, we have given ourselves the right to select. So, for this in the Catholic Church it is not morally acceptable. Another issue also, morally, that in Catholic concept, marriage is a unity between men and women within the marriage concept, so unity and procreation, if GOD wills. For this reason, when we are doing this outside the

natural womb, morally we can say here, there is a third party being with this procedure. So, to answer your question, in Catholic concept, it is not morally accepted.

Chairman: Sheikh Salami, you are welcome.

Sheikh Mohd. Mokhtar Al-Salami:

In the Name of Allah, Most Gracious, Most Merciful. I'd like to begin my address with a story that I read in a book. Misquinn asked his tutor about many of the issues that he did not understand with all his knowledge of philosophy. Amongst the questions he asked was the following, "A man can be so brilliant that people consult him and seek his advice to be enlightened. Whoever knows him believes his opinion to be the ultimate correctness and the live approach. Why on deliberating his own matters, this same person becomes like all other people susceptible to be right or wrong?" The answer that Misquinn had from his tutor was that when this man thinks of other people's matters, he judges in light of logic and consequences. But on deliberating his own affairs, he only judges in light of the consequences. While logic provides man insight, consequences blind him. Consequences can be either good or evil. Thus, the judgment based on consequences begets but mistakes whether this judgment is of an individual or of whole groups. To exemplify this, the same act considered as evil, forbidden and deserving punishment in one given country, can be seen as lawful, permitted and harmless in another. In some European countries, drugs are completely forbidden. On the same continent there are other countries that consider drugs lawful. I believe that some parliaments in the world approved the use of the atomic bomb. On considering this issue, we will see that such use is undoubtedly wholly evil. Yet, those parliaments based their verdicts on their personal inclinations. Thus, the difference between believers and unbelievers in taking decisions is that the former base their judgment on goodness and evil. The believer's judgment is not limited by the benefits of this worldly life. It rather goes beyond that and takes the Hereafter in consideration. The believer's view does not stop at the borders of reality; it goes beyond this to the Day of Judgment, the detailed reckoning and Absolute Justice. This is what the secular lacks

in. The secular person is of limited view and blurred insight. For one, the secular person is influenced by his own inclinations. The second reason I came across in my introduction by quoting the verses wrote about science, "No advance is wholly evil, if commitment to ethics rules." For lack of time, I cannot but stop at this point without further explanation.

**Topic II:
Genetics, Reporductive
Technologies and The Family**

**Fifth Session
Tuesday, 7 February 2006**

**Islamic and Professional
Perspectives of The Ethical Issues
of Reporductive Technology**

**Chairman : Counsellor Abdullah Al-Essa
Rapporteur : Dr. Habibah Al-Chaabouni**

Speakers:

- 1 - Dr. Gamal I. Serour*
- 2 - Sheikh Mohamed Ali Al-Taskheeri*
- 3 - Dr. Saddiqa Al-Awadi*

**ISLAMIC PERSPECTIVES OF
ETHICAL ISSUES IN ART**

Dr. Gamal I. Serour,

Egypt

Islamic Perspectives of Ethical Issues in ART

Dr. Gamal I. Serour,

Egypt

Different modalities of treatment of infertility, before Assisted Reproductive Technology (ART)⁽¹⁾ did not raise any ethical or gender issues. The treatment whether medical, hormonal, or surgical was applied to the partner who is the cause of infertility without hardly any implications to the other partner. Reproduction was only possible after sexual intercourse between the two partners mostly the husband and the wife. No third party participated in the process of procreation.

The introduction of ART brought in several issues. It allowed the participation of a third party in the process of procreation by handling the gametes in the laboratory. It also allowed contribution of a third party to the process of procreation by providing an egg, a sperm, an embryo or even a uterus. Couples could procreate and have children without having sex. Furthermore physicians became able to determine the sex of the baby to be born and perform research and genetic manipulations of embryos in the laboratory. It therefore became mandatory to issue guidelines and legislations in different countries to regulate the different practices and research of ART.

The paper discusses briefly the background of Bioethics, guidelines, and legislations in ART in general with special emphasis on Muslim perspectives. It finally deals with Gender Issues in ART from a Muslim Perspective.

Bioethics, Guidelines and Legislations

Bioethics is the study of ethical, social, legal, philosophical, and other related issues arising in health care and the biological sciences⁽²⁾.

The ethical principles involve the traditional principles of justice, autonomy (respect for persons), beneficence (duty to do good), non-maleficence (avoid doing harm) and confidentiality. The principle of

justice involves both distributive justice (fair distribution of burdens and benefits), and corrective justice which is compensation for the wrong act.

Medical ethics are based on the moral, religious and philosophical ideals and principles of the society in which they are practiced⁽³⁾. It is therefore not surprising to find that what is ethical in one society might not be ethical in another society. It is mandatory for the practicing physicians and critics of conduct to be aware of such backgrounds before they make their judgment on different medical practice decisions⁽⁴⁾. The ethical attitude of the individual is colored by the attitude of the society, which reflects the interest of theologians, demographers, family planning administrators, physicians, policy-makers, sociologists, economists and legislators. Responsible policy-makers in the medical profession in each country have to decide on what is ethically acceptable in their own country, guided by international guidelines, which should be tailored to suit their own society. Truly ethical conduct consists of personal searching for relevant values that lead to an ethically inspired decision⁽⁵⁾. Those for whom religion is important - and it is so for Muslims - need to distinguish between medical ethics and humanitarian considerations, on the one hand, and religious teaching and national laws, on the other hand. The physician is always concerned about the legal basis of his acts undertaken on the basis of ethical precepts⁽⁶⁾.

Ethical Guidelines are produced and published by authoritative, but relatively informal agencies such as medical professional associations and university-based centers of scholarly reflection, they may offer true guidance. Guidelines may identify key ethical principles and indicate their interaction and priority. They guide investigators and physicians to overcome ethical dilemmas when they are designing studies and treating patients. The physician is always concerned about the legal basis of his acts undertaken on the basis of ethical precepts. Not uncommonly law and ethics may conflict with each other.

Legislated codes tend to be inflexible. They are designed not just to guide, but to govern future behaviour. They result from the convictions of legislators that their members have determined the difference

between right conduct and wrong conduct. The legislators employ the legal power of their role as law-makers to mandate what shall be done and to order and provide punishment for what shall not be done^(7&8). Laws usually try to accommodate ethical choices of conduct and try not to compel conduct to be undertaken by those who consider it unethical.

Responsible policymakers in each country, guided by the international guidelines, have to decide on what is ethically acceptable in their own country. This will minimize conflict between Ethics and Law⁽⁹⁾. Physicians would then feel comfortable that their ethically inspired decisions are lawful and do not conflict with the law of the country⁽¹⁰⁾.

ISLAMIC PERSPECTIVES IN ART

The teaching of Islam covers all the fields of human activity; spiritual and material, individual and social, educational and cultural, economic and political, national and international⁽³⁾. Instruction which regulates everyday activity of life to be adhered to by good Muslims is called Sharia. There are two sources of Sharia in Islam: primary and secondary. The primary sources of Sharia in a chronological order are: The Holy Qur'an, the very word of God, the Sunna and Hadith, which is the authentic traditions and sayings of the Prophet Mohamed (peace be upon him) as collected by specialists in Hadith, Ijmaah, which is the unanimous opinion of Islamic scholars or Aamma and Analogy (Kias), which is the intelligent reasoning used to rule on events not mentioned by the Qur'an and Sunna by matching against similar or equivalent events ruled on.

A good Muslim resorts to secondary sources of Sharia in matters not dealt with in the primary sources. The secondary sources of Sharia are Istihsan, which is the choice of one of several lawful options, views of Prophet's companions, current local customs if lawful, public welfare and rulings of previous divine religions if they do not contradict the primary sources of Sharia.

The Sharia classifies all human actions without exception into one of five categories: Obligatory, as fasting and praying; recommended, as

marriage and family formation; permitted as breaking fasting when sick or traveling; disapproved, but not forbidden, as divorce; and absolutely forbidden, as killing. Even if the action is forbidden, it may be undertaken if the alternative would cause harm. The Sharia is not rigid. It is flexible enough to adapt to emerging situations in different times and places. It can accommodate different honest opinions as long as they do not conflict with the spirit of its primary sources and are directed to the benefit of humanity⁽³⁾.

ART was not mentioned in the primary sources of Sharia. However, these same sources have affirmed the importance of marriage, family formations and procreation⁽¹¹⁻¹⁵⁾. Also, in Islam adoption is not acceptable as a solution to the problem of infertility. One can adopt a child with all implications of adoption except giving him/her the family's name⁽¹⁶⁾.

In Islam infertility and its remedy with the unforbidden is allowed and encouraged. It is essential if it involves preservation of procreation and treatment of infertility in one partner of the married couples⁽¹⁷⁾. This is also applicable to ART, which is one line of treatment of infertility. The modern techniques of ART, including micromanipulations of the oocytes to facilitate fertilization, are no exceptions. The prevention and treatment of infertility are of particular significance in the Muslim World. The social status of the Muslim woman, her dignity and self-esteem are closely related to her procreation potential in the family and in the society as a whole. Childbirth and rearing are regarded as family commitments and not just biological and social functions.

A central feature of Muslim identity and family structure is authenticity of lineage. Individual's family names often disclose their paternity, and adoption into families and family names is not acceptable. Equally, sperm or egg donation fractures links of family genetic lineage, and is analogous to adultery and condemned.

ISLAMIC PERSPECTIVES IN REPRODUCTIVE CHOICE IN ART

Reproductive choice is the right of the person to freely choose his

or her reproductive performance including his or her reproductive potentials. Though reproductive choice is basically a personal choice, yet it is not totally so. This is because reproduction itself is a process which does not involve the person who makes the choice alone. It also involves the other partner, the family, the society and the world at large. It is therefore not surprising that reproductive choice is affected by the diverse contexts, mores, culture, religion as well as the official stance of the different societies.

Before introduction of ART reproductive choice was not a big issue. It was mostly limited to family planning and sterilization. It was not possible for couples to reproduce without having sex and the couples had no effective control on the sex of the child to be born or age of conception. ART allowed participation of a third party and contribution of a third party to the process of procreation. It also became possible to have children without having sex, sometimes at extremes of age^(18,19). Even children of the desired sex could be reproduced through ART^(20,21). Many countries issued legislations to regulate different practices and research of ART. Also guidelines were issued by different authoritative bodies to guide physicians when they are dealing with their patients.

The reproductive choice of the person not uncommonly may conflict with the interest of his or her own society. In reproduction, one cannot always have what he or she chooses to be done within his or her own society or country^(18,19). People may fly over or cross the borders to fulfill a reproductive choice which may not be permitted in their own societies or countries. Such an act is by no means restricted to one country or to followers of one religion. The fact that some Muslims fly over to Europe or the United States to fulfill a reproductive choice which they cannot have in their own country is a well-known fact for physicians working in the field of ART. The pattern also exists in Europe among residents of different European countries with different regulatory mechanisms of the process of reproduction^(9,10,19).

With the globalization of Medicine, non Muslim physicians whether in Muslim or non Muslim countries should be aware of

ethically acceptable modalities of ART for their Muslim couples when counseling them for the treatment of their infertility. Similarly Muslim physicians practicing in Non Muslim countries should be aware of these differences when he/she is counseling non Muslim couples. If the treating physician is unable to provide the modality of ART required by his/her patient, it becomes necessary that he/she should refer them to where their needs can be met. It becomes unethical to deny the couple such treatment simply because it conflicts with the ethical percept of the treating physician^(10,22).

GENDER ISSUES IN ART-ISLAMIC PERSPECTIVES

1 - ART IN THE POSTMENOPAUSE:

It is argued if men can father children at any age, why should we prevent women using ART from getting pregnant in the postmenopause if they do wish so? In the past, pregnancy in the postmenopause was only possible through egg donation. Egg donation is not permitted in the Muslim Countries as it involves mixing of genes^(23,24). The wider use of cryopreservation of embryos reopened the question of postmenopausal pregnancy. In vitro growth of oocytes (IVG) and in vitro maturation of oocytes (IVM) will make oocyte banking feasible and postmenopausal pregnancy possible⁽⁸⁾. Most would agree on postmenopausal pregnancy using cryopreserved oocytes of the wife during validity of marriage contract.

However, there are ethical concerns surrounding postmenopausal pregnancy. The first concern is the increased hazards of induction and completion of pregnancy in a woman who is of advanced, or beyond normal, childbearing years. The second concern is the children's needs of parents likely to survive at least into their mid-adolescence. The last concern is fair allocation of services and utilization of health resources⁽⁸⁾.

Most would agree that postmenopausal pregnancy be permissible to attempt in exceptional cases justified by: Maintenance of integrity of a child's genetic parentage, the pressing nature of the circumstances,

the relative safety to mother a child and parental capacity to discharge childbearing responsibility^(8,22).

2 - ART FOR MALE FACTOR INFERTILITY

When ART was introduced by Steptoe and Edwards⁽¹⁾ it was proposed for the treatment of irreparable tubal damage infertility. Today ART is virtually applied for all causes of infertility. The introduction of Intracytoplasmic sperm injection (ICSI) by Palermo et al⁽²⁵⁾ made it possible to have an effective line of treatment of male factor infertility through the use of ART. It became an everyday practice that female partners receive lots of medications and go through different procedures, which are not risk free, for the treatment of infertility caused by their male partners. In many ART centers female partners are not clearly counseled why will they have to undergo ART. They are not clearly told that the procedure will be performed to treat the infertility caused by their partners. Not uncommonly couples, mostly in developing countries, with azospermic or severely oligoastheospermic husbands show up at the IVF clinics without the wives knowing why do they have to go there. It becomes absolutely necessary that the treating physicians should clearly counsel the couple clarifying why the wife will have to go through all the necessary procedures for performing ICSI, though she personally does not have any apparent cause which would prevent conception.

3 - SEX SELECTION

Development in medical technology made it possible for couples to decide freely and responsibly the sex of the child to be born according to their reproductive choice⁽²¹⁾. This could be achieved with the use of Microsort technique to separate the X bearing from the Y-bearing sperms followed by intrauterine insemination, in-vitro fertilization or intracytoplasmic sperm injection⁽²⁶⁾. It also could be achieved with preimplantation genetic diagnosis (PGD) based on removing a blastomere at the 8 - 12 cell stage and detection of polymerase chain reaction (PCR)⁽²⁷⁾ or by the use of fluorescent in-situ hybridization (FISH) technique^(28,29).

Indications of Sex Selection:

The indications of sex selection are broadly divided into medical and social indications. There are over 350 X-linked diseases in humans including haemophilia, Duchenne muscular dystrophy and X-linked hydrocephalus⁽²⁶⁾. In most cases the X-linked diseases are only expressed in the male offspring of carrier mothers. The use of different methods of sex selection can allow for the preferential conception of unaffected female child and eliminating the birth of diseased male children. However, these methods of sex selection will not prevent the birth of female carriers. In the absence of a medical indication sex selection may be performed for couples who desire family balancing to increase substantially the probability of having a daughter or a son to restore balance to the sex ratio in the family⁽³⁰⁾. However, some may use sex selection for mere sex preference for a boy or a girl even in the absence of a sex ratio imbalance in the family, and hence the necessity for tight regulations to control these practices^(31,32) to avoid discrimination particularly against the female child.

Ethical Considerations:

Interest in sex selection has a long history dating to ancient cultures. Methods have varied from special modes and timing of intercourse to the cruel practice of infanticide. In many Societies today, the girl child is denied her right to life. Female infanticide, a practice that was prevalent in the past in many societies, has not been completely abolished. It has taken new forms⁽³³⁾. It has been brought earlier with the utilization of new technologies for the selective abortion of the female fetus and changed to the prevention of her conception through the use of PGD and sperm sorting techniques. Figures from China and South Korea about the trends in sex ratio at birth show how the ratio can be skewed with the use of selective abortion. For all the births there were 113 males for every 100 females⁽³⁴⁾. However, the use of the same technology allowed the screening for carriers of X-linked genetic diseases which enabled potential parents to select the sex of their offspring before pregnancy or before birth. As much as the use of these new technologies for

prevention of diseases is welcomed and encouraged, however, its use for the mere sex selection of the child to be born had created a great deal of ethical debate⁽³⁵⁾.

In 1999 the Ethics Committee of the American Society of Reproductive Medicine concluded the PGD for sex selection for nonmedical reasons should be discouraged because it poses a risk of unwarranted gender bias, social harm and results in the diversion of medical resources from genuine medical need⁽³⁶⁾. Savulescu et al., argued that sex selection should be available, at least within privately funded health care⁽³⁷⁾. The FIGO Ethics Committee recognized that the ethical principle of protection of the vulnerable and the ethical principle of justice are violated by sex selection abortion whether a male or female. The use of preconceptional sex selection to avoid sex-linked genetic disorders is an indication that is completely justifiable on medical grounds. It can be justified on social grounds in certain cases for the objective of allowing children of the two sexes to enjoy the love and care of parents. However, it must not conflict with other Society values where it is practiced and it should never be used as a tool for sex discrimination against either sex particularly the female⁽³⁸⁾. The universal declaration on the human genome and human rights underlies the fundamental unity of all members of the human family, as well as the recognition of their inherent dignity and diversity. In a symbolic sense, it is the heritage of humanity. In article six it states that no one shall be subjected to discrimination based on genetic characteristics that is intended to infringe or has the effect of infringing human rights, fundamental freedoms and human dignity⁽³⁹⁾. No doubt inducing abortion for sex selection would be infringing human rights, and human dignity of the child to be born. However, preconceptional sex selection cannot be argued similarly. It depends upon when do we regard the full human status begins. The Protestant tradition regards full human status as something which is acquired gradually and which might therefore not be present in the early embryo. Protestant theology, however, is very diverse, and it is more difficult to find a single source of authority on this issue to which reference might be made. It is, in fact, part of the Protestant ethos

that moral questions are determined by the individual conscience, and there is therefore room for a variety of stances on this point. Protestant thought, therefore, may accept that this is an issue on which Christians may have very differing views with these differing views being compatible with Christian beliefs⁽¹⁰⁾. In the Roman Catholic tradition a human being comes into existence at the time of fertilization, and the embryo is therefore considered as a human individual having the right to its own life. An individual embryo should therefore be given the opportunity to develop into a mature human being. The life of the embryo is sacred and it cannot be ended by any human agency. In the Catholic views all modalities of sex selection would be prohibited for whatever medical or social indications. The microsperm technique may be the only exemptions from this prohibition. For the Muslims and Jewish life starts later on in embryo development^(10,40). Consequently, preconceptional sex selection would be acceptable but not selective abortion. This statement of some of the major religious positions on the state of the embryo reveals a stark contrast between religious notions of the status of the embryo. If the question is defined as the embryo moral status, the various religious traditions are prone to take opposite positions. If it is defined in a broader perspective, then there may be room for some agreement⁽⁴¹⁾.

If we admit that individuals enjoy procreative liberty and that serious reasons must be provided if a limitation on reproductive freedom is to be justified, one cannot accept that sex selection for nonmedical reasons is ethically inappropriate and ought to be discouraged. The reservation against sex selection for non-medical reasons is often based on the assumption that it will lead to a serious distortion of the sex ratio and identifies gender as a reason to value one person over another, it may contribute to a Society's gender stereotyping and gender discrimination, is unreasonable for individuals who do not otherwise need IVF or IUI to undertake its burdens and expenses solely to select the gender of their offspring and because it represents a misallocation of limited medical resources^(20,21,31). According to the available empirical evidence, individuals in Western Societies do not

have a preference for a particular sex. Most couples still wish to leave the sex of their children up to fate and those few who would want to exercise control over the gender of their children desire to have a balanced family, that is a family with both daughters and sons⁽⁴²⁾. However, while sex selection in the west is unlikely to disturb the sex ratio⁽⁴³⁾, more openly available sex selection would further distort the sex ratio in Asia. The male to female ratio is nearly 1.2 in China and some parts of India. There were 100 million women missing as a result of various forms of discrimination in 1990⁽⁴⁴⁾. Whether this imbalance of sex ratio has any advantage is very questionable. Sureau in 1999 had postulated that it may lead to the increase in influence of the rarer gender, reduce population growth and may lead to interbreeding of different populations⁽⁴⁵⁾. Clear distinction must be made between the selection for the sex and the selection for other characteristics such as height, intelligence, eye colour and other specifications. Selection for certain specifications is dangerous and is the first step down a slippery slope which would lead to the creation of designer babies or a new eugenics^(21,31,35).

In Australia requests for medically assisted sex selection are not common. One IVF clinic for example receives about 15 - 20 requests for sex selection each year⁽⁴⁶⁾. Medically assisted sex selection for nonmedical reasons is banned in the United Kingdom and Canada⁽⁴⁷⁾. In Australia, sex selection employing artificial insemination or IVF is banned explicitly in Victoria by section 50 of the infertility treatment act 1995. In South Australia, section 13 of the Reproductive technology act 1988 requires that artificial fertilization only be used for the treatment of infertility.

Both acts provide exceptions to avoid the risk of transmission of a genetic defect. Some IVF centers in Australia provide sex selection on private basis. In Victoria and South Australia where it is illegal to perform PGD for sex selection, PGD to exclude aneuploidy may reveal the sex of embryos. Couples might in the future request healthy embryos of a desired sex "Incidental sex selection". The legality of transferring embryos of a desired sex in this circumstance is not clear⁽⁴⁶⁾.

The ethics Committee of the American Society for Reproductive Medicine in its recent review on pre-conception gender selection for nonmedical reasons recognized the serious ethical concerns that such a practice raises and counsels against its widespread use. It concludes, however, that sex selection aimed at increasing gender variety in families may not so greatly increase the risk of harm to children, women or society that its use should be prohibited or condemned as unethical in all cases⁽⁴⁸⁾.

In November 2000 an International Workshop addressed the ethical implications of sex selection among other issues of ART according to the Islamic Tradition⁽⁴⁹⁾. The Workshop recognized the importance of PGD, but was guarded about its use on non-medical grounds such as sex-selection or family balancing, considering that each case should be treated on its own merits. The medical application of PGD was seen as making progress in the field of ART, and as a welcome alternative to prenatal diagnosis that results in abortion. The decisions not to attempt implantation of embryos produced in vitro on grounds that they show serious chromosomal or genetic anomalies, such as aneuploidy, cystic fibrosis, muscular dystrophy or hemophilia, are acceptable. PGD is encouraged, where feasible, as an option to avoid clinical pregnancy terminations of couples at exceptionally high risk.

More contentious is non-medical PGD, particularly for purposes of sex selection. The Workshop endorsed the condemnation of discrimination and devaluation of the future's child sex, but considered that universal prohibition would itself risk prejudice to women in many present societies, especially while births remain central to women's well-being. Family balancing was considered acceptable, for instance where a wife had borne three or four daughters and it was in her and her family's best interests that another pregnancy should be her last. Employing PGD to ensure the birth of a son might then be approved, to satisfy a sense of religious or family obligation and to save the women from increasingly risk-laden pregnancies. The Workshop considered that an application for PGD for sex selection should be disfavored in principle, but resolved on its particular merits.

Finally it is argued if more than 50 % of couples around the world use contraceptive technology to prevent the birth of boys and girls why not to use reproductive technology to allow the birth of one or another sex^(20,21,31).

In conclusion one today would question the statement of the convention on Human Rights and Biomedicine of the Council of Europe that “ The use of techniques of ART shall not be allowed for the purpose of choosing a future child’s sex, except where serious hereditary sex-related disease is to be avoided⁽⁵⁰⁾. A multidisciplinary team needs to be established including IVF specialists, psychiatrist genetic counselors, clinical geneticists and molecular biologists to offer a safe and effective service and advice. When the technology is used for nonmedical indications tight regulation should reassure people worried that PGD might lead to “designer babies”. This will depend on the motivation of individual governments and clinicians⁽⁵¹⁾.

4 - LEGISLATIONS IN ART

Some countries developed legislations on egg donations and sperm donation in ART. Some countries allow one practice and do not allow the other. This presents a gender issue in ART. However, in the Muslim World both practices are not allowed and consequently it does not represent a gender issue.

CONCLUSION

No doubt the introduction of ART as a treatment of infertility raised a number of gender issues which did not exist in the past. When responsible bodies issue guidelines and legislations regulating ART practices in different countries they should be aware of and deal with these gender issues. Physicians offering ART services should properly counsel their patients. Gender issues should be clarified before patients are scheduled on ART programs.

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**ASSISTED - REPRODUCTIVE
TECHNOLOGIES (ART)**

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Assisted - Reproductive Technologies (ART)

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We should begin by differentiating between cases of reproductive technologies. There is human cloning which creates a baby who is an identical copy of a parent without fertilization of an ovum with a sperm. In addition, there is cloning of animals and plants. In Vitro Fertilization (IVF) is another reproductive technology where the resulting embryo is implanted in the uterus of the wife, the co-wife or a surrogate. IVF can take place using donor sperm and/or donor ovum. Genetic engineering can also be used for sex selection as well as for enhancing the baby's genetic material so that it may have certain special physical or mental characteristics. The same technology can be applied to animals and plants.

The ethical and religious attitude depends on which technology we are talking about. The following points should be made clear:

First: Technologies involving humans are greatly different from those involving other creatures. Man is elevated to a higher position and everything in this universe is subjected to his service. Apart from man, certain matters should also be taken into account such as human interest, the natural habitat and daily life needs. Hence, this study will focus on assisted human reproductive technologies. It is beyond the scope of this study to deal with other cases of reproductive technologies.

Second: IVF makes use of technological methods but will not be covered by our study as technology removes hurdles to conception or provides the conditions necessary for natural reproduction. Therefore, there are certain cases allowed by Islam such as IVF which uses material taken from the married couple. There are other cases, however, about which judgment is divided. The view of the writer is that infertility is undoubtedly a disease because it constitutes a short-fall in the conditions essential for natural reproduction and an obstacle

in the way of realizing a wish for having children. Any benefit obtained from technological facilities in this regard is therefore legitimate and greatly desired. The use of such technologies is only delimited by the requirement that certain practices accompanying this use and prohibited by Islamic Shari'a should be strictly avoided.

However, the juridical rule of permitting the prohibited under unavoidable circumstances is proportionately applied. It would seem that the negative impact of using such technologies on the basic relationships between husband and wife or parent and child is nothing to speak of.

With regard to Prenatal Genetic Diagnosis (PGD) involving selection of desired genetic characteristics, there is nothing in the Islamic Shari'a, as I see it, that could justify prohibiting it as long as such manipulation aims at ascertaining the physical well-being of the child and fending off genetic diseases.

The parents are quite within the boundaries of legitimacy when they desire this, provided that such practice should not involve any risks to the life of the fetus or the mother, and that any such selection should not adversely affect the family. The writer does not agree with the argument that such selection constitutes a form of eugenic discrimination. On the contrary, selection may prove to be necessary if it turns out that the fetus is prone to a severe genetic impairment. If treating it is not feasible and allowing pregnancy to proceed is risky to the embryo or the mother, selective abortion is permissible especially at the initial stages of the pregnancy. Any way, the determining factor in such complicated situations is the law of rivalry between high and low priorities.

Yet, we believe that developing the child's competencies through education and training is still essential no matter how effective genetics may be. After all, there are many aptitudes that require systematic activation through education.

Third: Does ART lead to a separation between sexual intercourse and reproduction? What is its impact on parenting, child and family?

In this regard, we say that if we keep within the frame work of the

married couple, to the exclusion of a third party at any procedure of this technology, there is no problem whatsoever no matter what method or pattern of use is applied or where the ovum is fertilized. The use of assisted reproductive technologies will not prevent or reduce sexual activities between the married couple requesting these technologies, nor will they have any undesired effects on the relationship between the couple since they have both willingly agreed to go through with these technologies. Going beyond this marital boundary is quite a different matter.

At this juncture, we draw attention to the important fact that Islamic teachings seek to keep sexual activity within the legitimate boundary of matrimony and to direct sexual drive to the function of getting offspring and building up good families. Islam is quite rigorous in prohibiting any extramarital sexual relationship and severely punishes the perpetrators.

Fourth: Selection of genetic characteristics will only be in the best interest of the child as it seeks to complement his abilities. It follows, then, that such selection is completely congruous with inherent human dignity and human rights. It remains the jurisdiction of education to play the greater role of energizing young people to the full and inducing them to behave in accordance with virtuous dicta and thus to have an exalted human personality that deserves an acquired dignity which far exceeds the dignity they inherently have at birth.

There is no philosophical basis that justifies concern about any social privileges resulting from genetic selection since these technologies are used for the purpose of enhancing energies and maximizing active contribution. In no way should this be compared to the use of steroids which are banned because of their extremely harmful effect on human life.

Fifth: In fact, any normal manipulation of the genes that only plans to invigorate them will never be able to alter the inherent nature that determines the kind of person a human being is born to be. It is these personal attributes that create in him his unique desires, will power, mental abilities and aspiration towards perfection. At the same time we should also strongly caution against certain lines of behavior

that stir in him wild desires and deprive him of this mental control over his sensual whims.

Sixth: Islam considers the family a basic unit in the social structure. The Islamic social theory and the various rulings relating to it are firmly grounded in this view of the family. Therefore, Islam stands firmly against any act that may jeopardize it. This fact should be noted when talking about any social attitude.

Seventh: According to the Islamic Shari'a, permission is the rule and prohibition the exception. Every human behavior is permissible until proven otherwise. Nothing can be declared prohibited without strong evidence. Likewise, nothing can be declared permissible if proven otherwise.

Eighth: We believe that every progress or new discovery can only be made within the framework of God's omniscience and omnipotence. The application of any new theory and the use of any new technology only mean that we are using God's laws not violating them or changing God's creation. What the Shari'a is against is the attempt to tamper with nature or use fraudulent tricks with the creation to make profits out of charlatantry and quackery. Shari'a is also against wasting natural resources bestowed by God on man.

Ninth: Every innovation, particularly one which is so closely related to man's daily life that it may change the course of human life in general, must be emotionally exciting and mentally overwhelming. People usually react by putting forward ideas and assumptions some of which are wonderful while others are simply dreadful. But each opinion held has its advocates. In such a turbulent atmosphere, a researcher may not be able to investigate the matter objectively. He will find himself unconsciously biased towards one option or another. So, it is difficult to reach a truly objective, social, scientific or juridical viewpoint at this stage.

Tenth: Scientific research cannot be banned or obstructed, especially when its influence is widely felt and when it opens up a door that leads into an unknown world. The public tendency then is to be impatient for the unknown to be revealed, out of curiosity. The wise thing to do in such cases is to think deeply and look into all sorts of consideration before coming up with a final judgment. We should

always expect that a wide range of cases will have to be taken into account whether we like it or not.

Eleventh: Some postulates may be the product of narrative fiction, which negatively affects the quality of the study. Others may also caution against various types of misapplication, which induces jurists and legislators to issue absolute juridical prohibitions to fend off expedients. We have already experienced the use of IVF and the various misleading and confusing assumptions put forward about it. Now, the jurists have recognized that each case should be studied on its own, away from the noisy atmosphere of assumptions and counter assumptions. Nevertheless, we believe that these multiple studies have not produced a satisfactory and conclusive judgment.

Twelfth: The right method is to begin by studying each case and the extent to which rules of permission or prohibition are applicable to it. Then an attempt should be made to recognize the resulting conditions of each application. There could be a confusion of good and bad results, which calls for careful contemplation and observation.

Thirteenth: We should admit that specialists in the field of such technologies are exclusively entitled to determine the positive and negative scientific impact of each technology. We as jurists cannot reach any resolution until they have concluded their research work. If they come to certain conclusions, even though these may sound semi-categorical, we can start to observe how such an impact agrees with our beliefs, values and Islamic principles as well as with our political and social viewpoints. Hence, we should not issue hasty judgments as long as practical results are not decisive yet.

But if we turn now to the issue of cloning, we will find that it takes different dimensions. As usual, there will be proponents and opponents. Each group will come up with what they hope to be convincing evidence. So, let's get into some detail.

Cloning and Related Juridical Rules

Scientists⁽¹⁾ classify cloning into several types, some of which are

(1) See the essay of Professor Hassan Hathut on the subject

traditional and some are new. Traditional cloning means producing a number of identical copies of a plant or an animal with a fusion between male and female sexual cells. This is done by transferring the nucleus of a somatic cell to a mature ovule from which the nucleus has been removed. The new cell begins to divide and (because of the cytoplasm) develops into an embryo which is identical to the plant animal or person from whom the somatic cell was taken.

New cloning, on the other hand, depends on keeping the cellular wall intact to prevent the familiar process of cell division. In normal procreation, the sperm (which carries half the number of the chromosomes of the human cell) penetrates the mature ovule (which carries the other half). The resulting fertilized cell thus carries the full 46 chromosomes of the human cell. This new cell which is the product of fusion between sperm and ovule procreates into two cells each of which divides. So, we get four cells, then 8, then 16, then 32, and so on and so forth.

But cloning specialists focus on the fertilized ovule and prevent the rupture of its cellular wall. The nucleus divides into two, each of which thinks it is the mother nucleus and develops into an embryo. The two embryos are identical in terms of genetic material.

It is noticed that cloning, whether traditional or new, cannot dispense with fusion between sperm and egg, directly in the new type and indirectly in the traditional type. In the new type, dependence on such fusion is obvious. As for the traditional type, the somatic cell, which is basic in the process, is itself the product of the initial division of a fertilized cell. It has been reported that the ovule may keep developing until we get a full animal. But this animal, as we have come to know, will be infertile besides being deformed.

Cloning has been met with tumultuous uproar worldwide. Scientists, sociologists and jurists have been divided on the matter into advocates and opponents. A lot of talk on the subject, however, reflects slipping into fictional thinking. The "have-you-seen" group, so dubbed by Dr. Hathout, embarked on a series of suppositions and presuppositions.

The Advocates' Views:

They focus on two basic points:

First: There is no evidence to justify prohibiting this process.

Second: There are positive benefits expected to be gained and vast horizons to be opened up for humanity. In this regard, they cite the following:

- A - The tremendous amount of information obtained by scientists about cell differentiation, the roots of cancer diseases, genetic disorders, immunity factors, causes of abortion, contraceptives, etc.
- B - Infertile couples will realize their dream of having children.
- C - Cloning will come in useful for controlling the well-being of the future generation and improving their life.
- D - It will contribute to enhancing special characteristics in individuals
- E - It will help confirm the results of studies as these will be applied to identical individuals.
- F - Proponents of cloning add that it is only a natural process that may naturally take place with certain animals. They assert that science is the property of all humanity. It is inconceivable that a ban be slammed on scientific research as this will deprive people from its potential benefits. Here we find that people sometimes indulge too much in fantasies about a society free from all diseases, in full control of its elements and possessing a wide range of all sorts of knowledge and so on.

Opponents' Viewpoints:

These too go too far in imagining the harm to be done by cloning. They even outdo the advocates in this respect. Here is a list of the ideas they put forward about cloning:

- A - It entails mixing lineage.
- B - It means change of God's creation.
- C - It involves the use of third party semen.

- D - It is a form of interfering with God's creation.
- E - It makes marriage irrelevant and dispensable.
- F - It destroys embryos which are human life in the making.
- G - It could lead to the collapse of society and stripping man of his humanity.
- H - Perpetuation of humanity depends basically on genetic variation which is jeopardized by cloning.
- I - It encourages abortion.
- J - Changing the natural desire for children into a desire for special characteristics.
- K - The young twin (the cloned person) gets to know his future through watching the life of the elder twin (the source of the somatic cell).
- L - Inheritance is rendered a complicated affair and questions related to it are embarrassing. Shari'a prohibits imperfect handling of inheritance.⁽¹⁾
- M - There are the problems caused by the possibility that a virgin may get pregnant especially if the nucleus transfer is made from one of her somatic cells.
- N - Professional criminals may benefit from this technology.

This list does not exhaust all possibilities of future harm postulated by the opponents.

Initial Evaluation of these Accusations:

A quick look at these accusations will reveal at once that they can not hold out against criticism, which calls for reviewing them before we determine what attitude we should take towards them.

The first questionable point is what has been reported about mixing lineage. This is a serious matter in Islam because very important social systems such as the family and inheritance are based on lineage.

(1) "Wasa'el Al-Shi'a" (The means of Shi'a) part 14 page 234

Mohamed Bid Sinaan is reported to have quoted Imam Redha as saying in answering a question on fornication: “It is prohibited by Allah because it involves the killing of a soul and disruption of lineage.”⁽¹⁾

In Tobrosi’s book entitled “ Al_Ihtijaj” we read about an atheist who said to Abu Abdullah Al-Sadiq, “Why has Allah prohibited fornication?”. The answer was, “Because it is intrinsically evil; it wastes inheritance and disrupts lineage as the woman involved does not know who she conceived from and the born child does not know who his father is”⁽²⁾

In these two quotations mixing or disrupting lineage is referred to as a prohibited corollary. But prohibition is not restricted to the case of fornication. It is generalized to include any situation that results in a disruption of lineage.

The arguments put forward by advocates of cloning, however, can be summarized as follows:

First: Lineage is maintained if the “guest” nucleus is taken from the skin of the husband and the ovule from his wife. In this case, the married couple is undoubtedly the biological parents of the born child. It is clear that many positive results can be obtained if these conditions are observed.

Second: Having children through reproductive cloning does not constitute a phenomenon, at least at present. Therefore, there could be some allowance for a minority of children not knowing who they descend from or having just a maternal lineage like what happens with the “bed child”. In other words, this does not lead to a confusion of lineage but only to ignorance of it, which takes the whole case out of the scope covered by lineage juridical rules.

Third: The possibility of benefiting from cloning by using the technology exists in the same proportion in IVF which has been approved by jurists almost unanimously.

(1) “Wasa’el Al-Shi’a” part 1

(2) “Al-Ehtijaj” by Al-Tubrusi

We do not want to support these arguments which are fraught with thorny problems. What we want to assert here is that one should recognize the pitfalls and make a detour to avoid them.

Referring to the matter of changing God's creation, the Quran says about Satan that he is:

“accursed by God. He said, 'Assuredly I will take unto myself a portion appointed of Thy servants, and I will lead them astray, and fill them with fancies, and I will command them and they will cut off the cattle's ears; I will command them and they will alter God's creation'. Whoso takes Satan to him for a friend, instead of God had surely suffered a manifest loss” (4: 118-119)

It is clear that Satan threatens to concentrate his temptation efforts on a certain group of God's servants so that he could subject them to his Satanic activities, one of which is the cutting off of cattle's ears and changing God's creation. Such deeds are certainly condemned by God and declared to be clear indications of total deviation from righteous behavior.

The question now is: Do we consider cloning a form of altering God's creation, something we are enjoined by God to avoid?

It cannot be said here that the cutting off (of cattle's ears) and the change (of God's creation) denote just any incidence of these activities even if it is for legitimate and reasonable purposes. Otherwise, any change occurring to the body such as a hair-cut, circumcision, branding camels' ears or beautification would have been prohibited.

Generalization would mean any kind of change in God's creation including change in nature. So, should we prevent that? Of course not. What is intended here is not the generalized meaning but, as some scholars say, any Satanic, fictitious process based on a Satanic fantasy or an atheist concept whereby natural resources are wasted.. There is a reference in the Quran to such activities:

“God has not appointed cattle dedicated to idols, such as Bahira, Sa'iba, Wasila

Hami. (5: 103)

[Bahira, Sa'iba, Wasila and Hami are names given by pagan Arabs to sacred animals offered at the Ka'ba]

The eminent scholar, Al -Tab Taba'i, said in his book "Al-Mizaan" (The Balance): "The pre-Islamic pagan Arabs used to split the ears of Bahiras and Sa'ibas as a sign that they were sacred animals and should never be slaughtered for meat⁽¹⁾. He also asserts that what is most likely meant by "changing the creation of God" is departure from the original nature of things and abandoning the true religion. He cites God's words in the Quran:

"So set thy face to the religions, a man of pure faith - God's original upon which He originated mankind. There is no changing God's creation. That is the right religion." (30:30)

This verse would substantiate Tab Taba'i 's interpretation of what would seem to be the meaning of "changing God's creation". This is also borne out by his quotation of Imam Al-Sadiq. Hence, this verse cannot be cited in an argument against any natural change, such as the cloning we are talking about. Prohibited, then, are a special section of deeds that are carried out under the seduction and persuasion of Satan.

Cloning, in fact, is a way of benefiting from natural laws decreed by God. It can not be considered a form of interference in God's creation or challenge to His designs as alleged by the opposition groups. If what these groups say was true, we would be then be forced to slam the door against any scientific discovery or innovation in genetics in all fields of God's creation.

As for the argument against cloning concerning the use of donor semen to fertilize a woman's ovule, it can be refuted both in principle and in application. Concerning the principle, there is no evidence for the prohibition of intracytoplasmic sperm injection. All evidence is focused on prohibiting fornication; unless opponents imagine they could make use of certain traditions that speak of inserting spermatozoa in the uterus of an unlawful sex partner. For example, Al-Kaafi ascribed to Ali Bin Salem a tradition ascribed to Abu Abdulla Al-

(1) "Al-Mizaan" part 5 page 84

Sadiq who narrated, "On the day of resurrection, the most severely punished person would be a man who deposited his sperm in a prohibited uterus (of an unlawful sex partner)⁽¹⁾. The chain of authorities on this tradition includes Al-Sadouq in "Eqab al - A'maal"⁽²⁾ (punishment of deeds) and Al-Barqi in "Al-Mahasin" (good deeds).

In another tradition narrated by Al -Sadouq, the prophet (PBUH) said, "For the child of Adam nothing he may do can be worse than killing a prophet or an Imam, the demolition of Al-Ka'ba ordained by Allah to be the Muslims' Kibla (direction to which they turn in praying), or discharging his semen in a woman unlawfully. "

In addition to the weak authenticity of such narratives, it is quite obvious that what is actually prohibited is getting semen into a woman's uterus through the punishable deed of fornication, especially when we take into account the severity of the punishment incurred. It is not likely that such punishment is decreed merely for getting a man's semen into a uterus that is not legally his.

As for application, cloning does not involve the use of donor sperm for fertilizing a woman's ovule as is obvious from the procedures of the reproductive cloning.

Taking up the point of dispensing with marriage, it is not true that cloning technology offers a facilitation to that imaginary extent. However, the need for marriage goes far beyond the desire to have offspring. The rule for human procreation is that it should be done through marriage. Resorting to reproductive technologies is only the exception.

We turn now to the matter of discarding multiple embryos. We would imagine that these embryos are not eligible to the status of personhood. It follows, then, that destroying them is not to be considered a murder which entails embryo blood-money.

(1) Al-Kafi: "Kitab Al-Nikah" chapter on fornicator part 5 page 541, "Al Wasa'el" chapter 4 part 14 page 239

(2) "Thawab Al-A'maal wa 'Eqab Al-A'maal" (Rewarding good deeds and punishing bad ones) page 310

Now, there could hardly be any discernible evidence that societies will collapse or that humans will be stripped of their humanity as a result of cloning. On the contrary, cloning might help out in the struggle against genetic diseases. It may also contribute to the efforts made to enhance and accentuate positive characteristics in the human genome.

Neither is there any justification for the concern that cloning may be detrimental to embryonic variation. In the first place, it has not been proven that a cloned embryo is such an identical copy that variation is totally ruled out. However, difference in environments and external factors must be a reassuring source for a measure of variation

Concerning abortion, the law and Shari'a provide the necessary juridical rules that regulate it.

We feel reassured that the desire to beget offspring through the time-honoured natural methods will always be there, simply because it emanates from the depths of human nature. We cannot think of Man as a dumb machine that can only produce what it is designed for. Man is different. Man has feelings of love and compassion involved in the process. He also responds to innate drives.

I do not see anything wrong with the "young twin" getting to know about his future life through closely observing the life of his "elder twin". This could turn out to be quite helpful in fending off diseases through early detection.

What remain now are legal matters relating to inheritance, lineage and social relations. It is for resolving such matters that Islamic jurists are called upon to concert their efforts instead of shedding responsibility to do so by imposing a total ban on scientific research, which would deprive humanity from its great results.

Finally, we now address the problem of misapplication and exploitation of this newly discovered technology. This problem could be effectively handled through fortifying social ethics and encouraging an honest human spirit. After all, we can not close a door that leads to beneficence because there are some who use it to realize their evil ends.

At this juncture, we go back to the evidence put forward by the supporters. We see such evidence as strong, well-conceived and wise. This kind of evidence should be contemplated and studied carefully, especially the argument that science is for all humanity and as such should not be denied to humankind on the basis of mere assumptions and suspicions. These are counterbalanced by positive conceptions and acceptable potential for tangible benefits.

We say yes to the necessity that application methods be freed from anything that contravenes Islamic Sharia.

Finally we do not want to issue categorical judgments about this matter. Rather, we want to emphasize the necessity that no hasty judgments should be passed. The whole issue of cloning should be moved from the hot pages of the press to the cool atmosphere of academic institutions. Thus, we get rid of the inflamed enthusiasm of the demagogues and transfer this extremely vital matter to the honest and objective hands of scientific research.

**HUMAN GENETICS AND
REPODUCTIVE TECHNOLOGIES:
HOW THEY REFLECT ON
THE FAMILY**

Dr. Sadiqqa Al-Awadi,

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Human Genetics and Reproductive Technologies: How they Reflect on the Family

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Human Genetics and Reproductive Technologies:

Human Genetics has come a long way since Aristotle's attempt to expound embryonic formation up to William Harvey who empirically proved that the embryo goes through several phases of formation. The Quran refers to these phases:

“O men, if you are in doubt as to the resurrection, surely We created you of dust then of a sperm drop, then of a blood clot, then of a lump of flesh, formed and unformed that We may make clear to you. And We establish in the wombs what We will” (22:5)

That is what made Harvey admit the scientific truth of the Quranic text. Then came the great leap with the discovery of the DNA structure. Molecular Genetics opened the door to investigating genetic disorders as well as the genes carrying the external and internal attributes of living beings. Further, it has become possible to diagnose a myriad of genetic diseases.

These interesting developments raise now many questions about the religious and ethical implications of innovated methods of treatment and the increasing use of modern technologies in diagnosing infertility and trying to find proper solutions to its various causes.

Genetic and reproductive technologies apparently deal directly with the species very existence, i.e. man's ability to survive and procreate. With the far-reaching advances made in this field, several ethical and juridical problems are expected to rise. Reactions to these advances have also been multifarious in nature; some are fully supportive, others are totally against such innovations preferring the traditional and “natural” methods.

For all these attitudes varying between acceptance and rejection, genetic and reproductive technologies are proceeding in earnest to find new methods of treatment for many genetic and reproductive disorders in order to assuage the suffering of such patients and infertile parents. However, it is well recognized that going too far in the application of these technologies may reflect badly on them and give rise to many social dilemmas. It may even lead to the emergence of hardly palatable or acceptable conditions. Therefore, it should be unambiguously clear where to draw the line.

Human cloning, for instance, is one of the reproductive technologies that warrants much skepticism and rejection; for it aims to create a baby that derives genetically from one parent only.

Other controversial technologies include sperm or ovum donation and surrogacy. All these procedures create social and family problems because they do not fit in with our true religion which advocates matrimony between male and female as was the case at the beginning of creation with Adam and Eve.

Some people believe that the use of these various reproductive technologies do not aim primarily to make humans any happier. A closer look at what these technologies want to achieve will reveal that the ultimate goal is to put into effect a development policy based on wide ranging procreation. To economically disposed minds this translates into an ever increasing population of consumers of what industrial countries mass produce, which means more and more profits and greater success for capitalism. This "brave new" world turns women into machines, through natural motherhood or surrogacy, for the incessant production of babies. Reproductive technologies are used widely to overcome hindrances to procreation, felt mostly in the West, so that the world may get densely populated through ethical and unethical means; it makes no difference. What is uppermost in the minds of those policy makers is exploitation and hegemony.

What is really alarming about reproductive technologies and genetic engineering is that they manipulate, or engineer, at molecular level to select pre-set genotypes for the production of babies with specific qualities. Such techniques are far removed from the real role

they are supposed to play, which makes them a liability rather than an asset.

It could be more reasonable and hence acceptable to apply these selection techniques to other living beings such as plants and animals. Their application to human beings is a disturbing reminder of the racial tendencies that marked European imperialism which looked down upon other races and treated black people as if they were primeval creatures that should be exterminated. These uncivilized attitudes are based on sheer greed and arrogance. Look at what Islamic Traditions say on this point:

“God does not look at your appearances; He looks at your hearts”

In another Tradition, we read:

“ An Arab is no better than a non-Arab unless he is more God-fearing”

Modern Reproductive Technologies and Eugenics:

1 - In Vitro Fertilization (IVF):

This technology produces what has come to be known as test tube babies, as fertilization is effected in a test tube. This process began in 1978 with the emergence of “New Genetics” as IVF was then dubbed by David Cumming, the editor of the American Journal “Human Genetics”. IVF became possible when Southern managed to break down the DNA with endonucleases which are primarily found in bacteria to protect them against phages. The first test tube baby is Louise Brown whose birth aroused a host of critical writings by politicians and religious leaders. They were apprehensive about the possibility of producing babies with congenital or spiritual disorders.

Millions of couples have now benefited from this procedure and are blessed with the children they have always dreamed of. Despite this overwhelming success, wives requesting the technology have to go through quite a painful procedure. One week before the onset of the menstruation, she must go to the doctor for a clinical test. Then she has to take certain medicines to prevent premature ovulation. Next she is injected with certain hormones to activate ovulation and produce

several ova. Ten days later, she has to go back to the doctor for an ultrasound diagnosis. If it shows that there are many ova in the Graffian follicle, she is given another dose of hormones to speed up their maturity. Three days later, the doctor retrieves these mature ova from the ovaries with a needle that reaches there through the vagina. Fertilization then takes place when sperms are added to the Petri dishes where the mature ova are placed. When these are fertilized, the embryos are implanted into the uterus. The poor woman is afflicted with pain, worry and psychological suffering with every step of this long procedure.

The rate of success of this whole operation is very low (about 16.6 percent). Failure leads to reiteration of the procedure more than once due to the pressing need for parenthood. Moreover, if the process ends successfully, it produces twins in most cases, which constitutes a burden. In addition, the medicines and hormones that the wife has to take reflect badly on her mood and psychological stability.

Although this procedure has become the order of the day, it still gives rise to many problems and ethical queries among practitioners and users alike.

2. Intracytoplasmic Sperm Injection (ICSI):

This process is closely akin to IVF, specially if it is the husband who suffers from infertility caused by oligospermia.

Preimplantatoin Genetic Diagnosis (PGD):

A cell is taken from each fertilized egg in the Petri dish for diagnosis particularly if the father is a carrier of such diseases as Tay-Sachs or cystic fibrosis. This makes sure that the embryos to be implanted in the uterus are unaffected by these diseases.

3. Human Cloning: (Intracytoplasmic Nuclear Transfer)

In this technology the egg nucleus is removed during the IVF procedure. This nucleus contains half the genetic material and substitutes for another nucleus of a somatic cell. After making certain electrical and chemical changes in the egg cytoplasm, the egg develops

into an embryo and begins to divide. This embryo carries all the genetic properties of the cell donor and is, therefore, called a clone. This process takes place in the laboratory, but when a surrogate is used it is called reproductive cloning which is not welcomed by researchers in the field of genetics and biomedicine. There is also what is known as Therapeutic Cloning. This technology is not well received either and results in several ethical, religious and social problems.

4. Germline Genetic Engineering:

This technology is used with IVF and constitutes changes in the DNA through introducing a weakened virus or using other modern techniques. This technology gives rise to many ethical and human problems and is tantamount to Eugenics, which is condemned as antihuman.

5. Chromosome Manipulation:

This involves the introduction of an artificial chromosome to the original 46-chromosome genotype in the human cell, so it contains 47 chromosomes. This technology was tried on mice with no substantive credibility. On top of that, there were no accurate data about which genes would work and which would cease to be functional, with all the catastrophic consequences this could lead to.

The Impact of Modern Reproductive Technologies on the Family and Society:

- 1 - These technologies may not make people happier. On the contrary, they may create a situation where a race might enslave another, which reminds us of an era that witnessed the colonization of whole continents and the enslavement of many nations by the European white men.
- 2 - Monopoly of these highly expensive technologies will widen the gap between developed and developing nations. Surrogacy will be widely used as an investment for increasing the number of consumers in the world. The capitalist industrial countries will thus master the world regardless of whether the means is ethical and legal or otherwise.

- 3 - The hateful human tendency to hegemony and exploitation is on the rise once gain as was the case in the past when the imperialists invaded and occupied countries that had a rich record of old civilization such as India, China and the Arab world. They even obscured the fact that the modern civilization they brag so much about is in fact based on Arab contributions to every field of science and literature long before the European Renaissance.
- 4 - Up till now, there are people who take a neutral stance on these technologies. They are neither wholeheartedly for them nor stubbornly against them. This is because people, specially in the Islamic world, are not adequately aware of all the ramifications of these technologies. To people who hope against hope to become parents, all genetic and reproductive technologies are reduced to In Vitro Fertilization which is capable of making their dreams come true.
- 5 - Genetic and reproductive technologies have their positive and bright side. They play a major role in preserving lineage and maintaining good health. The real concern begins to weigh heavily on our minds when evil hands tamper with human nature and genetically engineer the human genome to select certain genes and discard others with a view to producing people designed to master others and exploit them. If such a situation obtains on a large scale one could imagine all sorts of individual and social turbulence.
- 6 - Examples of the bright side of genetic engineering technologies are Gene Therapy and Therapeutic Cloning. These are truly beneficial to mankind. They enhance man's feeling that he is of special value in this world and deserves to be appointed God's vicegerent on this earth. God has bestowed this honor on man because of His prior knowledge that man will do good on the earth.. Gene Therapy and Therapeutic Cloning could be a manifestation of this good.

DISCUSSION

Fifth Session

Chairman: Dr. Mustashar Abdullah Al-Essa

Rapporteur: Dr. Habibah Al Sha'bouni

Chairman: Sheikh Salami

Sheikh Mohd. Mokhtar Salami:

In the Name of Allah, Most Gracious, Most Merciful. I want to begin with setting aright a wrong information I happened to give by mistake while talking about Islam and the forbidden marriage of relatives. What Islam forbids is marrying one's mother and her chain of mothers, no matter how long the chain may be. It also forbids marrying one's grandmother regardless of the length of the chain of grandmothers. Second, Islam forbids marrying one's daughter and her offspring and one's son and his offspring. Thirdly, Islam prohibits marrying one's uncles or aunts. Other than these specified relatives, man can marry any of his relatives. One can marry his cousins on the maternal or paternal sides. This is completely lawful in the Islamic Law. Having this point clarified, I'd like to hark back to the lectures delivered. I'd like to raise three issues about the address of Sheikh Taskhiri and the Fatwa that was issued. This fatwa, in my opinion, involves some correct and other incorrect aspects. In Islam, fatwa is not considered as infallible. The surrogate womb is not legally accepted in Islam. Allah Almighty says, "None can be their mothers except those who gave them birth. And in fact they use words (both) iniquitous and false;" (Al Mujadilah: 2).

Having one person as the natural mother of the fetus and another as the carrier of the fetus in her womb is thus an encroachment on Allah's norms. The psychological problems mentioned made him accept this fatwa that declares the permissibility of surrogate wombs. His Eminence talked about the confusion of genealogy which is a pretext used by some jurists or some Imams. The confusion of genealogy is forbidden. It is not a personal opinion of these jurists. It is rather one of the certainties in Islam which are based not on one

evidence but a set of evidences. For one, a woman cannot remarry after having divorce or after being a widow till after being decisively sure that she is not pregnant. Thus, the genealogy of the newborn is traced back to the man she was married to. The similar applied to bondwomen, no one marries them till making sure that they are not pregnant. Third, Islam does not prohibit adultery for the mere prohibition of physical enjoyment and satisfaction. A sound Prophetic Hadith reads that one day a man came to the Prophet (PBUH) and said, "O Allah's Messenger! Purify me; for I have been alone with a woman and we made out but did not have sexual intercourse." This means that he kissed her and flirted with her. The Prophet asked this man, "Did you perform the prayer with us?" the man answered in the affirmative. The Prophet said to him, "Good deeds erase sinful deeds." This is a sound Hadith mentioned in Al Bukhari. As for the adultery which can result in having a fetus from an unknown father, this is the evil. The speaker attempted to make the confusion of genealogy an issue open to discussion though it is not. It is a certainty in Islam. Whenever there is a case in which genealogy confusion may happen, the Islamic Law states its permissibility. It is simple. Allah Almighty says, "... and instructing you in Scripture and Wisdom, and in new Knowledge." (Al Baqarah: 151) "... and taught thee what thou knewest not (before): and great is the Grace of Allah unto thee." (Al Nisa': 113) "So fear Allah; for it is Allah That teaches you. And Allah is well acquainted with all things." (Al Baqarah: 282). These are the Qura'nic verses that I could remember now. Thank you.

Chairman: Dr. Farhat Moazam.

Dr. Farhat Moazam: Thank you very much for allowing me to make this comment. I realized, I have two disadvantages. I am sitting in the second row, and the other one is that I am a female. My comment is the observation that I have made is that the science we are talking about is extremely complex. We have physicians here, and have Muslim scholars here. Even when we talk of therapeutic cloning, it includes many more facets. Then the facets that have been shown away here. Because, therapeutic cloning, when you begin to talk of somatic cell nuclear transfer, also includes issues such as genetic

mixing between humans and animals which is something that is being done. I will speak about that tomorrow. So, my comment here is that I have heard many religious scholars and others talking about sciences for the “*Kefaya*” for Muslims which is correct and therefore, if science benefits humans, it is ok. So, when we talk of therapeutic cloning, how many people will benefit from that versus the other issues that doesn’t matter which part of the world we come from including the United States? The issue of who benefits from this has been taken under this general benefit to human kind. I don’t understand, why we are not looking at other issues.

The second comment that I have is that I am making it as a Muslim female. What I am distressed is that all morning we have been talking about abortion, conception, embryo and I have not heard a single female voice from among the Muslims except Dr. Sadiqa, I am complementing her on that. To me, this is something that should be addressed. How can men talk about issues without asking what the women feel about it, Muslim women too? So, if we get into theoretical discussions, which we have been doing now, we are discussing the same thing. The last two days, it is women, the female physicians, were out in the forefront to take care of women who are coming to them for abortions. Have we tried to get information from them? No, so my request to this conference that is supported by WHO, ISESCO, EMRO is that these are issues which be taken into account, when conferences such as these are organized. Thank you.

Chairman: Dr. Hanan

Dr. Hanan Hamamy: Thank you Mr. Chairman! I am a human medical geneticist and I have been working in this field for the last 30 years. As Dr. Farhat says, genetics is very complex. I feel, the more I know that I don’t know. So, we can’t take these issues that they are straightforward whether in diagnosis or in therapeutics. Everyday, I go to my clinic and I meet families who come to me for help. These families have genetic problems. Some of them come because, they heard about prenatal diagnosis. They have 2 or 3 affected children with severe mental and physical disability. They cannot handle another child with the same condition. They want normal children. From my

part, I am a scientist, so what I do is to give them full scientific advise about their condition, the management, the risks of recurrence and what science can offer to them in the area of prenatal diagnosis. The decision whether to continue an affected fetus's pregnancy, or to terminate the pregnancy is purely a family decision. This is what the genetic counseling is about. The genetic counseling is primarily ethical or let us say primary corner stone in that it is non-directive, non-judgemental. It gives information to the family and the final decision is the decision of the family. I work in Jordan, there are no clear guidelines on legal aspects on abortion of the affected fetus. But, in the center that I work in, many families go through a prenatal diagnosis and after that they might or might not terminate. I don't have any contact with them. But for the last few years, for example, we had more than 300 prenatal diagnoses, most of them for thalassemia, which we do in the center. So, the decision whether to abort or not to abort is a family decision. Some times, I get families who come for first time, and they don't know about this technique. And my job is to explain them all the possibilities that they can get from the scientific point of view. And, they are stuck in a decision whether to abort this is *halal* or *haram*. I cannot give them my opinion. So, my call in this conference is that we, as geneticists, need our distinguished religious authorities, Muslims or Christians, their cooperation and help in giving some information to these families on religious opinion. The genetic diseases are multiple, there are more than 1000 genes which are known now, in human genome, there might be 30,000 genes. So, we cannot give a general opinion. For example, all genetic diseases that are severe, allowed to abort if not severe not allowed to abort. What is the distinction in severity? Is severity a mental handicap? Is severity a physical handicap? Some of them come about to separate or to divorce or their husbands want to get married to another woman. So, it is misery to some families. So, what we need, as genetic counselors, is the very clear guidelines.

And for these guidelines, we can, for example, let us say, put committees, which include medical people to give a full issue or clinical picture for these diseases and in particular, we need religious autho-

rities, we need legal authorities, and also health policy makers, and the governments. Also, we need to take opinion of the families, opinion of the affected, some affected by genetic disease which may be I don't think it is severe. But, they don't want that their son or daughter have same disease. So, my call here is to give some guidelines to us, to genetic counselor, so that we can proceed in a more smooth way to counsel these families. And, the decisions are first of all, and also last of all, is a decision for the families. Thank you.

Chairman: Shukran! Dr. Habibah Chaabouni.

Dr. Habibah Chaabouni: Thank you. In the beginning, I'd like to thank all the speakers; for within the last two days we learnt a lot. I'd like to discuss two points. The first point is that scientifically speaking the egg which is fertilized and grows till it becomes a fetus; is considered a fetus. This growth can happen inside or outside the mother's womb. Either way, this fertilized egg is held to be a fetus. The advances in science may make it possible for scientists sooner or later to make the fetus grow into more advanced phases outside the mother's uterus. Now, experiments are conducted on pregnant women. So, what is the opinion of the Islamic scholars if the fetus grew for weeks outside of the mother's womb? Thus, I come to the second point. As Dr. Hanan said, scientists, especially physicians specialized in genetic diseases, depend on ethics in their daily work. Therefore, it is hard for me to listen this morning in some sessions that it can be allowed to elect fetus for its sex alone. This election happens to render the family balanced and achieve their welfare. On the other hand, in some sessions I hear opinions rejecting the election of fetus because of the existence of some cells or genes that would make out of him a person plagued with a disease that has no cure and would cause him and his family physical and psychological pains. Given that we permit the fetus election for its sex, I believe it to be more important to permit fetus election for the comfort of its family and for the sake of its future life. Thank you. The minimum of welfare in this life. Thank you.

Chairman: Shukran! Dr. Aida Al-Aqeel.

Dr. Aida Al-Aqeel: I would like to thank all the organizers for this

excellent symposium. I have two points to clarify. First, I would like to thank Dr. Sadiqa Al-Awadi for her very illustrated excellent talk about genetics and its intervention. I would like joining my voice to Dr. Hanan's voice that we clinical geneticists are in the forefront of meeting these families. It is our job as geneticists, as Muslim geneticists, to face these families to counsel them about their diseases, treatment and prevention. So, for me as a geneticist, I know so many disorders are not treatable. The most important job that we are carrying on at the moment is prevention. So, I would like to stress the importance of prevention of genetic disorders. We, in Saudi Arabia, have so many preventive measures like a new born screening for almost 15 of genetic metabolic disorders, which is a nationalized policy, pre-marital genetic screening, blood disorders. We also have very big grant for pre-implantation genetic diagnosis. These are the important measures for the prevention of genetic disorders. Now, another important preventive measure is therapeutic somatic cell nuclear transfer or therapeutic cloning, which I am going to talk about tomorrow. I want to stress to the audience of the importance of prevention of genetic disorders.

Another important point is about consanguineous marriage. I respect Sheikh Salami about his opinion from Islamic point of view. But, I want to clarify something about genetics. Genetic disorders are not simple. There are so many genetic disorders, which are transmitted by single gene disorders, chromosomal disorders, mitochondrial disorders. Since we are talking about consanguineous marriages, autosomal recessive disorders are the most important in this issue. Because, thinking of it from genetic point of view, we share almost half of our genes with our fathers, and also with our brother and sisters. We call it, in genetics, first-degree relatives. There is another degree of relatives, we say second degree of relatives like, for example, half steps when there is a common father, but two different mothers. These steps, share almost $\frac{1}{4}$ of their genes. Then there is a third degree relatives, like *Ibn Al-Amm*, *Ibn Al-Khala*. So they share almost $\frac{1}{8}$ of their genes. And, as you go more in this relationship, there is more sharing of genes. We think of just simple statistics. There is more

increase in rate of what we call autosemrosis disorder. Because, normally we have around 78 genes in common, which are not good genes. We all have these abnormal genes. So, once you have relative parents like, for example, *Aulad Amm*, *Aulad Khala*, father and mother, cousins, the two parents, *Aulad Amm*, *Aulad Khala*, the same time, there is more risk of these autosomerosis disorder. And, I can tell you, in my genetic clinic, 90% of the patients, who come to me, have relative parents either *Aulad Amm*, *Aulad Khala* or double first cousin *Aulad Amm* and *Aulad Khala* at the same time. So, from genetic point of view, there is an increased risk. We would like to think to have the opinion of our Islamic scholars about this. Thank you.

Chairman: Yes, Dr. Taqi.

Dr. Taqi Othmani:

In fact, I wanted to comment on the issue of borrowing the uterus which his eminence, Sheikh Taskhiri, mentioned. Yet, his eminence Sheikh Salami, may Allah protect him, expressed my thoughts in this concern. In fact, all the Islamic Fiqh Academies forbid surrogate wombs. Yet, there is a question that was not approached by researchers. If a person opposed this legal verdict and surrogated a womb and had a baby as a result, who would be the mother from the religious point of view? Is it the surrogate person or the one who hired her? On the surface, it seems that the surrogate mother is the mother from the religious point of view due to the Qur'anic verse, "None can be their mothers except those who gave them birth." (Al Mujadilah: 2). Further, the Prophet (PBUH) said, "...the child is for the owner of the bed, and the adulterer receives the stones." This question needs the contemplation and opinion of the jurists. Peace be with you!

Chairman: Shukran.

A Participant:

I seek knowledge in the field of human genetics and I am Muslim. First, the concept of the "Being" as a static being that undergoes no changes. I think that this concept is not consistent with the actual reality. When Allah, Exalted be He, created the Genome - the origin of all genes, He created it all at once and left the genes to interact

with the environmental circumstances. Thus, there is a rate of natural genetic mutation. In other words, a change in the Genome takes place naturally in the living creatures. This change adds vitality and flexibility to the genetic code. Thus, it can interact with the environmental circumstances till Doomsday. This is similar to the attempt of modifying the genes within the knowledge Allah Almighty bestowed on us. To say that genetic modification is an attempt to modify the creation of Allah involves some exaggeration in my opinion. Thus I reach my second point. From a biological point of view, the fertilized egg is alive from day one. This is the main problem concerning the issue of abortion. Given that the bacteria are living creatures, can we define the human life? Allah Almighty did not answer this question. He rather said, "Say: "The Spirit (cometh) by command of my Lord..." (Al Isra': 85). The Sheikhs, rabbis and priests deal with the spirit as something exclusive to the knowledge of Allah. Do we even know what the human life is? In a Qur'anic verse, Allah Almighty says that one of His Prophets created of clay a mould similar to the bird and Allah Almighty blows life into it. Clarify the difference between creation and life! The third point I want to address is cloning: a sort of reproduction. This raises the issue of identifying the father and the mother. The Qur'anic verse reads,, "None can be their mothers except those who gave them birth." (Al Mujadilah: 2). In the Chapter of Al Ikhlas, Allah says, "Say: He is Allah, the One and Only; Allah, the Eternal, Absolute; He begetteth not, nor is He begotten..." (Al Ikhlas: 1-3). This means, Allah knows best, that there is a difference between the identification of the parents (cloning) on the one hand and the process of delivery. So, is there really such difference?

Chairman: Shukran. Dr. Ted Peters.

Dr. Ted Peters: It has been said frequently this morning, I think, correctly that the advance of science around the world is moving so quickly that it is forcing us to ask different questions. And a number of questions that have been asked here are in the light of ART, surrogate motherhood and artificial insemination by donor and all kinds possibilities. We are trying to answer ethical questions through biology that somehow, rather if we can identify, can do between the

parents and children genetically and get somewhere ethically. Now, we can understand why Islam and Judaism in particular have relied upon biological criteria for inheritance? I wonder, if we could ask questions in a slightly different way. I was frankly very moved with Dr. Awadi's description of his family. I am wondering if we could go to different ways within the three religions' traditions and ask what about the criteria of law for borned within family life and cannot count as much as biological inheritance? Oftenly, our traditions have strongness in dettologies, let us say, we are looking forward to transformation by GOD in our future life. I sometimes, think, I wonder if that future is more important, than where it is we came from? Now, I happened to be a father and family for which we adopted a couple of children. My children have grown up. So, I wonder is there something in the ethical deliberation and knowledge whether we could borrow or bring to bear as we work through the naturally reproductive technology?

Chairman: Thank you!

Sheikh Mohd. Ali Al-Taskhiri:

I'd like to explain for Sheikh Salami that the verse, "None can be their mothers except those who gave them birth" (Al Mujadilah: 2) is not a general verse to be resorted to in this issue. It is rather restricted to the issue of Zihar. A pagan custom that was used to degrade women and leave them neither divorced nor married and deprived of all their conjugal rights. The formula of Zihar consisted of the words, "Thou art to me as the back of my mother." The verse here denies this custom saying that the mother is none but the one who gives birth to the child. This is not a verse to be generalized and held as evidence in this topic at hand. Please note that the mother is the owner of the egg. As for the owner of the surrogate womb, she can be called a foster mother. I'd like to emphasise the words of Dr. Cha'bouli that science succeeded in making the egg reach the phase of the baby. In light of this, is not the egg owner the mother of this baby though she does not give birth to it? This baby comes out of an artificial womb, as declared by Dr. Chabouli. Thus, the mother is the egg owner and the foster mother is the owner of the womb. There is another point. I did not deny that the phenomenon of the genealogy confusion is a

very bad and immense one. What I deny is the existence of genealogy confusion in this process. I said that if this process is conducted for a married couple or a defined father, there will be no genealogy confusion. I am for the impermissibility of mixing people's genealogy. But I suspect that this will not happen in this process of surrogacy. I direct the following point to Sheikh Othmani. He referred to the Prophetic words, "... and the adulterer receives the stones." In my opinion, there is no adultery involved in the process of surrogacy. It is rather a process in which a man fertilizes his wife's egg which is moved by her complete consent to another womb. There is no prostitution or adultery involved to say, "... and the adulterer receives the stones." This is completely irrelevant to our process. Therefore, I stick to my opinion and open the topic for discussion to reach a decisive stance in this regard. Thank you.

Chairman: Shukran.

**Topic II:
Genetics, Reproductive
Technologies and The Family**

**Sixth Session
Tuesday, 7 February 2006**

**Genetics and Reproductive
Technology - Islamic, Christian
and Professional Perspectives**

**Chairman : Dr. Hussein Gezairy
Rapporteur : Dr. Hamid Ahmed**

Speakers:

- 1 - Dr. Gerald R. Winslow*
- 2 - Dr. Mohamed Ali Al-Bar*
- 3 - Dr. Abdul Sattar Abu-Guddah*

**CHRISTIAN PRINCIPLES FOR
ASSISTED HUMAN PROCREATION**

Gerald R. Winslow,

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Christian Principles for Assisted Human Procreation

Gerald R. Winslow

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Introduction. Personal anguish may be intense when couples are unable to have their own children. From the time of ancient human stories to the present, married couples, desiring to have children but finding themselves to be infertile, have sought help. Only in recent decades has medical science offered an increasing array of assisted reproductive technologies (ART) to aid infertile couples. The two cases that follow may help to uncover some of the ethical complexity of ART:

Case 1: Mary (all the names used in this paper are, of course, fictitious) was only 22 years old, and preparing for marriage when a rare tumor required the removal of her uterus. The surgeon was able to preserve Mary's ovaries, but not her uterus. Still, Mary's grief was deep because she and her fiancé, Tom White, had hoped to have children. She even offered to call off the marriage out of respect for her fiancé. (Tom was his parents' only child, and he and Mary had hoped to perpetuate his family name.) Tom assured Mary that he loved her and wanted to go ahead with the marriage despite the fact that they would never have children of their own. They could, he assured her, attempt to adopt children. After about four years of marriage, when Mary and Tom were seriously considering the adoption of a child, Mary's older sister, Susan, spoke with Mary about a different possibility. Susan offered to be a surrogate gestational mother for Mary and Tom so that they could realize their hope of having a child who would be genetically their own. Susan already had three children, and she and her husband agreed that serving as a surrogate for Mary would be a very satisfying way to help her sister. After long and careful conversations with Susan and with the physicians at the fertility clinic, the Whites decided to seek in vitro fertilization (IVF) using their own gametes. The plan was to transfer the resulting embryos placed to Susan's uterus with the hope of a successful

pregnancy. (Tom's parents were made aware of the plan, and they offered to help cover the substantial expenses for the IVF procedures.) IVF resulted in eight embryos, three of which were placed in Susan's uterus. The other five were frozen for possible later attempts. Susan became pregnant with one fetus, and in due time she gave birth to a healthy baby boy named William - the son of her sister and brother-in-law. Now, two years later, Mary and Tom are considering whether to try for a second child. Susan is again willing to serve as a surrogate for gestation, and the entire family considers little William to be a gift of God, a kind of miracle made possible through modern medical technology.

Case 2: For several years, Carol and Bob Little had been unsuccessful in their attempts to conceive a child. After careful testing, it was discovered that Bob produced sufficient sperm with adequate motility, but Carol was incapable of producing ova. She was also found to have a heart condition that might make pregnancy more risky for her. Both Carol and Bob, who were in their mid 30s, worked at high-paying jobs, so the cost of IVF was something they could bear. After considering all their options, the Littles decided to seek the aid an ova "donor" - a young woman who would be paid for producing a number of ova following the use of a medication that produces hyper-ovulation. The plan was to use IVF with Bob's sperm and the ova from the "donor." The resulting embryos would then be placed in the uterus of yet another woman, who would be paid for gestational services. (Carol had decided not to risk pregnancy, and she also felt it was important to continue her job in order to help pay for the IVF). The plan succeeded: seven embryos resulted from the IVF; three of these were implanted in the surrogate; and pregnancy with a single fetus resulted. The remaining four embryos were frozen for possible future use. A baby girl was born, and the Littles were delighted. However, problems developed in the marriage. And four years after the birth of their daughter, the Littles sought a divorce. About two years after the divorce, Carol decided that she wanted to have another child -- a sibling for her daughter who now lived with her. Carol sought access to the four embryos that remained frozen at the fertility

clinic where the Littles had gone for IVF. The agreement that both Bob and Carol signed prior to IVF stipulated that both of them must agree to any future use of the embryos. Bob was contacted, and he objected to Carol's plan. From his point of view, the embryos were genetically related to him, not to Carol, and he was unwilling to agree to any attempt to use them for another pregnancy. Carol sought a legal decision from the court. A law suit was filed on behalf of the *daughter* with the claim that she was the only person 100% related to the frozen embryos, and failure to permit them to be gestated and come to birth would deprive the daughter of her relationship with her siblings. The first court decided in favor of Bob Little on the grounds that the original agreement signed by both Bob and Carol was binding, but the matter is now pending further legal appeals.

These two cases could hardly be called typical. Some might even find them rather strange, though they do represent actual cases. My hope, however, is that they may be useful, as a prism is useful, to show some of the ethical color and complexity that arises with ART. My purpose in this paper is to set forth basic principles, drawn from Christian faith, which may be applied to current medical technologies for assisting human procreation. If the Whites or the Littles had sought Christian guidance for their decisions about ART, what counsel should they have received?

It will be obvious, of course, even to those not generally acquainted with the various divisions of Christianity, that there is no single Christian ethic for ART.⁽¹⁾ Christians accept the authority of their canonical Bible as the key source for moral guidance, but they differ, sometimes dramatically, in the way they interpret scripture for ethics. They also differ in the degree to which other sources of moral wisdom, such as human reason, should be taken into account. My claim, then, is not that I am representing all of Christianity or even one major strand of the Christian tradition. As a Christian who

(1) For a recent survey of monotheistic religious attitudes toward assisted human procreation see J. G. Schenker, "Assisted Reproductive Practice: Religious Perspectives, *Reproductive BioMedicine Online*, January, 2005, Vol. 10, No. 3, pp. 310-19.

locates himself in the broad stream of Protestant Christianity, I do not even want to claim that I represent one denomination within Protestantism. I am simply a Christian theologian and ethicist who specializes in biomedical ethics, and the views in this paper are my own personal attempt to understand Christian faith, informed by the writings that Christians believe to be sacred.

Possible rejection of all ART. Before turning to Christian principles that may guide ART, it may be helpful to acknowledge that such principles would be unnecessary if ART were found to be entirely unacceptable. This is essentially the position of a major part of Christianity. The Roman Catholic Church, in its pronouncements, especially in *Donum Vitae*, has largely rejected all forms of ART as unacceptable ruptures of the unitive and procreative functions of married human sexuality.⁽¹⁾ Words from the conclusion of *Donum Vitae* eloquently remind all of us about what is at stake: “By defending man against the excesses of his own power, the church of God reminds him of the reasons for his true nobility; only in this way can the possibility of living and loving with that dignity and liberty which derive from respect for the truth be ensured for the men and women of tomorrow.”⁽²⁾

Acknowledging the remarkable power that medical science has gained over human procreation in recent decades, the writers of *Donum Vitae* caution against the serious moral risks such power represents. The question that must be addressed from the perspective of Christian faith is how best to preserve human dignity and human rights, in keeping with the love of Christ. Only medical science that is in the service of divinely appointed personhood is within the will of God. The moral danger of ART does not stem from the fact that such interventions are *artificial*. Rather, moral evaluation of ART must be

(1) Congregation for the Doctrine of the Faith, *Donum Vitae*, issued February 22, 1987, translated as “Instruction on Respect for Human Life in Its Origin and on the Dignity of Procreation” and reprinted in Edmund D. Pellegrino, et al, editors *Gift of Life: Catholic Scholars Respond to the Vatican Instruction* (Washington, D. C.: Georgetown University Press, 1990), pp. 1-37.

(2) *Ibid.*, pp. 36-37.

based on its relationship to human dignity as created by God. The innocent human individual has God-given dignity, and thus the right to life, from the moment of conception until death. And the transmission of human life through the act of procreation must also be preserved according to the will of God.

Two primary objections to ART emerge from the Roman Catholic moral tradition. The first has to do with the moral status of the embryo. From the time that human gametes first unite in the production of a new zygote, a new and fully protectable human soul is present. For this reason, any form of ART that endangers human embryos is morally unacceptable. In the words of *Donum Vitae*: “[A]ll research, even when limited to the simple observation of the embryo, would become illicit were it to involve risk to the embryo’s physical integrity or life by reason of the methods used or the effects induced.”⁽¹⁾ From this point of view, if human embryos are produced *in vitro*, they must be protected and given the opportunity to come to birth. No “spare” embryos may be discarded. And cryopreservation, or freezing of embryos is also forbidden even though the goal may be the conservation of the embryo’s life, because the act of freezing exposes the embryo to added risks of harm, including the risk of death.

The second major objection of the Roman Catholic tradition to ART relates to the nature and purpose of sexual procreation in marriage. Responsible procreation can only occur within the boundaries of marital fidelity. This means, among other things, that a husband and wife can only become parents through the gift of love to each other. No third parties, for example in the person of surrogates or sperm or ova “donors,” should be involved. Even artificial insemination using the sperm of the husband is rejected because this would break the connection between the unitive act of sexual intercourse and the procreative purpose of such intercourse. From the Catholic perspective, all human procreation must be the result of sexual congress between a husband and a wife, and must always

(1) *Ibid.*, p. 13.

combine both the capacity for “love making” and the potential for “baby making.” This teaching entails the well-known prohibition on all forms of artificial contraception. And the practical effect is to rule out virtually all forms of ART. Even if both sperm and ova come from the married couple, IVF is rejected because it separates the act of fertilization from *a specific act* of sexual intercourse. IVF is also rejected because “Such fertilization entrusts the life and identity of the embryo to the power of doctors and biologists, and establishes the domination of technology over the origin and destiny of the human person.”⁽¹⁾

The strict insistence of Roman Catholic teaching that every child has a “right” to be conceived as “the fruit of the specific act of conjugal love of his parents”⁽²⁾ has encountered the critiques of some contemporary Catholic moral theologians. For example, Lisa Sowle Cahill, a leading Catholic moral theologian in the United States, has emphasized the importance of all procreation occurring within the context of the loving relationship of a married couple.⁽³⁾ Cahill sees this loving partnership of the couple as the central ethical feature of married life. All acts intended to facilitate human conception should be evaluated ethically in terms of how they flow from this marital relationship of love and how they support its fidelity. For Cahill this means that the involvement of third parties, such as surrogates, is morally problematic because this indicates that the desire to procreate is more important than preservation of the basic marriage partnership. But Cahill suggests that procedures such as homologous IVF (in which only the gametes of the spouses are involved) should be assessed in terms of the entire relationship of the marriage. She argues that “An each-and-every-act analysis of the ‘inseparability’ of sex, love and procreation distorts the valid unity among them by tying that unity to specific sexual acts rather than to the marital relationship.”⁽⁴⁾ This leads Cahill to conclude that the technologies such as

(1) *Ibid.*, p. 27.

(2) *Ibid.*, p. 30.

(3) Lisa Sowle Cahill, “What Is the ‘Nature’ of the Unity of Sex, Love and Procreation?” in *Gift of Life*, edited by Edmund Pellegrino, pp. 137-48.

(4) *Ibid.*, p. 142.

homologous IVF are ethically permissible and should be available to married couples if they are used in the context of a loving marriage relationship.

More recently, Thomas Shannon, another Roman Catholic moral theologian, has offered a similar critique. He also contends that the traditional Catholic view, as set forth in *Donum Vitae*, places too much emphasis on specific sexual acts and too little emphasis on the whole relationship of married couples. Shannon's point is that infertile married couples who seek ART *are* demonstrating their openness to procreation within the context of marital fidelity. He challenges the moral reasoning that insists human procreation must include a specific act of coitus: "Why the physical integrity of the [sexual] act should take moral priority over the intention of the husband and wife to become mother and father through the use of their own genetic material is both unexplained and unclear."⁽¹⁾ Like Cahill, Shannon calls on his fellow Catholic moral theologians to reconsider the traditional priority of the physical over the personal. In his view, Christian principles lead to the conclusion that techniques such as IVF should be available to married couples who find themselves frustrated by infertility: "The couple using IVF is essentially doing what another couple is doing without IVF: cooperating in the creation of a new being from their love and their bodies."⁽²⁾

Like Cahill, Shannon, and other critics, I am not convinced by the Roman Catholic arguments for insisting on the inseparability of the procreative and unitive purposes of each act of married sexual relations, and, thus, for rejecting all forms of ART. Even traditional Catholic moral teaching acknowledges that there are some circumstances that make it legitimate for a married couple to avoid having children.⁽³⁾ And nowhere do the Christian scriptures state, or even

(1) Thomas A. Shannon, "Reproductive Technologies: Ethical and Religious Issues," in *Reproductive Technologies: A Reader*, edited by Thomas A. Shannon (New York: Rowman and Littlefield, 2004), p. 42.

(2) *Ibid.*, p. 45.

(3) *Ibid.*, p. 42. Shannon notes the examples of acknowledged exceptions within Catholic teachings, such as for health needs of a mother.

imply, that it is morally wrong for a husband and wife to enjoy sexual relations when they do not intend procreation. Later, I will argue that it makes ethical sense, from a Christian perspective, to hold that ART should be offered only within the boundaries of marital love. And in a number of important ways, this affirmation does insist on holding together the gift of procreation with the gift of married love. However, the connection is between procreation and the *entire* relationship of marital fidelity, not simply a particular act of coitus.

Even if the Catholic position on ART is deemed too restrictive, it cannot be denied that this teaching reminds all Christians of central values that deserve protection. Among these, are the inviolable and invaluable gift of human life, the divinely appointed dignity of embodied personal life, and the importance of preserving the moral meaning of human procreation as an act of love for married couples. Such values point Christians in the direction of basic principles that should guide the use of ART. What follows are examples of such principles.

1. **Children should be valued as a gift from God.** Human procreation is a part of God's gift to married couples. In a world with several billion human beings, it may seem unnecessary to urge people to "be fruitful and increase in number" (Genesis 1:28).⁽¹⁾ But this was precisely what the Creator asked humans to do. And this is one command that God's people obeyed with demonstrable success. To those specially called to be the people of God, a promise was repeatedly given: "I will surely bless you and make your descendants as numerous as the stars in the sky and as the sand on the seashore" (Genesis 22:17).⁽²⁾ To have many children was considered a great blessing. In the poetic words of the Psalm:

Sons are a heritage from the Lord,
children a reward from him.
Like arrows in the hands of a warrior
are sons born in one's youth.

(1) All quotations from the Bible are from the New International Version.

(2) See also Exodus 32:13.

Blessed is the man
whose quiver is full of them.⁽¹⁾

To be “barren” or infertile was to experience deep sadness and disappointment. Frequently, stories are told in scripture of those who call upon God for miraculous aid in overcoming infertility, and God often answers their prayers affirmatively (Genesis 25:21). Again, the poetic words of the psalmist depict the Master of the universe as a participant in helping his people overcome infertility:

He settles the barren woman in her home
as the happy mother of children.⁽²⁾

Some may now suggest that in an ancient agrarian, tribal society children were a source of security and wealth. So perhaps we should understand the biblical attitude toward the blessing of children in light of the life situation of those times and acknowledge the fundamental differences between their conditions and our typically urban setting with its problems of over-population. While these differences can hardly be ignored, it is still the case the people whose moral imagination is shaped by the Bible are likely to consider it a blessing to become a parent and a grandparent. In the process of caring for children, parents learn something unique about the eternal love of God. The capacity to make commitments, including those that entail sacrifices, for the sake of the next generation appears, from a biblical perspective, to be a trait God created in humans.

What this means for Christian ethics is that we imitate God when we assist infertile married couples to have the children they so often desire. This is not a matter of “playing God,” as some say. Indeed, if this were the case, then all medical interventions could be viewed as usurping the authority of God. After all, if God wants someone to live or die, why should we interfere with our attempts at life-extending medical care? The use of ART, such as IVF or homologous artificial insemination (with the husband’s sperm) is better understood as cooperation with God, who alone is the ultimate Giver of life. So long

(1) Psalm 127:3-5.

(2) Psalm 113:9.

as the techniques that have been developed to assist human procreation do not abrogate other Christian principles, such interventions should be celebrated as opportunities to serve those who have distinctive medical needs.

Some may contend that infertility is not a “medical need.” But the capacity to have children is a normal part of human functioning. The inability to conceive and give birth to a child is appropriately viewed as a disability, especially when those who are infertile eagerly want to have children. As with any other disability that diminishes the quality of a person’s life, it is a legitimate goal of human medicine to seek ways to mitigate or overcome the disability. The personal anguish felt by some who are infertile should call forth in us a sense of compassion and a willingness to offer assistance if such can be done in morally acceptable ways.

2. Procreation should occur within the bounds of a loving marriage.

The flourishing of children is best facilitated in the security of a family relationship in which mother and father actively participate in the development of maturity. From a biblical perspective, children are to learn their moral responsibilities from their parents (Deuteronomy 6:6-7), and children are to honor, respect, and obey their parents (Exodus 20:12; Ephesians 6:1). The wisdom literature says that “parents are the pride of their children” (Proverbs 17:6). And, in the Christian scriptures, God is often likened to a faithful parent (Hebrews 12:7-10).

For many reasons, the biblical ideal of both parents caring for their children is not always possible. Because of death, divorce, or desertion some parents must care for their children without the benefits of a spouse. But this fact should not lead to the conclusion that it is ethically permissible to *intend* a situation that deprives children of the benefits of both parents. From the perspective of Christian principles, the various techniques of ART should be available to married couples who are freely committed to procreation.

Because of the importance of preserving the integrity and exclusivity of the marriage relationship, there are serious ethical reasons to question the involvement of third parties in the process of procreation. The purchase and use of sperm or ova from “donors” and the

participation of surrogates raise difficult questions about protecting the marriage relationship and about the dehumanization of procreation. Such methods represent the intrusion of a stranger into the marriage, even if the third party remains present only biologically in the genetic heritage of a child produced in this manner. The intentional severing of biological parenting from social parenting may be a threat to the integrity of marriage and to the identity of children produced in this way. It is true, of course, that human beings may adopt a child and provide a loving home environment, even though they are not the genetic parents. But adoption meets the needs of an already existing child who deserves the security of a home. We should hope that children are not deliberately produced with the intention of relinquishing them for adoption. In the same way, we should hope that the use of ART would not be for the purpose of producing children who, by design, would never be able to know their biological parentage.

Similarly, the belief that ART should be limited to helping spouses have the children they desire would rule out asexual reproduction of humans or what is commonly called cloning. At present, there appears to be nearly universal agreement among Christians that cloning human beings would be morally unacceptable for several important reasons, including the potential risks to the physical and psychological well-being of children produced in this way and the separation of procreation from the wholeness of a married couple's relationship.

3. Human life should be treated with respect at all stages of development. Of all the living creatures God created on the earth, only human beings are described as being "in the image of God" (Genesis 1:27). The ultimate penalty was established for taking human life: "Whoever sheds the blood of man, by man shall his blood be shed; for in the image of God has God made man" (Genesis 9:6). From the time that God breathed life into our first human parents, life has been passed to subsequent human life, as a torch passes fire to another torch. In many respects, it is pointless to pursue the question of when human life begins. It began through the creative act of God. And it continues through the gift of human procreation. To look for a time

when human life may be destroyed without any regret is to look for something that is not part of the plan of God.

The practical implication for ART of accepting the inviolability of human life is that care should be taken to protect life as it develops. But does this imply that it is ethically impermissible, for example, to freeze human embryos? The answer to this question should be negative for several reasons. First, the purpose of saving embryos through cryopreservation is to conserve the possibility of gestation and birth. All forms of ART probably entail some increased risk to embryonic human life when compared to the most common method of procreation. But it should be noted that the vast majority of embryos conceived through normal sexual intercourse do not progress to live birth.⁽¹⁾ The relative difference in risks between ART and procreation from sexual intercourse, though difficult to calculate with certainty, does not appear to be great. We should also be mindful that the purpose of ART is in the service of life. Without this service, the embryos in question would simply be hypothetical.

Cryopreservation also raises questions about the disposition of embryos that, for various reasons, a married couple may not choose to have transferred. A couple may decide that they already have as many children as they can reasonably care for. And many other factors, such as changed health or marital status of the potential parents, may change. What then should happen to so-called "spare" embryos?

At least three possibilities exist. The embryos may be saved indefinitely through cryopreservation. The costs for this are relatively nominal, and there is no clear scientific evidence that long periods of preservation would render the embryos non-viable. Indefinite preserva-

(1) My informants who specialize in obstetrical medicine indicate that the percentage of embryos that fail to implant is between 50% and 60% and the percentage of those that are later lost through miscarriage is in the range of 10% to 15%. According to the best current information, this means that about 60% to 75% of all human embryos resulting from sexual intercourse do not progress to live birth. While these percentages are lower than the average failure rate for IVF embryos, it is not uncommon now for infertility clinics to report implantation rates in the range of 30% to 40%.

tion would leave open the possibility that the potential parents may later experience changed circumstances that would alter their willingness to seek embryo transfer.

A second possibility is that the embryos could be discarded. At present, it appears that the majority of couples who have control over the destiny of their extra embryos elect to discard them once the couples have their desired number of children.⁽¹⁾

A third possibility is that the embryos may be relinquished for adoption by other infertile couples who have been unsuccessful with other forms of ART. This third alternative deserves careful attention. Earlier I argued that ART is best seen as an ethical option for married couples who are seeking assistance with procreation of their own child. The intentional creation of an embryo for the purpose of selling it to others, or even for the explicit purpose of relinquishing it for adoption, carries unacceptably high risks of demeaning human life. But what should we say about those embryos that were frozen with the intention of being transferred to the womb of the genetic mother when this is no longer desirable or possible? If the biological parents of the embryos choose to relinquish them for adoption, as an act of compassion and generosity toward an infertile couple, this is probably the best alternative for preserving the greatest number of important values. The genetic parents of such embryos have within their power the opportunity to bless another couple with the hope of pregnancy and the birth of a child. While no one should be forced to make such a decision, it should be encouraged with accurate information about the prospect of helping others.

4. Decisions about assisted procreation should be made freely, based on truthful information. Christian morality favors truthfulness and respect for personal autonomy. Care should be taken to ensure that both spouses in couples seeking ART are given accurate information

(1) One recent Australian study, for example, reports that about 90% of couples (N = 1246 couples) who chose not to transfer frozen embryos, opted to discard them. G. T. Kovacs, et al, "Embryo Donation at an Australian University In-Vitro Fertilisation Clinic: Issues and Outcomes," *Medical Journal of Australia*, 2003, Vol. 178, No. 3, pp. 127-29.

about the risks, costs, and evidence-based likelihood of success so that both can make autonomous decisions. The success rates for IVF, for example, vary considerably among fertility clinics. And so do the costs. In previous years, it was not uncommon for a clinic to offer ART while obscuring the fact that it had very low (or even no) success with the methods being offered. This changed significantly in the United States after the passage of a federal law requiring all programs that offer ART to keep accurate records of successful pregnancy rates and report these to the federal government.⁽¹⁾ Couples seeking ART deserve to know their chosen clinic's success rates just as they deserve to know what the costs and risks will be.

It should also ethically obvious that each husband and wife must make a personal decision about whether or not to become a parent through ART. No hint of coercion should be allowed to intrude. A relationship of love requires freedom. While couples must make such decisions together, it is important to be certain that both spouses understand the implications of their decisions and that both are free to accept or reject ART. In some cultures, powerful social pressures in favor of successful procreation make it difficult to ensure respect for personal autonomy. Nevertheless, the decision to become a parent is of sufficient gravity, with such a multitude of personal implications, that every effort should be made to allow honest reflection and decision.

Conclusion. The four principles set forth above obviously do not exhaust what Christians should ponder when assessing ART. There are many other important considerations. For example, Christian stewardship of scarce resources must be taken into account, especially in a world with such great needs. Christian couples must weigh the fact that IVF typically costs tens of thousands of dollars. Is such

(1) The Fertility Clinic Success Rate and Certification Act of 1992 (United States public law 102-493). Presently, over 95% of ART clinics are in compliance with the reporting requirements of this law; those who do not comply are listed as "non-reporters" in a list published by the Center for Disease Control, David Adamson, "Regulation of Assisted Reproductive Technologies in the United States," in *Reproductive Technologies*, edited by Thomas A. Shannon, pp. 1-22.

expenditure responsible given the couple's resources and responsibilities? And, in a world faced with the problems of over-population, would it be ethically preferable for couples to adopt children needing homes rather than to produce more children? ART also raises profound questions about social justice. Is it fair that couples with better health care insurance or greater wealth have access to the full range of ART while other couples, with more limited resources, have little or no hope of benefiting from such technology?

In a paper this brief, it has been impossible to address the full range of such important ethical questions associated with ART. But the four stated principles do permit some relevant decisions to be made about the kinds of cases with which the paper began. The first case, that of the Whites, comes close to comporting well with all four of the principles: the couple made a suitably informed, autonomous decision that seeks to use ART for the purpose of having a child who is genetically their own. Their goal in the cryopreservation of the additional embryos is also on the side of human life. However, the participation of the Mary White's older sister adds the ethical complexity of a third person intimately engaged in the procreative process. While the presumption of the principle, stated above, is against such third-party involvement, all such principles must be applied in ways that take full account of the entire situation. My own intuition about the White's case is that the involvement of the sister can be justified as an exceptional act of Christian compassion. The sister is not seeking financial gain, nor does she seem to be motivated by other self-serving considerations. Though arguments could be mounted on the opposite side, I believe that there is sufficient evidence to justify the White's decision.

The second case, that of the Littles, raises a number of additional problems. The involvement of an ova "donor" and of a surrogate gestational mother, both of whom were paid substantial sums for their participation, greatly complicates the case from the perspective of Christian ethics. The fact that the resulting embryos were genetically related to Mr. Little but not to his wife represents further ethical risk. Considering the entire situation of the Littles, I must conclude that

their case is outside the bounds of the Christian principles stated here. The fact that they later experienced the added burdens of divorce and controversy over the frozen embryos is irrelevant to the assessment of their initial decision for ART. However, there can hardly be doubt that these problems were exacerbated by the complexity of the original process that led to procreation.

Based on the history of ART thus far, we may expect continued progress toward higher success rates for such techniques as IVF. We should also expect lower costs for this service. This means that more infertile couples are likely to seek help via ART. Already many tens of thousands of children have been born as a result of such medical assistance. (The first reproductive health clinic to offer IVF in the United States recently reported that it is approaching the birth of the 3000th infant as a result of its program.⁽¹⁾ But such success comes with ethical price tags. For example, in the United States it is estimated that about 400,000 human embryos are currently in frozen storage.⁽²⁾ The majority of these are being saved for what is described as “family building.” But it is likely that many will meet a different destiny; they will be used for research or discarded. Already, Christian organizations have been formed to facilitate the adoption of unwanted, frozen embryos.⁽³⁾ These developments indicate that nearly three decades after the first successful IVF birth, there continues to be significant need for our best ethical reflection. For people who have faith in an all-powerful Creator, the work of ethics is an opportunity to serve God by searching for faithful applications of God’s revealed will.

(1) Information from the Jones Institute for Reproductive Medicine, available at www.jonesinstitute.org

(2) D.I Hoffman, et al, “Cryopreserved Embryos in the United States and Their Availability for Research,” *Fertility and Sterility*, May, 2003, Vol. 79, No. 5, pp. 1063-69.

(3) B. Smietana, “400K and Counting: Christians Recoil at Explosive Growth of Frozen Human Embryos,” *Christianity Today*, June, 2003, Vol. 47, No. 7, p. 17.

**HUMAN GENTICS
REPRODUCTIVE TECHNOLOGIES:
AN ISLAMIC PERSPECTIVE**

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Human Genetics Reproductive Technologies: An Islamic Perspective

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Introduction

The ethical problems raised by recent advances in medicine are the domain of the ethicists, medical philosophers, lawyers, members of Parliament, religious leaders as well as physicians involved in the dilemmas of day to day problems. Islam is not only a religion; it is a code of life and hence encompasses the secular with the spiritual, the mundane with the celestial, through its holistic approach. The clergy (there is no real clergy in Islam) is not only the spiritual leader, but is also the jurist and ethicist.

It is true that new methods and techniques in medicine have no precedent and hence make it difficult for Islamic jurists to give their verdict. However, the Islamic jurists were very active in the last decades and held many conferences to which many doctors were called to discuss issues such as brain death, organ transplantation, new methods of procreation, abortion and euthanasia. They passed resolutions that help formulate the rules regarding medical ethics in the arena of rapidly advancing medicine of high technology.

It is important to have an idea how the jurists reach their rulings and judgement on these thorny hair-raising contentious issues. Islamic jurisprudence is based on two pillars:

(I) Osool (fundamentals, basis)

(II) Foroo (branches) which include the actual rulings of different Islamic jurisprudence schools in various aspects of life and worship.

The jurist reaches his verdict though careful study of Holy Quran, the Sunna (the trodden path) which include the sayings and speeches of the prophet Mohammed (PBUH) (Sunna Qawliya), his deeds

(Sunna Filiya) and his approvals (Sunna Taqriria). The paradigmatic behaviour of prophet Mohammed (PBUH) is the example and model that each muslim aspires to reach.

If the jurist is unable to reach a verdict through studying the Holy Quran and scrutinizing the sunna, he uses analogy and reasoning (Ijtihad or qiyas). He can also use other sources e.g. Almasaleh AlMursala, which simply means taking care of public interest provided it does not clash with a clear text of Quran or Sunna. The Hanafi School of jurisprudence has similar source which they call Istihsan, i.e. seeking the best solution for general interest. Ijma is unanimous opinion of the whole community of Islamic jurists all over the world in a certain issue. It was and still is very difficult to achieve, however the consensus of the majority of jurists is more pragmatic. In fact, almost all the rulings that were passed by Islamic jurists conferences were passed by majority of votes.

The Aim of Islamic Teachings:

The Aim of Islamic teachings is the preservation of the five cardinal essentials⁽¹⁾, viz:

- 1 - *Dean*: religion or creed. For its sake every thing else could be scarified.
- 2 - *Life*: Preservation of the life of human being is sacrosanct. Allah said in the holy Quran: "Do not kill the soul which Allah prevented except in righteous situation"⁽²⁾.
"For that We have ordained to children of Israel; that whoever slains a person, without being soul (life) for soul (life) or corruption on earth, it is as if he slained the whole humanity; and that who saves a life, he is as he saved the whole humanity"⁽³⁾.
- 3 - *The Mind*: preservation of sanity; and hence imbibing alcoholic

(1) AbuZahra M: Osool AlFiqeh, Dar Al Fiker Alarabi, Cairo, (No date), pp 366-370.

(2) The Glorious Quran: Sura AlAnam 6/ verse (aya) 151.

(3) The Glorious Quran: Sura alMaida 5/verse(aya) 32.

beverages or taking drugs that affect the level of consciousness for the sake of leisure or fun is not allowed.

- 4 - *Property or wealth: should not be squandered.* The wealth of the person is in fact, the wealth of the community, and hence should be spent in the appropriate way accepted by Islamic Sharia (law). “To those weak of understanding (squandering their money), do not give them your property (actually their property) which God made you to supervise but feed them and clothe them, and speak to them words of kindness and justice“.⁽¹⁾
- 5 - *Lineage or the progeny:* any thing that is going to harm the progeny or lineage is prohibited. The structure of the family is the cornerstone of society, and marriage is the only recognized institution for procreation. Procreation outside wedlock is not allowed. Fornication, adultery and sodomy are all prohibited, and harshly punished if it became open.

Anything that endangers any of the above should be avoided, and hence considered Haram (illegal). Three of the cardinal essentials of Islam are related to medicine, viz, preservation of life, mind and progeny.

Even the preservation of Deen (religion) needs good health, and hence related to medicine. Similarly acquiring property and wealth needs a healthy body and mind.

Aim of medicine:

Ibn Sina in his Poem Al Irgoza Fi Tib said: medicine is preservation of health and restoring it when it gets lost⁽²⁾. He defined medicine in his voluminous text book of medicine. Al_Qanoon as “ the science

(1) The Glorious Quran: Sura AlNisa 4/verse(aya) 5.

(2) Al Irgoza Fi Attib is a lengthy poem of 1337 lines in which ibn Sina summarized his voluminous textbook “AlQanoon Fi Tib”. It was incumbent on medical students to learn by heart, and was explained and commented on by many physicians. It was published among other books by Ibin Sina in medicine, commented by prof M. Zuhair AlBaba and published by University of Halab, Syria and the Institute of Arabian manuscripts, 1984, pp 90-194. The line quoted is line 25 P 92.

which studied the body of man in health and disease, its aim being to preserve health, ward off disease and restore health when it is lost”⁽¹⁾.

Abubaker AlRhazi defined medicine as “the science which keeps and promotes the health when it is there, and restores it when it is lost”⁽²⁾

Al_Iz ibn Abdulsalam, a renowned Islamic Jurist (7th century of Hijra) in his book “Qawaeed Al Ahkam” (Basics of Rulings) said: “The aim of medicine is to preserve health; restore it when it is lost; remove ailment or reduce its effects. To reach that goal it may be essential to accept the lesser harm, in order to ward of a greater one; or loose a certain benefit to procure a greater one”⁽³⁾.

This is a very pragmatic attitude, which is widely accepted in Islamic jurisprudence, and it is frequently applied in daily practice of modern medicine.

Seeking Remedy:

Islam considers disease as a natural phenomenon, and a type of tribulation that expiates sin. Not only the patient who suffers in dignity will be rewarded in the hereafter, but also his family who bear with him the ordeal. Even the visitors of such a person will get their reward from Allah⁽⁴⁾.

Those stoics who forebear in patience will be rewarded by Allah in this world and the Day of Judgment. Allah says in the glorious Quran: “And give glad tidings to those who forebear in patience”⁽⁵⁾.

There are literally tens of Ayahs (verses) of the glorious Quran and

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- (1) Ibn Sina: AlQanoon Fi Attib Commented by Edward AlQish, Izuddin establishment. Beirut,1987,vol 1:13.
 - (2) Abubaker AlRhazi: AlMansoori fi Attib, commnted by Dr Hazim AlBakri Assidiqi, publication of Institute of Arabian Manuscripts, Al Kuwait 1987:pp29.
 - (3) Al Iz ibn Abdulsalam: Qwaeed Alahkam (Basics of Rules) Fi Islah AlAnam, commented by Nazih Hammed and Othman Dhamariyah, Dar AlQalam,Dimascus,2000, vol 1:pp 8
 - (4) Muslim AlQuishairi: Sahih Muslim Bishareh AlNawawi, Dar AlFiker,Beirut,1972,Kitab Albir, Vol 16 PP 124,125.
 - (5) Glorious Quran: Sura 2(Albaqara), Aya(verse) 155.

hundreds of Hadiths (sayings) of the prophet Mohammed (PBUH) that encourage Muslims to forebear in case of calamity and disease. However man should seek remedy. For the prophet Mohammed (PBUH) himself sought remedy when he was stricken ill, ordered his family, companions and muslims at large to seek the appropriate remedy for their ailments, and encouraged them to seek new modalities of treatments, when the old ones become ineffective. He said: "Never Allah sent a disease without sending its cure". Narrated by Abu Huraira in Sahih AlBokhari⁽¹⁾.

- Jabir ibn Abdul Allah Alansari said: the prophet Mohammed (PBUH) said:" For each ailment there is a cure and medicament. If the proper medicament is used the disease will be cured by the will of Allah"⁽²⁾.
- Abdullah ibn Masood, another companion of the prophet Mohammed (PBUH) narrated that the prophet said: there is no disease that Allah sent without sending for it a cure. Some will know that cure, while others will not"⁽³⁾.
- Osama ibn Shareek said: the Bedouin Arabs came to the prophet (PBUH) and asked: should we seek remedy? He replied: O servants of Allah seek remedy for Allah in His Glory did not put a disease without putting for it its cure, except one ailment. They asked: which ailment? He said: Old age (senility)⁽⁴⁾⁽⁵⁾.
- Jabir ibn Abdullah Al_Ansari said: The prophet (PBUH) visited Saad ibn Abi Waqaas(his maternal cousin), and found him ill (after emancipation of Makkah). He put his hand on Saad's chest and said: Call for Al Harith ibn Keldah, the brother of Thaqif (a tribe

(1) AlBokhari M.I: Sahih Albokhari, Dar AlMarifah, Beirut (No Dates mentiones), Kitab Attib, vol 4 p8.

(2) Muslim AlQuishairi (reference 9) Kitab Attib, vol 14 p191.

(3) AlHakim M.A: AlMustadrak Ala Assaheehain. Commented by M. Atta. Dar Alkutub AlIlmiyah, Beirut, 1990, Kitab Attib vol 4 p 218.

(4) AlTirmithi M.I: Sunan AlTirmithi, Dar Al Fiker, Beirut, 1983 Vol 3P 258, Hadith No 2109.

(5) Abu Daood S.A: Sunan Abi Daood. Dar Al Fiker, Beirut, (No Date mentioned), Kitab Attib vol 4 p3 Hadith No 3855.

living in Taif near Makkah), for he is a man who practices medicine”⁽¹⁾.

- AlHarith ibn Keldah was a renowned Arab physician who learnt medicine in the well - known school of medicine at Jendisapure (Persia). He was not muslim at that time.

The prophet Mohammed (PBUH), not only sought remedy for himself, his family and companions, but also he used and advised certain medicaments e.g. black cumin (black seed, *Nigella sativa*), Aloe Vera, Senna, Henna (*Lawsonia inermis*) Hijama (blood letting and cupping) and using honey for many ailments.

Muslims are encouraged searching for new modalities of treatments and should apply them if proved successful. Genetic engineering, new methods of procreations (the so called Assisted Reproduction), and organ transplantation are allowed to be used with certain conditions which were fully discussed by Islamic jurists in the past three decades in their annual meetings. These discussions and fatwas will be highlighted in this paper.

The value of human being:

Man is the vicegerent of Allah (God) on earth; "Behold thy Lord said to the angels, I will create a vicegerent on earth"⁽²⁾. He also said in the Holy Quran "We have honoured the progeny of Adam, provided them with transport on land and sea, given them for sustenance things good and pure, and conferred on them special favours above a great part of Our Creation"⁽³⁾.

The human being should always keep his dignity even in disease or misfortune. The human body living or dead should be venerated likewise. The Prophet Mohammed rebuked a man who broke the bone of a deceased which he found in the cemetery and said: "Breaking the bones of a dead man is similar to breaking the bones of a living

(1) Abu Daood (Reference 15) vol 4 pp 7,8 Hadith No 3875.

(2) The holy Quran Sura 2, Aya 30

(3) The holy Quran Sura 17, Aya70

man”⁽¹⁾. Due respect and reverence should be given to the dead body as exemplified by the Prophet Mohammed who stood in veneration for a passing by funeral of a Jew, at the time when Jews were his bitter enemies. One of the companions exclaimed; "It is only a funeral of Jew!" The Prophet answered "Is it not a human soul?"⁽²⁾

All human beings are equal and their deeds and intentions will only be judged by Allah. The Prophet Mohammed said "An Arab is no better than non-Arab, a white is no better than a black and vice versa, except by the fear of Allah and good deeds". The Holy Quran stressed this fact "O men! Behold we have created you all out of a male and a female (i.e. Adam and Eve) and have made you into nations and tribes, so that you might come to know one another. Verily the noblest of you in the sight of Allah is the one who is most deeply conscious of him. Behold Allah (God) is all knowing, all aware"⁽³⁾.

The dead body should be prepared for burial as soon as possible to avoid putrefaction which occurs rapidly in hot climates. Cremation is not allowed.

Mutilation is proscribed and considered an anathema. However, doing post mortem or dissection to study anatomy or donating an organ is not an act of mutilation. Mutilation is done with malice and vengeance and serves no good purpose, while post mortem and studying anatomy is important in many coroners' cases, is essential to study medicine and to increase our knowledge about diseases and the human body.

Ibn Rushd (Averros) of Cordova (12th century AD) said those who study anatomy see the greatness of God and become more faithful to Him. Imam Shafi who lived in the 8th century AD said: "Knowledge (science) has two major branches: that which concerns

(1) Abu Dawud: Sunan Abi Dawud, Beirut, Dar Alfikir (no date mentioned), Kitab Alganayiz 3, Hadith no 3207.

(2) Albokhari MI: Sahih Albokhari, Cairo: Matabi Asshb 1958, Kitab Alganayiz 2:107.

(3) The holy Quran Sura 49, Aya 13

religion and that which concerns the human body"⁽¹⁾. Similarly, donation of an organ is not mutilation. It is an act of charity and benevolence as it is going to save a human life. The Holy Quran says: That who saves the life of one person shall be as if he saves the life of all man kind"⁽²⁾.

Human life begins at the time of ensoulment, which is stated in the Hadith (Sayings of the prophet Mohammed PBUH) to be at 120th day from the moment of conception⁽³⁾, which is equivalent to 134 days from the last menstrual period (LMP) used by obstetricians. Prior to that moment the embryo has sanctity, but not reaching that of a full human being.

Ibn Al Qayim who lived in the 8th century of Hijra (14th century AD) raised the following question in his book "Al Tibian fi Ahkam Al Quran" "If it is asked: Does the embryo before ensoulment possess life? It is answered that it has the life of growth and nourishment like a plant. But once the soul enters the body then it has the sense of perception and volition⁽⁴⁾, (Which constitute the basis of human life)" Similarly Ibn Hajar Al Asqalani in his voluminous textbook "Fathulbari fi Sharh Saheehul Bukhari" argues that the liver is the first organ formed in the embryo as it is important for growth and nourishment. The formation of the brain, in his opinion, comes at a later stage when ensoulment is due⁽⁵⁾. It is intriguing to find the great Islamic religious leaders link ensoulment to the formation and integration of nervous system, whereby the centres of perception and volition are found. Recently professor Julius Koren presented a paper in Ottawa,

(1) Albar M: *Ilm Altashrieh End AlMuslimeen* (the science of Anatomy among Muslims), Jeddah, Addar Assoudia (Saudia Publishing House) 1989, P39.

(2) The holy Quran Sura 5, Aya 32

(3) Sahih Al-Bukhari, Cairo: Matabi Asshab (1378H) 1958: 4:135 (Available only in Arabic).

(4) Ibn Al-Qayim: *AlTibian Fi Ahkam Al-Quran*, Maktabat AlQahira, Cairo (year of print not mentioned) p. 255 (Available only in Arabic)

(5) Ibn Hajar Al-Asqalani: *Fathulbari Fi Sharh Saheehul Bukhari*, Al-Muktaba Assalafiyah, Cairo, 1380H (1960), Supervised by Sheikh Bin Baz, Kitab Al-Qadar Vol. 2. p. 481 (Available only in Arabic).

Canada in conference on “ethics of organ transplantation” where he showed by studying multiple sections of different aborted fetuses that synapsis in the brain does not propagate impulses except at the beginning of the 20th week of conception computed from LMP (equivalent to 120 days from fertilisation)⁽¹⁾.

The Islamic jurisprudence council of Mekkah AlMukaramah (the Islamic world League) passed a Fatwa No.4 (Legal Resolution) in its 12th session held in 15-22 Rajab 1410H (10-17 Feb 1990) which allowed abortion if the fetus is grossly malformed with untreatable severe condition proved by medical investigations and decided upon by a committee formed by competent trustworthy physicians, and provided that abortion is requested by parents and fetus is less than 120 days computed from moment of conception⁽²⁾.

Islamic World League Fiqh Council, 12th session 1410 H / 1990AD

4th Decision: Abortion of congenitally malformed fetus: The council decided with majority of votes:

- a - If the pregnancy is 120 days or more, it is not allowed to abort even if the fetus is congenitally malformed, except if the life of the mother is threatened by continuation of pregnancy.
- b - Prior to 120 days of pregnancy: if a specialized trusted medical committee has decided that the fetus is grossly malformed, and its ailment cannot be treated, then it is allowed to abort if both parents agree to the procedure.

Abortion is strictly prohibited for social reasons except in case of rape as happened for many muslim ladies in Bosnia and Hergosovnia by the racist Serbs.

(1) Koren, Julius. Conference on: Ethics of organ transplantation, Ottawa, Canada: 20-24 Aug. 1989, Book of Abstracts.

(2) Fatwa No. 4, 12th session of Islamic Jurisprudence council of Islamic world League, Mekkah AI-Mukaramah, Feb 10-17, 1990. quoted in M. Albar: "AI-Janin AI-Mushawah wa AI-Amradh Alwirathiyia", Dar AIQalam Damascus, Dar Almanara Jeddah; 1991. p. 439 (Available only in Arabic).

In Such cases abortion should be performed as soon as possible. Postcoital pill will be allowed in such situation, and abortion should be performed in the first forty days of pregnancy.

Genetic Diseases:

The so called genetic diseases include not only single gene disorders, but a wide array of syndromes which include chromosomal, multi factorial, mitochondrial, and somatic cell genetic disorders. Table (1) shows how these, disorders are diagnosed and Table (2) illustrates the incidence of each type per 1000 live births.

Islamic teachings concentrate on prevention of disease rather than cure. Islam encourages marriage and prohibits fornication and adultery. "O mankind reverences your Guardian-Lord, who created you from a single soul (person), created of like nature his mate, and from them twain scattered (like seeds) countless men and women⁽¹⁾. In another aya (verse) of the holy Quran it orders unmarried men and women to get married. "Marry those among you who are single"⁽²⁾. The prophet Mohammed (PBUH) said: "Marriage is my way; those who shun my way are not from me (i.e. my people)"⁽³⁾. He also said: "Marry and procreate for I will be proud of you (on the Day of Judgment), among all nations"⁽⁴⁾. He said: "If someone wants to marry and he is of good character and religion, make it easy for him to marry. If you don't, then corruption will spread"⁽⁵⁾, He advised Muslims to choose for their daughters, husbands with good character and free from physical and social illnesses. Similarly he warned not to

(1) The Holy Quran. Sura 4, Verse 1.

(2) The Holy Quran, Sura 24, Verse 32.

(3) Al Bukhari MI: Al-Jamee Al Sahih (Sahih Al Bukhari), Matabi Asshab, Cairo, 1378H, Kitab Al Nikah (Book of Marriage) Vol. 7: 2, 3 (Available only in Arabic).

(4) Abu Daood SSA: Sunan Abi Daood, Dar Al Fiker, Beirut. Commented by M. AbdulHameed, Kitab Al Nikah (Book of Marriage) Vol. 2: 200, Hadith No 2050. (Available only in Arabic)

(5) Al Tirmithi MI: Sunan Al Tirmithi, Dar Al Fiker, Beirut, 1983, 2nd ed. Abwab Al Nikah (Chapters on Marriage) Vol.2: 274 Hadith No 1090, 1091, 1092 (Available only in Arabic).

marry a girl only for her beauty when her character is blemished⁽¹⁾. He also said: "Choose for your offspring the suitable woman for hereditary plays a role"⁽²⁾.

The prophets and messengers of God (Allah) asked Him to give them good and pure children (free from bad character and disease): "Zakariya prayed to his Lord saying; O my Lord grant unto me from Thee a progeny that is pure"⁽³⁾.

Similarly the faithful pray to God and say "Our Lord Grant us wives and offspring who will be the comfort of our eyes"⁽⁴⁾. They can not be the comfort of their eyes unless they are healthy in body, mind, and of good character.

Premarital examination to avoid genetic diseases will be a welcome, especially in a community where the rate of consanguineous marriage is high. Table (3) gives the pertinent features of premarital medical exam.

The control and prevention of congenital and genetic diseases implies control of teratogens. Table (4) gives examples of well known teratogens that could be avoided. Rubella is virtually eliminated in many countries by vaccinating school children girls at premarital age. Syphilis and *other* STD (Sexually transmitted diseases) will not appear if all sexual desires are channelled through marriage as Islamic teachings implies. Fornication, adultery, and sodomy are all harshly punished in Islamic legal code, and religiously they are considered of the greatest sins, that each Muslim should avoid.

Alcohol is the commonest chemical substance causing mental retardation and congenital anomaly. Islam totally prohibits imbibing alcoholic beverages.

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- (1) Al DarQutni AO: Sunan Al Darqutni, Dar Al Mahasin Littiba'a, Cairo, 1966 Commented by Abdullah Hashim Yamani, Kitab al Nikah (Book of Marriage) Vol. 3: 299 (Hadith No 196, 197, 198) and Vol. 3: 30 (Hadith No 212, 213) (Available only in Arabic).
 - (2) Al Dailamy SS: Firdoos Al Hikmah, Dar Al Kitab Al Arabi, Beirut, 1987. Commented by Al-Zumerli FA and al-Baghdadi MM, Vol. 2: 76 Hadith No 2110 (Available only in Arabic).
 - (3) The Holy Quran. Sura 3, Verse 38.
 - (4) The Holy Quran. Sura 25, verse 74.

Similarly smoking causes abortion, congenital anomalies and small for date babies. It is prohibited in Islamic teachings and many fatwas have reiterated its prohibition. Any substance that is going to be harmful to the baby (i.e. teratogen) should be avoided as the prophet Mohammed (PBUH) said: "Do no harm"⁽¹⁾.

There are simple measures which reduce congenital diseases e.g. adding folic acid to the diet such as bread proved to reduce the incidence of serious congenital diseases viz. anencephaly, spina bifida and syringomyelocoele (open neural tube). Similarly iodized salt helps to prevent the occurrence of cretinism and hypothyroidisms in the newborns.

Table (5) shows the risks related to genetic diseases in general population, while table (6) shows the risks of consanguinity. The highest risks are from first degree marriage viz.: Parent child and sib to sib where they share half the genetic pool. All cultures and religions consider such a relation as a taboo.

However it is well known that the Pharoes and the old Persians allowed marriage between brothers and sisters. In the old testament (book of Genesis) it is claimed that Abraham married his half sister Sarah⁽²⁾, while Lot had sex with his two daughters and both of them became pregnant of that incest and delivered Moab and Benammi⁽³⁾. Islamic teachings refute such claims and consider the messengers of God as the purest persons on earth, and will never do such horrendous acts.

First cousin marriage carries an increase of 3-5% of genetic diseases where they share 1/8 of the gene pool, while in second cousin marriage they will share 1/64 of the gene pool. An average of 30% first cousin marriage in the community would increase the birth prevalence of all autosomal recessive disorders between 5 and 10 times. This will double the congenital malformations detected at birth from 2.5 to 5% of all live births⁽⁴⁾.

(1) Al Ajlooni IM: *Kashef Al Khafa'a wa Muzeel Al Ilbas*, Mu'ssast Al Risalah, Beirut, 1983, Vol. 2: 491, Hadith No 3075 (Available only in Arabic).

(2) Good New Bible. The Bible societies, Collins/Fontana, Book of Genesis, 12: 10-19.

(3) Good New Bible. Genesis 19: 30-38

(4) Alwan A, Modell B: *Community Control of genetic and congenital disorders*. EMRO Alexandria, Egypt, 1997 p. 51.

The gene of autosomal recessive disease in the community may increase exponentially i.e. 15 to 30 times in first cousin marriages⁽¹⁾. The inborn errors of metabolism which are mostly recessive and therefore directly increased by consanguinity, show an unprecedented surge in Riyadh, where the figures from King Faisal Hospital show an alarming high incidence, which seems to be directly related to the high consanguinity in Saudi Arabia⁽²⁾⁽³⁾. 20-25% of all marriages are first cousins, another 20-25% are second cousin marriages and about 15-20% are family related, a total of 60-65% of consanguinity marriages⁽⁴⁾.

However, when the autosomal recessive gene in the community is very common e.g. Thalassaemia, sickle cell anemia and G6 PD, where the incidence in Hafoof and Qatif (Eastern province of Saudi Arabia) and Jizan (S.W. province of Saudi Arabia), involves 20-25% of the whole population, the carriers of the trait are one in four, or one in five in the whole community, any marriage will have a high risk of marrying another carrier of the trait⁽⁴⁻⁸⁾.

Table (7) lists the most important points in control and prevention of hereditary disorders. Screening of all newborns for common and rare diseases can establish early diagnosis and proper management. Simple testes for phenylketonuria, homocystinuria, galactosemia and many others can avert calamity in those affected. Diets free from

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- (1) Ozand PT; Inborn Errors of metabolism in Saudi Arabia (A), Genetics at Bench and Bedside symposium. King Faisal Special Hospital and research center 5-6 October 1999, Riyadh. Book of Abstracts: p. 25, 26
 - (2) Al-Aqeel A: Inborn errors of metabolism in Saudi Arabia (vide supra) p. 27, 28.
 - (3) El Hazmi M, Warsy A: Genetic Disorders among Arab Populations. Saudi Med J 1996,17:108-123.
 - (4) El Hazmi M, Warsy A. The frequency of Hb Sand G. 6PD phenotypes in relation to malaria in Western Saudi Arabia. Saudi MedJ1993; 14: 121-125.
 - (5) El-Hazmi M, Warsy A. Epidemiology of G6PD deficiency in Saudi Arabia. Saudi Med J 1997; 18: 255-260.
 - (6) Weatherall D. Some aspects of the Hemoglobinopathies of particular relevance to Saudi Arabia and other parts of the middle east. Saudi Med J 1998; 9: 107-115.
 - (7) Al-Awamy B, Niazi G, El-Mouzen M, Altorki M, Naeem M. Newborn screening for sickle cell Hemoglobinopathy and other inherited Erythrocytic disorders in the Eastern Province of Saudi Arabia. Saudi Med 1986; 7: 502-509.
 - (8) El-Hazmi M. Incidence and frequency of Hemoglobinopathies and Thalassaemia in the North-west sector of Arabia. Saudi Med J 1985; 6: 149-162.

phenyl alanine or methionine or galactose are available and if the newly born is given such a diet, he will grow normally. He will need diet for few years only and then can revert to normal diet. During adulthood, the pregnant lady suffering from phenyl ketonuria should stick to phenyl alanine free diets all through her pregnancy to avoid any harm to her baby.

Premarital carrier detection is important especially in communities where consanguinity is high. The government of Saudi Arabia (and many other gulf countries) made premarital screening for hereditary blood diseases compulsory as from January 2004.

However if both applicants of marriage are carriers e.g. of sickle cell anemia or Thalassemia and insist on proceeding with marriage contract, they are first referred for genetic counselling, after which they can decide to perform the contract of marriage or separate and find another suitable spouse. The expenses of the tests and counselling are shouldered by the government.

Table 1: Diagnosis of Genetic Diseases

Type	Diagnostic test
Chromosomal disorders	Chromosomal Analysis
Single gene disorders	Pedigree analysis Clinical examination Biochemical analysis DNA analysis
Multifactorial disorders	Clinical examination Biochemical analysis DNA analysis Other investigations (imaging, functional studies, etc.)
Mitochondrial disorder	Pedigree analysis Clinical examination, DNA analysis
Somatic cell genetic disorders	Histopathology DNA analysis Chromosomal analysis

Table 2: Incidence of Genetic Diseases

Type	Number of subtypes	In 1000 live births
Chromosomal	> 600	6
<i>Single gene</i>		
Autosomal dominant	4458	20
Autosomal recessive	1730	2
X-linked recessive	412	2
<i>Multifactorial</i>		
Major congenital malformations	> 50	6
Chronic adult	> 50	10+
<i>Mitochondrial</i>	59	Rare
Somatic cell genetic	> 100	250+ +
	Total	386

Table 3: Premarital Medical Examination

<p>Mandatory or optional</p> <p>Infectious diseases and STDs</p> <p>Genetic diseases common in the community e.g. Thalassemia</p> <p>If both are Carriers and decide on marriage, the situation should be explained thoroughly but decision is theirs.</p>
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Table 4: Recognized Human Teratogens

Teratogen	Critical Period	Malformations
Rubella	Most affected if infection in first 6 week, very low risk > 16 weeks.	Congenital heart disease (especially patent ductus arteriosus), cataracts, microcephaly, mental handicap, sensorineural deafness, retinopathy, later insulin dependent diabetes mellitus in 20%
Cytomegalovirus	1. Third or fourth month	Mental handicap or microcephaly occurs in 5-10% with congenital infection
Toxoplasmosis	12% risk at 6-17 weeks, 60% risk at 17-28 weeks	Mental handicap, microcephaly, chorioretinitis
Alcohol	? first trimester	Mental handicap, microcephaly, congenital heart disease, renal anomaly, growth retardation, cleft palate, characteristic facies
Phenytoin	First trimester, about 10% affected	Hypoplasia of distal phalanges, short nose broad flat nasal bridge, ptosis, cleft lip and palate, mental handicap, later increased risk of malignancy, particularly neuroblastoma.
Thalidomide	34-50 days from LMP	Phocomelia, congenital heart disease, anal stenosis, atresia of external auditory meatus.

Teratogen	Critical Period	Malformations
Warfarin	Exposure at 6-9 weeks results in structural abnormalities in 30%, after 16 weeks mental handicap alone may be seen	Hypoplastic nose, upper airway difficulties, optic atrophy, stippled epiphyses, short distal phalanges, mental handicap
Chloroquine	Deafness, corneal opacities, chorioretinitis	Lithium
Congenital heart disease	Sodium valproate	Neural tube defect (1-2%), hypospadias, microstomia, small nose, long thin fingers, developmental delay.

Table 5: General Population Risks

Condition	Risk
Spontaneous miscarriage	1 in 6
Perinatal death	1 in 30-100
Neonatal death	1 in 150
Cot death	1 in 500
Major congenital malformation	1 in 33
Serious mental or physical handicap	1 in 50
Adult cancer	1 in 4

Table 6: Risk of Consanguinity Shared Genes in Relatives

Parent-child, sib to sib	1/2 Risk 50%
Uncle-niece, aunt-nephew	1/4 Risk 5-10%
1 st cousins	1/8 Risk 3-5%
2 nd cousins	1/64 Risk low

Table 7: Control and Prevention of the Hereditary Disorders

Screening: Population, family for carriers and affected persons
Premarital carrier detection (common in the community)
Genetic counseling
Newborn screening for common and treatable conditions
Education Programs for the community
Management strategies
Genetic Registries
Avoidance of teratogens and mutagens during pregnancy
Prenatal Diagnosis → Abortion

Pre implantation Genetic Diagnosis (PGD):

In vitro fertilization is carried out. The zygotes are grown to 8 cell stage (Morulla stage), where a cell is removed and examined for chromosomal study i.e. aneuploidy (abnormal number of chromosomes) and DNA testing for the culprit gene. If proved free from the suspected disease, the morulla/blastula is reimplanted into the uterus. If the morulla is proved having the disease, then it is discarded and a new morulla tested. Only the one free from disease is implanted into the uterus.

Pre implantation diagnosis for gender selection is to be discussed in the forthcoming meeting of the jurists council of Islamic world league. Many jurists think it is deplorable and should not be allowed, while others think it may be allowed in certain conditions where the parents were deprived in from the required child.

Assisted Reproduction

- Treatment of infertility is allowed.
- Procreation outside wedlock is not permitted.
- IVF is allowed provided it is between husband and wife. During their lifetime and on condition that marriage is not absolved.
- Donation of sperm, egg, uterus (surrogate mother) or somatic cells is not allowed.

- Research on left over fertilized ova is not allowed.
- Freezing of xs fertilized ova is not allowed.

Fetal Reduction

- Multiple pregnancy endangering the health of the mother and the fetuses occur mainly in IVF projects.
- The Physician should not replace more than two fertilized ova in each cycle.
- Fetal reduction is killing the excess embryos in utero before 8 weeks. It is not allowed since the excess pregnancy is usually artificially done.

DNA Finger Printing:

Fatwa of the Islamic Jurisprudence Council of Islamic World League Makkah AlMukarammah 16th Session (21-26-101422H / 5 10 January 2002) Regarding DNA Finger Printing:

- 1 - It is allowed to use DNA fingerprinting in forensic interrogations to prove crimes which has no precise definite penalty in Islamic law (this is to avoid indictment in cases of doubt as doubt should be used for the sake of the accused). This will lead to justice and safety of the community, as the criminal will be punished and the innocent will be freed, which is one of the most important goals of Shariah.
- 2 - DNA fingerprinting may be used in lineage (genealogy) only with great caution and confidentiality, as the Shariah rules takes precedence over DNA finger printing
- 3 - It is forbidden to use DNA fingerprinting in paternity (lineage) disputes. The oath of condemnation accusing the spouse of adultery takes precedence over DNA testing.
- 4 - It is forbidden to use DNA fingerprinting to confirm or refute legally proven lineage. The state should forbid such testing and punish those involved, in order to protect people's honor and to preserve their lineage

- 5 - It is allowed to use DNA fingerprinting in proving lineage in the following conditions:
 - a - In cases of dispute of unknown lineage
 - b - In cases of dispute of left over babies in hospitals and in nurseries or test tube babies.
 - c - In cases where small children are lost and couldn't be identified as in wars, natural disasters or accidents
 - d - To identify corpses in wars, natural disasters or accidents.
 - e - To identify prisoners of wars.
- 6 - The humane genome of an individual or race shouldn't be sold or donated for any reason, because of the harm that will ensue.

The council recommends:

- 1 - The state should forbid DNA fingerprinting testing except on judges orders and should be performed in state laboratories. The private sector should not be allowed to do such a test
- 2 - Each state should have a committee on DNA fingerprinting tests, which should include legal scholars (in Shariah), physicians, scientist in the field and administrators to supervise and approve the result of such tests.
- 3 - There should be precise mechanism to prevent deceit, sheeting contamination or human error in such laboratories, so the result will be compatible with the reality.
- 4 - The accuracy of these laboratories should be confirmed.
- 5 - The number of genes used for the test should be sufficient, in the opinion of the specialist to overcome any doubt about the accuracy of the results.

Fatwa Regarding Cloning:

Islamic Fiqh Academy 10th Session (Safar 1418 - June 1997) Preamble:

- Islam does not set up any obstacle or obstruction in the freedom of scientific research. Nevertheless, the door can not be left wide open, without restriction to the implementation, without limits, of the

results of scientific research.. It is not allowed to apply a discovery just because such an application is technically possible. It has to be useful serving public interest, protecting people from harm and respecting human dignity, identity, specificity and autonomy.

- Science should neither shake the stability of the social structure, nor destruct the foundation of parenthood, marriage links and family structure, as they have been known through the history of mankind, and preserved by the divine law on sound and strong bases set up by God.

Cloning:

- Cloning is giving birth to one or several living beings, either by transplanting the nucleus of a somatic cell into enucleated ovule, or by dividing a fertilized egg at a very early stage (identical twins).

Decisions (Resolution No 100/2/100 on Human Cloning) AR7

- 1 - It is prohibited to clone a human being, by the above mentioned methods or by any other method that results in the multiplication of human species.
- 2 - In case of violation of Shariah prescriptions underlined in the first paragraph, consequences of such acts should be brought to the notice of the Academy so as to clarify Shari'a rules thereon.
- 3 - Are prohibited all cases implying the intervention of a third party in the procreation process, whether a uterus, an ovule, a spermatozoid or a body cell for cloning.
- 4 - It is permitted by Shari'a to use cloning techniques and genetic engineering in the fields of microbiology, botany and zoology, and within the limits prescribed by Shari'a, in order to serve general interest and Prevent harm.
- 5 - Invites Islamic countries to adopt laws and rules in order to close all direct and indirect avenues from local or foreign institutions, research institutes and foreign experts so as to prevent them from using Islamic countries as experimentation field for the propagation of cloning.
- 6 - The Council of the Academy and the Islamic Organization for

Medical Sciences shall jointly ensure the follow-up of the issue of cloning and of any new discovery in this field, shall establish the terminology of cloning and organize seminars and meetings in view to popularize Shari'a rules on the subject.

- 7 - The Council calls for the establishment of specialized committees comprising experts and Fiqh scholars, in order to set up the rules of ethics to be observed in the field of research in biology in Islamic countries.
- 8 - The Council calls for the creating and strengthening of scientific establishment and institutes dealing with research in biology and genetics, but in fields other than human cloning, in compliance with Shari'a rules, so that the Islamic world would not be left in a state of dependency in this field.
- 9 - Devoting the application of scientific discovery from an Islamic standpoint and invites all media to adopt an attitude in conformity with the prescription set by religion concerning these issues, to avoid to use these discoveries in a way incompatible with the spirit of Islam and to make public opinion aware of the right to verify information before any decision on the subject, as required by the Almighty God who said:” When comes to them some matter touching (public) safety or fear, they divulge it. If they had only referred it to the Apostle or to those charged with authority among them, the proper investigators would have tested it from them (direct)" Surat" An-Nisa'a/ The Women V.83)

Fiqh Council/Islamic World League Resolution 1, 15th session (Oct 31-Nov 4.1998) Makkah Al Mukaramah on Genetic Engineering

- 1 - Reaffirmation of resolution no. 100/2/D/10 passed by Fiqh Council (OIC) regarding cloning.
- 2 - Genetic Engineering may be used to cure or prevent disease, or minimize its harm, provided it didn't cause greater harm in the process.

- 3 - Genetic Engineering should not be employed to achieve evil or hostile ends, or any thing that is prohibited by the Shariah.
- 4 - Genetic Engineering should not be used in tampering with the personality of the human being and his individual responsibility or interfering with the structure of human genome, under the pretext of improving the human race (Eugenics).
- 5 - It is not allowed to conduct research, treatment or diagnosis of an individual's genome unless a rigorous and prior assessment of the potential risks and benefits pertaining to such an operation has been made and informed consent of the person involved obtained and the results kept strictly confidential, and the provisions of the Shariah regarding the rights and dignity of man observed
- 6 - Genetic Engineering may be used in agriculture and animal breeding provided necessary precautions are taken to avoid any harm (even long term) to man, animal and environment.
- 7 - The council calls upon firms producing food stuff, medical items and others making use of genetic engineering to state the ingredients of the items, so that people could keep away from items that are harmful or prohibited by Islamic law.

Islamic Point of View regarding Stem Cell Research

- Adult stem cells: No problem.
- Embryonic stem cells: The human embryo has sanctity from early stages which gradually increase with development. The human embryo is not a person except after ensoulment which is stated in the Hadith of Prophet Mohammed (PBUH) to occur at 120 days computed from the moment of conception viz. fertilization. (Equivalent to 19 w and one day from LMP).
- Ibn AlQaiyam in his book ATTIBIAN FI AKSAM ALQURAN says that the embryo and fetus before ensoulment has the life of growth and nourishment like a plant, but once the spirit is breathed in he acquires perception and volition, i.e. becomes a person.

- Hence abortion after 120 days is never allowed except for saving the life of the expectant mother (very rare occurrence).
- Therapeutic Abortion with restrictions is allowed. (4th resolution on aborting congenital malformed fetus. Islamic Jurists council of Islamic World League, Makkah Al Mukaramma, 17th Feb 1990).

The Fatwa of the Islamic Jurisprudence Council of the Islamic World Makkah Al-Mukaramah in its 17th session (19-23-10-1424H/13-17 December 2003 G)

Stem Cell Therapy

Decisions:

First: It is permissible to obtain stem cells to be grown and used for therapy or for permissible scientific research, if its source is legitimate, as for example:

- 1 - Adults if they give permission, without inflicting harm on them.
- 2 - Children provided that, their guardians allow it, for a legal benefit and without inflicting harm on the children.
- 3 - The placenta or the umbilical cord, with the parents' permission.
- 4 - A fetus if spontaneously aborted, or when aborted for a therapeutic reason permitted by Shariah, with the parents permission (be reminded of decision 7 of the council in its 12th session about abortion).
- 5 - Leftover Zygotes remaining from in vitro fertilization, if donated by the parents, when it is ascertained that they will not be used in an illegal pregnancy.

Second: It is forbidden to use stem cells, if their source is illegal. As for example:

- 1 - Intentionally aborted fetuses (that is, abortion without a legal medical reason).
- 2 - Intentional fertilization between a donated ovum and sperm.
- 3 - Therapeutic human cloning.

In Conclusion:

Islamic Teachings offer a great deal in the prevention and control of genetic diseases to Islamic communities. The pragmatic attitude of Islamic jurisprudence is evident, whereas any modality of treatment proved useful is encouraged and adopted.

The pros and cons of any new discovery in the field of medicine and science are studied thoroughly, and if the advantages outweigh the disadvantages and deleterious effects, then that achievement is considered salutary. However if the achievement is going to shake the stability of the social fabric or destruct the foundation of parenthood, marriage and family structures, then it is refuted and considered satanic.

The policy of Eugenics is deprecated, and the so called gene enhancement is introducing uncalculated risks to the human life, disrupting communities and increasing the gap between the wealthy and poor.

Misuse of genetics in the field of warfare and for heinous objects is a real danger that should be confronted by all nations and religions.

Genetics promise many advantages, mainly to wealthy advanced societies, with some benefits filtering to the poor developing nations. However the risks of misuse and hegemony of the already rich and knowledgeable is great.

**THE ISLAMIC STANCE ON HUMAN
GENETICS AND REPRODUCTIVE
TECHNOLOGIES**

Dr. Abdel Sattar Abou Ghoda

Kingdom of Saudi Arabia

The Islamic Stance on Human Genetics and Reproductive Technologies

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Praise be to God, and Peace be upon the people he chose to guide humanity with the aid of his holy books. These books whose words are sources of light that protect human reason from error by providing the values which offer standards for thinking and a firm basis for the stability of societies.

These important values are incorporated in the Holy Koran, the last of the holy books, and also in the Sunna which both emphasizes and explains the Holy Koran. The Koran and the Sunna include scientific allusions in many fields including reproduction and heredity. These allusions prove the miraculous nature of the Koran and that it has verily come from God. Moreover, it exhorts people to think about science, the human soul, and the body.

The issue of human genetics is too vast for us to tackle and, therefore, will be left for specialists. We will, however, touch upon some of its views in order to use them as a base for the rules of Islamic law.

This paper and others like it are important at the present time because there is a compelling need to clarify the rules of Islamic law concerning genetic engineering and its effects with the aim of keeping abreast with the results of theoretical and field research in this area.

The Relationship between Genetic Issues and the Aims of Islamic Law

Islamic Law's concern with Protecting Offspring

The importance of genetic issues derives from their close connection with one of the aims of Islamic law which is the protection of offspring and of their lineage. Offspring are among five entities that

Islamic law came to protect, which are: religion, life, mind, offspring, and money. All Islamic rules are meant to protect these five, some of which can be considered as necessities and others as needs, while yet others can be regarded as luxuries. These rules so to speak erect a strong fence around the five entities which serves to keep harm away or remove it if it has actually taken place. Thus, it is clear that Islamic law has honored and protected as well as privileged man over other creatures.

Human Genetics in Medicine and the Islamic Tradition of Jurisprudence

Despite the limited number of writings in genetics and genetic engineering (a science which is only a little over thirty years old), yet the importance of this field was known to those who lived in ancient times whether they were doctors, jurists, or other scholars who wrote in related areas. A Hadith told by Bukhari and Moslem says "Maybe your son has taken after one of his grandfathers." It was said as a comment for those who were astonished that their offspring did not resemble them, but resembled one of their grandfathers.

Yet the efforts of those who lived in ancient times stopped only at the attempt to discover the qualities of genetics, but they never dreamt of controlling it. Modern medicine, however, has taken several steps in this direction through selection, ART, modification, and change. Some of these methods are now made possible, and others are about to be realized.

The Need to Explain the Position of Islamic Law with regards to Genetic Issues

Now that doctors have offered their scientific conceptions about the matter, the need exists to explain the position of Islamic law regarding controlling genetics.

The rules of Islamic law in this respect have two sides:

- Rules related to the legitimacy or illegitimacy of various actions in the field of genetics.
- Rules dealing with the consequences of these actions and the duties

and responsibilities related to them regardless of whether the actions are sinful or not.

Islamic law not only prescribes correct behaviors, it also rectifies deviant behavior. This does not mean that such behavior is accepted, but that man is ordered to protect the rights of others and to minimize the harmful effects of sinful deeds.

Finding out about genetics, about how man was made, and about how his own make-up is a reflection of the larger universe, all comply with God's invocation to us that we look within the human self and discover its hidden wonders. Such a course would naturally lead us to learn important lessons "As also in your own Selves; will ye not then see? (Dhariyat 21)". "Travel through the earth and see how did God originate Creation; so will God produce a later creation: for God has power over all things." (Ankabut 20). Thinking about God's creation will lead to believing in him and in his power, Wisdom, and oneness.

Heredity is one of the qualities that God put in the different species he created and endowed with the capacity for sensation, movement, and will (man and animal species) or growth (plant).

Secrets and wisdoms connected to heredity are discovered every day and lead us to believe more in God's greatness. "As also in your own selves, will ye not then see? (Dhariyat 21). "For verily it is thy Lord Who is the Master-Creator knowing all things." (Hijr 86). "Our Lord is He Who gave to each thing its form and nature, and further gave it guidance." (Ta-Ha 50).

Recent discoveries were made in accordance with God's will in this universe, for it is God Who gave man the reason, knowledge, and ability to use the laws that he placed in the universe with its heavens and earths. Moslems believe that everything which happens in the universe happens according to God's will, even if it contradicts the laws he ordered us to obey.

The practices which accompany the increasingly rapid discoveries in the field of genetic engineering and genetic treatment have two sides:

A side related to faith: by looking at many of the aspects of

genetics, the component of the genetic cell, the possibility of controlling it and other things which until recently have been hidden, does not weaken the Moslem's faith. On the contrary, he sees the wonders which lie within him and in his different stages of development, marveling that they all conform to God's rules.

A legal side: which includes finding out everything that pertains to God's will including his injunctions and prohibitions. This encompasses examining God's orders about what is permissible and what is not. As a result of which those who adhere to Islamic law would refrain from committing, permitting, or assisting with forbidden deeds in the fields of testing or treatment, because in all areas the laws of religion must be abided by. The wish to do that which is useful does not mean religious laws can be ignored. Or else, the material harm will be removed, but it will be replaced by a moral harm resulting from lack of concern about what is permissible and what is prohibited.

Therefore, there is a need to study the consequences of such actions if they are done by those who do not adhere to Islamic law (and this is the general case because our countries are lagging behind in the field of science)-such as issues of lineage, inheritance, child support, marriage, pre-marital checkups, and marriage between relatives.

There are Islamic laws which deal with proofs and punishments: proof of parentage or examining the effects of genetic disorders which could lead to exemption from punishment and the connection of all that to our congenital qualities.

The fact that there are religious rules that govern these practices in the field of biology does not mean that science and knowledge are being constrained, but only that they are being regulated to serve the good of mankind. Islam urges people to seek knowledge and has done so ever since its inception. In fact, there are many prophetic traditions and Koranic verses which discuss knowledge. For example, in the Koran there are 750 scientific verses which deal with the different sciences. El Ghazali, a noted Islamic scholar, opens his book *Reviving Religious Studies* with a chapter on science in which he compares

between jurisprudence and medicine, asking which of them is superior. In this book he also explains the etiquettes of learning.

In the first two centuries after the Prophet's Hegira, Moslems were very prolific in science and translation. The golden age of translation and the Arabic language was in the third and fourth centuries. In the fourth century Ibn Al Nadim wrote the first bibliography titled The Index in which he cited the works and translations in all the branches of science, in addition to biographies of doctors.

Scientific data do not contradict the will of God, though some of them violate religious laws. Ibn Al Kayem, discussing the relationship between the will of God and scientific facts in the matter of the sex of babies says:

Yet all this is a mere reason, but not the deciding factor. The deciding factor is God's will which he may carry out by removing the cause, or by making the cause result in opposite effects, and all this would not contradict his wisdom. It is not difficult for him to accomplish his purposes.

God says "Beget males and females according to God's will". God has also said "To God doth belong the dominion of the heavens and the earth, and all that is therein, and it is He who hath power over all things."(Maida 123). God has thus told us that everything happens according to his will; and that he may bestow only males or only females, or may give both to some parents, or may completely deprive others of offspring. It all has to do with his knowledge and will.

Defining Heredity and Genetic Engineering:

Positive and Negative Aspects

A definition of heredity must first be offered before discussing its practices and their legitimacy or illegitimacy.

Heredity is "the transfer of qualities from parents to children, and it also includes hereditary illnesses⁽¹⁾.

Genetic engineering deals with the hereditary components of living

(1) The History of Medicine. Dr. Shawkat Al Shaty, published by the University of Damascus.

creatures (genes) which carry hereditary traits which may be qualities shared with all human beings, or qualities particular to certain races, or personal qualities. Genetic engineering uses, adds, cancels, or modifies some of these features of a living being to accomplish a specific purpose, a method called reading the human genome. By its means illnesses of genes and fetal deformities are discovered, as well as treatments of hereditary diseases. Moreover, by its means improvement in the production of plants and animals is effected⁽¹⁾.

Genes form a part of the DNA found in the chromosome. Proteins come from genes. Moreover, there are nitrogenous bases which control Hemoglobin. Any disorder in their sequence could lead to serious illness.

Similar pairs of chromosomes determine a person's genetic features and the way his/ her body functions. There are female genetic chromosomes (xx) and male chromosomes (xy).

If the gene is different in one of the two similar positions, there will be a difference between individuals due to their genetic identity. Genetic diseases do not occur except if a person has bad genes from both parents. If he has only one bad gene, he will be only a carrier of the disease.

Technological Reproduction

Technological reproduction can be used to produce medicinal substances, or used in the area of animals and plants, or on human beings. The first area was the topic of the IOMS's first conference held in Casablanca. The recommendations state that "it is permissible to apply reproductive technology on minute organisms by using some of the characteristics of the reuniting DNA to produce ample medicinal

(1) Anyone who reads specialized research in genetic engineering realizes that the great advances in science could one day lead to radical changes in man's biological nature. The thought of such possibilities causes psychological shock to modern man. If medical and biological possibilities are taken beyond the laboratory and carried out, the results would be absolutely amazing. (see Dr. Ahmed Sharaf Eddine's paper in the research symposium).

substances. They added that the characteristics of the DNA should be used to benefit people and keep harm away from them.

In what follows we will discuss the applications of technological reproduction on man, and its effects on the family and children.

God has made sex the means of human reproduction, "And among His Signs is this, that he created for you mates from among yourselves that ye may dwell in tranquility with them, and he has put love and mercy between your (hearts): verily in that are signs for those who reflect." (Rum 21).

God did not make the sexual relationship a purely physical one, but he gave it a legal and emotional significance achieved in marriage which God described in the Koran as a solemn vow. Reproduction has its emotional effects which start with pregnancy, then birthing, then breast-feeding which builds the flesh and bones, then nurturing and the bringing up of the baby until he/she reaches adulthood.

A question that must be posed is whether this warm emotional and familial atmosphere would still exist if reproduction technologies were used instead of sex, and whether these benefits exist in reproduction technologies.

The answer is obvious; neither the woman nor the man would have those feelings which come from a sense of belonging, no will there be a system of duties and rights that begins with choice of the right partner then helping take care of him/her.

The point is to stress the importance of preserving lineages, and to cultivate awareness before taking any action related to this important issue. We must adhere to the normal way that God has made for us in order to get healthy offspring. "It is He Who created you from a single person, and made his mate of like nature in order that he may dwell with her. When they are united, she bears a light burden and carries it about (unnoticed). When she grows heavy, they both pray to God their Lord, if thou givest us a goodly child. (A'raf 189)

This verse and others like it make it clear that marriage is the safe way created by God to preserve the human race, and it results in tranquility, love, and kindness. Departing from the right path jeopard-

dizes an important principle which is the preservation of offspring and the protection of a child's parentage. It is on these two points that the continuation of human society and its happiness rely. Tampering with them creates problems concerning motherhood, fatherhood, inheritance, child support and solidarity among family members.

The Views of Religion on Genetic Engineering and Genetic Treatment

The religious law applied here - as well as regarding all issues - is that of general good. If a thing is useful and there is nothing in the Koranic text either to prohibit or allow it, then it is considered permissible. The religious rule of "the general good" is an essential one in dealing with recent developments. Yet we have to study the requirements that would prevent the harms of these developments from outweighing their benefits.

If these religious conditions are met, the action is permissible because it entails the pure and untainted good of human beings. However, if they are not met, the action is forbidden because it causes harm and contradicts the aims of Islamic law which include protecting progeny.

If an action is prohibited, it is not only practicing it which is forbidden, but also extending assistance whether material or moral to those who do. They cannot use our environment to carry out their experiments or practices (which can happen easily in our age of science and hegemony).

Of course, religious controls differ in quality and quantity according to the case⁽¹⁾.

(1) The constraints we are talking about mean that we have to select only what is good for humanity as God meant us to do. If our initial research into the problems of reproductive technologies might seem to be implying that the methods used in it are forbidden by religion, yet scrutinizing these methods and their effects could reveal that they have beneficial results which could be retained, provided they do not contradict with the religious text. In my opinion, we need to examine these issues without any delay, because advances in science are very rapid.

The Rules of Islam regarding the consequences of an Action

The consequences of any action must be in tune with the rules of Islamic law which decides what is permissible and what is forbidden. The fact that forbidden deeds are actually being committed does not mean we should neglect looking into their effects, as these deeds even if they are committed by non-Muslims or uncommitted Moslems have effects that touch upon others and not just their doers. They have important repercussions related to health, child support, inheritance, and so forth.

Regarding Experiments in Genetic Engineering

It is without any doubt quite legitimate to conduct scientific research in areas expected to benefit people, especially those that are conducive to man's health and freedom from disease as well as those which diagnose the effects of medicines on human beings in order to reduce suffering, we cannot wait until those methods of biotechnology totally fascinate man to the degree that he is willing to use them regardless of religious considerations (See Dr. Ahmed Sharaf Eddine's paper).

Genetic Control over the Genes of Fetuses

This issue is related to human genetics. We must ask ourselves the following questions: Should children be regarded as a unique gift that is provided with a nature and personality of its own? To what extent do we have the right to modify children's nature and personality? Would the selection of the attributes of children turn them into commodities?

These issues are linked to the fact that our children are under our guardianship even while they are still fetuses. The issues of medical intervention for treatment, cosmetic purposes, or for the sake of altering the traits carried in the genes must also be considered.

Some religious data must be offered about the "right" and its relation to "permission" whether this permission is a religious one that allows others to do an action, or whether it is a person giving someone a permission to do an action.

The “Right” and its Relationship to Religious permission and Personal Permission

The “right” is an important organizing principle especially if it has to do with people or what they own.

“Right” and “Permission” are related to either God (Religious permissibility) or people (the right of man as the owner). There are different types of rights, of course, but we will not get into the details of that matter, because they have been dealt with separately.

Who Has the Right Regarding Genetic Behavior

There is no difference between giving permission for the treatment of regular diseases or giving it for treatment of genetic diseases. The permission is linked to the person who has the “right” to permit, whether he has sole right, or has this right together with another person.

If the matter is related to God’s right, then we have to find out whether an action is religiously permissible or not, but if it has to do with man, then it will be decided according to man’s wish. There are, of course, different types of permission. One of them has to do with a person permitting another to act freely regarding his money. Another type of permission is when a person allows another to make use of an organ taken from his body (provided that this will not harm the donor). The donor, of course, is not the owner of his body, but God gave him the right to it. The third type of permission is the one given by a guardian or a custodian. The final one is the right of the ruler to dispose of matters that concern his people provided that he acts for their good.

This general principle is applied in cases when a person is not legally competent as a result of a genetic disorder. In this case the legitimate guardian exercises the right to grant or withhold permission.

The general principle here is protecting the rights of others, because there is a religious rule which says that “No one has the right to dispose of other people’s possessions without their permission”.

The human body belongs to God, and yet the human being also has a right over this body. Thus, in the body, two rights conjoin: the right of God and the right of man. This is to protect the body, because two permissions must be obtained in anything which is related to it. The human being has the right to allow others to behave according to their own discretion, and he has the right to approve of an action after it has taken place. God's right, however, has two dimensions:

- 1 - The rules which distinguish between what is permissible and what is forbidden in any domain of action, and in the field of medicine in particular because of its importance; medical actions could harm a human being or his organs or one of his five senses either deliberately or by mistake or as a result of negligence or malpractice.
- 2 - General official actions taken by the ruler which must be in accordance with the laws of Islam, and must serve the general benefit of those it impacts. The rule in this context is "Any action which has an impact on the ruled must be for their benefit."

If no person is found to give the permission, then we must resort to the laws provided by the divine legislator. That is why there is guardianship. Parents are guardians over those who lack legal competence including fetuses.

The ancient scholar Al Qarafi differentiates between God's permission and the human owner's permission because the owner's permission protects one against any legal liability while God's permission frees us from any responsibility or punishment for the action in the hereafter. It is a sign of God's bounty that he made it so that no action can be taken with regards to anything a person has a right over without his/her permission.

Islam's Protection of the Fetus starting the Sperm Stage

Abi Hamed Al Ghazali the noted Islamic scholar, sufist and philosopher states that the fetus is worthy of protection starting the sperm stage.

The initial stage of existence is when the sperm reaches the

uterus and becomes ready to receive life; to harm it is criminal. To harm it in its later stages when it is an embryo or a baby is even more criminal. The reason we are talking about the sperm reaching the uterus is because a child is not made of a man's sperm only, but from both the husband and the wife⁽¹⁾.

The Degree to Which Parents have the right to change a child's Nature by means of Genetics

The first stage of a human being's creation begins with its being an embryo and continues till birth. This stage is called by Islamic scholars "the fetal stage"⁽²⁾. It is considered the first stage of a human being's creation. Human life was divided into five successive stages: the fetal stage, childhood, adolescence, puberty, then adulthood.

The fetus has rights (others are required to protect him) but no duties. This is due to the fact that Islamic scholars hold that the fetus has no independent existence, but is as it were a part of the mother. It is as if the fetus is one of the mother's organs. Yet at the same time it can be considered as independent of the mother because it has its own life, and will soon separate from her and become an individual in its own right⁽³⁾.

The Rights of The Fetus are the following:

- 1 - Parentage (the right of the fetus to belong to its parents).
- 2 - Inheritance (a share of the inheritance is reserved for it that is large enough for a male child because the child might be either male or female).

(1) Reviving Religious Studies by Abi Hamed Al Ghazali 74/2

(2) "The fetal stage" is a term coined by Imam Al Nawawi to describe the fetus in his book *The Seekers' Garden* 257/9 The usage of this term was revived by the scholar Sheik Mostafa Al Zorqa in his Introduction to Jurisprudence although he was not aware that Al Nawawi used the term before him, and said that Islamic scholars did not use this term, but referred to this stage as pregnancy.

(3) Explaining Secrets, Al Bazdawi 239/4, Al Manar, Ibn Malek 334, The Rules, Ibn Ragab 177, The Kuwaiti Encyclopedia of Islamic law 155/7, An Introduction to Islamic Law by Sheik Mostafa Al Zorqa 750/2.

- 3 - A person could include in his will and testament an unborn child.
- 4 - Endowment: it is lawful to endow money or property to an as yet unborn child.

There is a difference between guardianship over a fetus and guardianship over those who do not have full legal competence, or those who have no competence whatsoever. Guardianship over the fetus is confined to protecting the fetus's rights. As for guardianship over minors; if an action is unequivocally beneficial to the minor it is permitted, if it is unequivocally harmful, it is forbidden. However, if the action has both benefits and harms then permission must be obtained from those who have the right to give it.⁽¹⁾

While the child is only a fetus, he does not have a "guardian", but a "custodian" whose duty is to do only what is absolutely useful for the fetus. The Kuwaiti Encyclopedia of Islamic Law differentiates between a custodian and a guardian, in that the earlier does not have the right to act on behalf of the fetus.

It thus becomes obvious that Islamic law carefully protects the fetus, since it states that only actions that are conducive to its welfare can be carried out. The fetus has the right to belong to its own parents, and has financial rights as well. No action can be taken, however, that is harmful to the fetus or combines harms and benefits.

Therefore, medical intervention in genetic qualities is not permissible even if the custodian agrees to it. The only exception is if the intervention will cure a genetic disease, because such an action leads to an exclusive benefit for the fetus. If the matter will lead to a benefit, no permission needs to be obtained (provided that the fetus does not incur any financial cost even if the fetus is an heir, or someone has endowed him money). This is because a fetus has rights, but no obligations or duties. Medical intervention is, thus, not allowed except in the case of genetic diseases. Changing the color of a baby's complexion or eyes or the appearance of some of his organs is not a matter of pure or absolute benefit for the fetus. Therefore, it is not

(1) The Rules of "Permission", Dr. Mohamed Abdel Raheem Sultan Al Olamaa 241,242,243.

permissible to change a fetus's nature or character. Changing the traits of a baby turns it into a commodity.

Producing children by means of Reproductive Technology and the Effect of that on the Relationship of Parents and children

Is infertility an illness? Is it acceptable for a sterile couple to use ART to beget children? What are the limits of using this technology? How far does its use affect the relationship?

Infertility in males and females is considered a form of illness (in some cases it may have genetic causes).⁽¹⁾ According to religion there are certain types of illnesses which if a husband or a wife has them, the other partner is given the right to annul the marriage in order to avoid harm. Infertility, however, is not one of those illnesses, nor does it lead to the annulment of the marriage.

Jurists have gone to great pains to explain the defects, the presence of which in a husband or a wife would give the other partner the right to annul the marriage. These defects are ones which cause repugnance such as madness or leprosy, or reproductive defects which prevent sexual pleasure, because this pleasure is one of the goals of marriage and it protects people from falling into sin.

Despite this, marrying a sterile man or woman is not commendable because it would not lead to the fulfillment of one of the main purposes of marriage which is begetting offspring, a goal that is approved by religion. From the religious viewpoint there is nothing to stop a couple from using any legitimate method to accomplish this purpose, whether through taking medicines or by using the test tube baby method.

Using Alternative Remedies

In what follows various methods for treating sterility will be briefly mentioned. We are also going to state whether they are religiously permitted or not:

(1) A pamphlet published by the Center for Genetic Illness, Dr. Seddiqa Al Awadi. The Ministry of Public Health, Kuwait.

Implanting a testicle from a fetus:

The testicle is developed in the seventh week of pregnancy, but it is taken from the fetus after it becomes four months old i.e. after ensoulment (which occurs at 120 days). This occurs when the fetus's life has to be sacrificed to save that of the mother. If the fetus is taken out of the mother's uterus before it is 25 weeks old, it dies.

Numerous moral objections can be raised against this method. First, it can be abused by having women get pregnant specifically to use testicles from the fetus. Second, abortion after 120 days is forbidden (because at this time the soul is blown into the fetus). Third, it is forbidden to implant the testicle, as it carries genetic traits. If this is done, we would be tampering with a person's lineage.

The Test-Tube Baby Method

This method has been studied thoroughly from both the medical and the religious aspects. The Academy for Islamic Jurisprudence issued decision number 16 (3/4) to set forth what is permissible and what is forbidden regarding the use of this method.

Decision 16 (3/4) on Test-Tube Babies

First: The following five methods are forbidden by religion, and are categorically forbidden because they are immoral and would lead to confusion about a baby's father/mother.

- 1 - To fertilize the sperm of a man with a woman who is not his wife and the to take the zygote and implant it in his wife's uterus.
- 2 - To fertilize the sperm of a man who is not the husband with the wife's ovum then implant the zygote in the wife's uterus.
- 3 - To fertilize the seeds of a husband and a wife externally then implant the zygote in a woman who has volunteered to go through the pregnancy.
- 4 - To fertilize the sperm of a man other than the husband, and the ovum of a woman who is not the wife externally then implant the zygote in the wife's uterus.

5 - To fertilize the seeds of a husband and a wife externally then implant the zygote in the uterus of another wife.

Methods 6 and 7 may be used if there is a need, provided that all the needed precautions are taken:

6 - To take a husband's sperm and a wife's ovum, fertilize them externally then implant the zygote in the wife's uterus.

7 - To take the husband's sperm and inject it into a woman's vagina or uterus.

Genetic Tests to Select a Healthy Baby Or a Specific Sex for the Baby

Genes play a key role in man's life; since they are responsible for health and illness. All man's organs are subject to illnesses which might occur in the nervous system and cause certain deformities or retardation; or occur in the circulatory system, or the muscular system, or the endocrine glands, the skin, the digestive or reproductive systems.⁽¹⁾

Specialists assert that genetic illnesses are not only those which have a prior history in the family; they have many causes such as the difference between chromosomes, or defects in one of the genes which could lead to an illness which is recessive, dominant, or sex-linked. It may also be due to a mutation in one of the genes.

However, it would be wrong to assume that the occurrence or spread of these illnesses is only due to reasons of heredity, or some physiological disorder or some illnesses have direct causes such as stress, pollution, unhealthy lifestyles.

Our genes make us prone to suffer from certain illnesses as soon as we are exposed to a polluted environment. They could also make us immune against pollution.

Tests are not the only option, genetic counseling is another

(1) Illnesses, Heredity, and Environment. Dr. Ahmad Mohamed Al Kabariti 22-24. Published by The Society for the Protection of the Environment, Kuwait, 1981. A pamphlet published by the Center for Genetic Diseases. Dr. Sediqa Al Awadi, Ministry of Public Health, Kuwait.

alternative. Genetic counseling could reveal important information about a genetic illness in the family which could be avoided or discovered during the pregnancy.

After this introduction on genetic tests to select a healthy baby, or a specific sex for the baby, we are going to mention five points.

- 1 - The parents' use of genetic tests to choose a healthy child and the implications of this on the handicapped.
- 2 - Using genetic tests to determine the state of the fetus (to control its sex).
- 3 - Using genetic tests to select a baby with traits that we prefer.
- 4 - The difference between severe and mild handicaps.
- 5 - Selecting babies using PGD.

Replacement and its Impact on the Handicapped

This term could be used to describe attempts in the field of genetics to create alternative qualities differing from a person's original qualities which would remain with a person forever, unless "replacement" is used. "Replacement" means exchanging inferior qualities for superior ones.

Replacement, as defined by specialists means relying on the qualities of the DNA, particularly its capacity for fusion in order to change qualities through complicated processes.

These changes will produce new creatures with new qualities controlled by new genetic factors. The change in this case is permanent.

To judge such actions we must, of course, take their purposes into consideration. If the purpose is to achieve a cure for an illness, genetic or otherwise or to find a remedy for some defect or weakness then it is legitimate. Such intervention if not mandated by religion, is at least commendable or permitted. The reason for this is that Islamic texts order us to use medicine, to remove any harm and to seek what is good for us.

What if the purpose is to change what God has created or to tamper with it in order to cause in it a degeneration, as for example

making it go to one of two extremes. One of these extremes is making a nature which is extremely quiet, calm, and good that it resembles the nature of angels, or creating a nature characterized by weakness and submissiveness. The other extreme is to create a very evil nature that resembles that of devils. All this is a departure from the nature which God has given to man; a nature capable of good as well as evil. “(Establish God’s handiwork according to the pattern on which He has made mankind; No change (let there be) in the work (wrought)” (Rum 30).

There is no doubt that the abovementioned changes constitute a transformation of the nature which God has given to man and forbidden him to change through any means such as liquor, drugs, magic, the evil eye, or rumors.

Therefore, there is a difference between “replacement” as a means of seeking treatment in order to restore an organ to its normal nature and between “replacement” out of the sheer desire to change any qualities which are not liked.

The IOMS’s third conference issued a religio-medical recommendation which states that, “Surgeries undertaken to treat deformities or to restore an organ to its original form or function are religiously permissible. They are considered by the majority as a type of treatment, since they correct defects and ugliness which have negative physical or psychological effects on a person.

Surgeries that change the nature of the body or an organ and surgeries which are undertaken for the sake of mere whims, to escape justice, or deceive others are not permissible. Furthermore, sex-change operations carried out for perverted purposes when there is no ambiguity about a person’s sex are forbidden.

The fourth recommendation of the seminar on reproduction also warns against experiments that endeavour to change the human nature which God has created, and also warns against using science for evil, corrupt, or destructive purposes. It asks that religious controls be set to guard against this.

Selecting the Sex of the Baby

If the selection of a baby's sex is done through legitimate means, then it is permissible, for it is similar to praying to God to have a female or a male child. It is well known that one should not pray for anything which is religiously forbidden. Since we are allowed to pray for a girl or a boy, then it is not wrong to select a baby's sex.

The prophet Zakariya asked God to grant him a male not a female child, because he wanted him to be a prophet like him. Religious books written by scholars and jurists mention several methods that people used to choose a baby's sex (regardless of their effectiveness).

If such selection is done on an individual level, then there is nothing wrong with it. Nor does it contradict what God said in the Koran when he stated that knowledge of a fetus's sex is one of five things that only He knows. "Verily the knowledge of the hour is with God (alone). It is He who sends down rain and he Who knows what is in the wombs."(Luquman 34). God's knowledge is not preceded by ignorance, nor does it need a means in order to be acquired. His knowledge is also untainted by doubt or hesitation. This verse was meant to warn people because priests and fortune tellers claimed to know the sex of babies before they were born. As the interpreter of the Koran Al Kortobi says "Knowledge belongs to God alone".

Some might suspect that selecting a baby's sex type might contradict God's will. This is, of course, an absurd statement, for we only know God's will after it happens, and no one can prevent his divine will. Believing this is a part of faith.

Only God knows what is going to happen before it actually happens. Moreover, everything which happens, happens according to his will, whether it occurs through regular or strange means. The laws of genetics are only reasons which God created and placed in his creatures.

There are two types of divine will: a cosmic will which happens without any action on the part of any creature. It happens because God has created the reasons for it and placed them in the cosmos. The other will lies in God's text which orders us to do certain deeds,

while forbidding us to do others. This second type will only happen if we abide by God's orders, if we rebel or disobey, it will not happen.

Ibn Taymiya explained the difference between the two types of will and the confusion which might ensue if we do not distinguish between them. A similar case pertains to the permissibility of birth control.

The IOMS's fourth conference issued the following recommendation advanced by the Islamic scholars and the doctors who participated in it:

From the religious point of view it is forbidden to control the sex type of babies at the national level, but it is permissible at the level of individuals. Some religious scholars who took part in the conference said it was religiously permissible for a couple to avail themselves of medical methods to ensure having a female or a male child, However, some other scholars who attended said it was not permissible because it would lead to one sex being dominant over the other⁽¹⁾.

(1) The Fourth Conference on Jurisprudence p.349.

DISCUSSION

Sixth Session

Chairman: Dr. Hussein Gezairy

Rapporteur: Dr. Hamid Ahmed

Chairman: Now we open the door for addresses. By this I mean specified questions. We will first have the questions. Then, we will receive their answers. I hope that the comments would not be so lengthy and detailed.

Dr. Abdel Qader: Such forums need a kind of dialogue enrichment between speakers and the participants. One of the things that cannot be unnoticed is that this forum is about human genetics and reproduction and tackles both the perspectives of the three religions and the secular viewpoint. The two perspectives are, in my opinion, two different codes. The religious viewpoint is a vision of a whole integrated array of concepts and visions. The secular viewpoint, on the other hand, is a completely different vision with a different array of concepts. How can we move from one given epistemological array to another? To begin with, the religious vision is based on Revelation. This applies to religions in general: Islam, Christianity and Judaism. Revelation tackles over all issues. Unlike religions, the secular vision is built on experience which tackles partial issues. The western intellect expressed in the words of Thomas Cole believes that one cannot be guided through a given array belonging to a certain epistemological pattern to another array belonging to another epistemological pattern. So, what is the problem? The problem is that there is a kind of overlap between the two codes, even in some of the conclusions. To be more defined, the set of concepts and visions within the scope of the secular vision are based on the American intellect. The concepts on which the religious vision is based, can be traced back to the Revelation, the Prophetic Tradition, Ijtihad and juristic opinions. The second aspect which is highly important is the approach and methodology. The secular view depends basically on the training approach and moves experimentally from one partial issue to another, even if it were described as general.

Chairman: We want questions for the speakers to answer. This discussion needs a whole session. Thank you.

Dr. Yomna Al-Tarif: My question is directed to Dr. Al Barr. It is about the prohibition of surrogacy. As being a mother before being a professor of science philosophy, I'd like to pose this question. The prohibition of womb surrogacy is based on three reasons: the inviolability of body, the loss of motherhood, and the confusion of genealogy. Based on these three reasons, I ask about the difference between womb surrogacy and breast surrogacy. The whole human body is inviolable. Does the Islamic Law not hold the breast inviolable; for it may cause confusion in genealogy? The Islamic Law, as substantiation of this, sets a law to protect genealogy in this particular case. Any mother knows that breastfeeding is the greatest existential experience one can go through, even greater than pregnancy. Thus, what is the difference between womb and breast surrogacy? Why do we not put laws for womb surrogacy as the former jurists put laws for breast surrogacy. Nowadays, the baby formula solves the problem of breast surrogacy. So the problem no more exists. This is my question. Thank you.

Chairman: Shukran. Dr. Ajeel Al-Nashmi.

Dr. Ajeel Al-Nashmi: In the Name of Allah, Most Gracious, Most Merciful. I have an addition which I believe is more important than any question. I believe that the technological reproduction destroys one of the objectives of the Islamic Law: the conjugal relation. This is a very peculiar relation. As for the technological relation, it is to be located in labs and chemistry. This is rather toying with the characteristics of the DNA. In this regard, I'd like to recite a Qur'anic verse which I wished that Dr. Abu Ghuddah had mentioned in his paper. The verse reads, "And among His Signs is this, that He created for you mates from among yourselves, that ye may dwell in tranquility with them, and He has put love and mercy between your (hearts)" (Al Rum: 21). This verse refutes the issue of technological reproduction. When the word "Signs" is used in Qur'an, it is always followed by a miracle, a bless and Grace from Allah. The words "among His Signs" can be found in 11 verses in Qur'an: 7 in the Chapter of Al Rum, 2 in

the Chapter of Al Shura and 2 in the Chapter of Fussilat. All of them, if considered, are followed by miracles. Allah Almighty could have created Eve in isolation from Adam. This would have been natural, but Allah says, "from among yourselves". The Prophetic Hadiths demonstrated that Eve was created from one of Adam's ribs. This suggests a major issue relevant to this topic we handle. By this I mean that the conjugal relation is a relation of love and mercy. Thus, the verse reads, "..., that ye may dwell in tranquility with them, and He has put love and mercy between your (hearts)" (Al Rum: 21). Tranquility here means assurance. It involves the meaning of comfort and harmony. This leads us to another issue in which love and mercy are given priority to infatuation. The word "signs" means also blessings. Thus, some jurists said that this word substantiates the fact that the rule in any marital relation is continuity and that divorce is the exception. For divorce is a rejection of one of Allah's blessings. Therefore, the rule in divorce is caution and not permissibility. In my opinion, this verse refutes technological reproduction. Once the door of technological reproduction is opened, there will be no constraints controlling it. We can accept the application of this technology on plants and animals. We may also set a rule that might have been mentioned in the papers discussed. This rule says that the technology of human reproduction through genetic engineering is basically impermissible except in necessary treatments or cases of contingency like protecting fetus from diseases. Thank you.

Chairman: Thank you. I see a question coming. Dr. Ali Mish'al.

Dr. Mish'al: I have a question and a brief comment. First, the comment is on the topic of marriage from relatives. Though I do not encourage it, I'd like to clarify this. As it concentrates the disease and bad characteristics, it also concentrates the good ones, if found. My question is directed to Dr. Al Barr about the topic of implanting the uterus. It is known that implanting the reproductive organs like the ovary and the testicles have significance for the generations to come. But this does not apply to the process of uterus implantation. The uterus is an independent organ. Was this topic studied scientifically? Thank you.

Chairman: Dr. Aida, please

Dr. Aida Al-Aqeel:

I'd like to thank Dr. Abu Ghudda for his intervention. He discussed topics overlooked by the other researchers. These topics include the genetic replacement. In my opinion as a professor of genetics, there are two methods of genetic replacement: one in the somatic cells and the other is in the reproductive cells like the ovary, the egg and the sperm. There is a difference in the impact of genetic change in both kinds of cells. When a genetic change happens in a somatic cell, the change will be limited. It will only affect this cell. Scientifically speaking, this is important in the treatment of a given genetic disease or HIV. From the perspective of Islam, this cannot be impermissible. Yet, the change in the cells of the ovary or the sperm, for instance, changes the formation of the fetus. Thus, it is considered to be impermissible. Thank you.

Chairman: Syeda Lisa Lehmann.

Dr. Lisa Lehmann: Thank you very much. I thank to speakers for the excellent presentations. I have brief questions. Prof. Winslow could just clarify. Your perspective, the Christian perspective, on freezing embryos mostly entirely, tell me what the perspective was? And similarly, Dr. Ali Al-Bar, I was wondering if he can clarify the Islamic perspective on freezing embryos in particular. If IVF is permissible, then why is it not permissible to freeze embryos? What is the solution that is offered with regard to the embryos once IVF is done? And, similarly, I was wondering if Dr. Ali Al-Bar could comment on why research on surplus ova is not acceptable? If research on ova in the form of stem-cell research is aimed and the goal of research is to prevent harm, in terms of preventing disease, I didn't understand how you got to the conclusion that the research on ova would not be permissible?

Chairman: Bishop Camillo

Bishop Camillo Ballin:

In its stance towards the method of reproduction, the Catholic church draws upon its strict adherence to respecting the system put by

Allah Almighty in His creation. The Church does not want to interfere with or change this system. This is the principle adopted by the Catholic Church. It is not strange for any other party to discuss this with the Church; for this happens in every religion and community. Yet, the opinion I have just mentioned is the result of a lengthy research that led to a clear-cut stance. Thank you.

Chairman: Shukran. Syeda Ravitsky.

Dr. Vardit Ravitsky: Many speakers today mentioned an Islamic position that allows and encourages these reproductive technologies, but not the donated sperm or egg of third party. At the same time, now, in many western countries, the main use of egg donation is to reserve the issue of the age of the women. The female reproductive psychology is much stronger than the man. And, I have mentioned that some of the anguishing families, the curious situations in which the husband wants to divorce and wants to marry younger women. I was wondering, if we think, it might be at some point permissible to use egg donation, distinct from sperm donation. In such cases, considering the fact that in case of egg donation, the female carries the pregnancy and has a biological and a strong emotional link to the embryo and to the process of child bearing.

Chairman: I think, there are two points here. The first point is that males like to marry younger women any way. And, the other is that a woman for one reason or another has been married to some and for some time has chosen not to have children, it would be also a question. She has ability to have one or more of her eggs frozen and then when she is ready because, she might pass a cycle, so it can have same woman with same man who are married, and still in marriage, then they can have an offspring. I am putting a question, not answering. I hope Dr. Hassan Hathout will answer most of the questions and if not, then we will go back again. Thank you!

Dr. Hassan Hathout: For the question, if breast-feeding is okay, why not hiring uterus? Breast feeding is alright, if we mention per say, in the Quran, this is permissible. It cannot be extended outside the given permission because the Quran tells us to have a vagina to do sex, we do have our dear wives to have sex. It is lawful. Can we then

using the same logic hire a vagina to make sex? No, and this kind of ruling has to be followed with the call “*Ahqam Tawqifia*”, a ruling is without trying to extend or to do something else and say, this is like this etc. etc. There are so many ways to procreate in nature and out of those many ways GOD has chosen for the human being. Who believes in HIM and wants to obey HIS instructions, part of package given to humanity to live by is that procreation by a man and a woman meeting and put a criteria of a marriage contract. So, I cannot say that well, if GOD made it permissible by marriage, why not take her for a week, a month, an hour and GOD will say, its okay. And so, the religious rulings are not meant to expand by finding other situations and calling them similar situations. The way the humanity should reproduce is through two sexes, by a contract, a contract can accommodate one man and one woman, anything outside that would be outside the marriage contract, which we know is so rampant in the world today. But, I am sure they are not within the regulation of Islam and I believe Christianity and Judaism also. Thank you!

Chairman: Dr. Yomna

Dr. Yomna Al-Tarif: I would not have asked this question if the breast surrogacy had not been permitted in Islam. In the Islamic Law, there may be a rule of drawing juristic analogy between a case that existed amidst the cultural and medical circumstances of the early Muslim community on the one hand and a new case imposed by the developments witnessed nowadays on the other hand. Secondly, laws must be promulgated especially for poor women. Given that poor women in the early Islamic era used to earn living from breastfeeding, why cannot widowed, divorced and poor women earn their living through hosting the fetus of a married couple?

Chairman: Dr. Hassan Hathout

Dr. Hassan Hathout: As you know, there are two kinds of verdicts: restricted verdicts (*Ahkam Tawqifia*) and verdicts liable to draw juristic analogy (*Ahkam Qiyasiyya*). The latter can be deployed in drawing juristic analogies. But the restricted verdicts cannot be extended to compromise other cases through jurist analogy. Sorry for interrupting you, but the Arab said in the past, "The free woman

should perish before eating through (renting) her breasts." Yet, Islam came and permitted free women to earn their living this way as long as a baby will be fed. Further, Islam assigned these women a special status: foster mothers. However, this is not to be expanded. Islam gave women permission to donate their breasts, but not her vagina or uterus. Thus, this analogy cannot be drawn; for this (foster mothers) is one of the restricted verdicts (Ahkam Tawqifiyya).

Chairman: Dr. David Bleich

Dr. David Bleich: I am more concerned with the methodology reflected in the ethical analysis. I presume that there is no prohibition in Islam against blood donation. I will presume there is no prohibition against blood donations even in return for payment. There is extremely no prohibition against renting a hand or mouth, or any of the organs of the body for labour. The prohibition against the prostitution is clearly against the sexual act. Unless I misunderstood the answer, two contradictory analogies can be drawn. One, an analogy to breast feeding, or even to blood donation, and the second an analogy to prostitution. Clearly, the analogy to breast feeding is much closer than the analogy to prostitution. The latter involves a sexual act, which is proscribed in many different contexts, and here is simply another one. You cannot suddenly purify the act of prostitution by labeling it the rental of a vagina. As to the rental of a vagina that is not involved in a sexual act, whether is permissible, I have no idea for what purpose it might be rented. But, the logic analogy, I am using the simple method as I formed a methodology, which is common to these two systems of Jewish and Islamic law. I would say the lady, in terms of the problem she has put, sounds correct. Now, there might be other reasons to ban surrogate motherhood that have not been addressed. My point is with regard to the analogy presented.

Chairman: Thank you very much. I think, this need to be discussed. Dr. Abu Ghuddah.

Dr. Abdul Sattar Abu Ghuddah:

In fact, breastfeeding does not involve rental of the woman's breast. It is rather a generous act of donating the milk secreted in the breast. The Muslim Jurists say that milk is one of a renewing surplus;

for it is renewable. Milk is also one of the necessities needed by the suckling baby; hence the great difference. Drawing an analogy requires that the new case has the same reason of the old one. As Dr. Hassan said, breastfeeding is stipulated in Islam for an explicit wisdom. We cannot judge if any other thing in a woman's body takes the same verdict of milk as a renewable surplus. Hence, we cannot draw an analogy between two things, the reason for either is not known. For instance, we say that wine is forbidden for the reason of its doping effect. So, any doping substance - whether invented now or after 100 years - will be subject to the same verdict. This is due to the fact that the same reason of impermissibility, doping, applies to it. Thus, Islam allows the giving away of milk and not renting the breast in the case of the foster mother. Imam Abu Hanifah said that breastfeeding is but taking care of the child. As for milk, it comes along with the care. Milk is, as aforementioned, a surplus and not one of the main body organs like the uterus. There is not but one single uterus in the whole body. It cannot be disposed of freely; for it is linked with reproduction. Moreover, any disposition will have its impact on the baby to be born. Therefore, there is a huge difference between the two issues.

Chairman: There are several questions yet to be answered.

Dr. Al Barr: Dr. Mishal asked about the uterus implantation. It needs a long time to answer this question. Yet, this kind of implantation is performed in Jeddah. Anyway, the Fiqh Academy did not forbid the implantation of the uterus or the tubes. It rather forbids the implantation of the ovaries and the testicles. The problem faced in this field was rather a technical one. Thus, if uterus implantation is scientifically possible and disciplined, there will be no problem. Dr. Aida Akeel talked about genetic engineering, germ cells and somatic cells. The implantation of germ cells, the originating cells, can have multiple risks that would persist for generations. In this regard, we are still taking the first steps. Yet, from the religious point of view, this implantation is not forbidden once we are certain of its benefits and harmless nature. Yet, this is not scientifically possible now.

Dr. Lehmann asked the chairman why the Fiqh Academy and IOMS forbade the freezing of fetuses. The word "fetuses" here is not

correct. In the west, they call it fetuses though in fact they are fertilized eggs. The main problem here is the possibility of planting a wrong fertilized egg. This amounts to 10% which is a high rate for Islam which deems the preservation of genealogy as highly important. Even if the rate were 1%, it would be high rate for Islam and would result in the same tough judgment. Dr. Jamal Sorour held a conference here in collaboration with Al Azhar. This conference approved of freezing the fertilized eggs. Yet, the number of sheikhs participating in that conference was meager. I attended that conference and another one held later. Such conferences approved of performing plastic surgery and conducting research on fertilized eggs. The Islamic Fiqh Academy in Mecca approved of using the IVF surplus of fertilized eggs in stem cells research. This runs contrary to a previous fatwa. Thus, there is a difference between the fatwa issued by the Islamic Fiqh Academy of the ICO and the IOMS on the one hand and that issued by Mecca Academy and Al Azhar on the other hand. There are, indeed, three fatwas. One states such procedure as impermissible. The second declares it lawful. The third fatwa permits the procedure within the limits of the defined research types. Thank you.

Chairman: I am sorry for holding you for so long. His eminence, Sheikh Taskhiri reminded me of the promise I gave. So, please help me to adjourn the session, to perform the Maghreb Prayer, Insha'a Allah.

RECOMMENDATIONS

Recommendations

In the name of God, Most Compassionate, Most Merciful

Praise be to God, and peace be upon the most gracious Messenger, prophet Mohamed, and upon his family and companions, and upon all God's messengers and prophets.

The world is witnessing a sweeping revolution in many fields of theoretical and applied sciences. The urge to discover and invent is driving researchers to test every conceivable method and explore every imaginable piece of untrodden land. But, while this feverish scientific activity is increasingly gaining momentum prodded on by successive scientific triumphs, ethical values and considerations seem to have taken the back seat. This dwindling interest in morals seems unfortunately to be a general trend. Some people no longer attach great importance to established ideals or lofty figures in human history. This is evidenced by what has recently happened in Denmark when a newspaper displayed an arrogant and insolent attitude towards prophet Mohamed (PBUH) through publishing disparaging caricatures of this most honored messenger ever sent by God to human kind. The feelings of a billion Muslims across the world were deeply injured by such publication. To add insult to the injury, other newspapers in a number of European countries re-published the outrageous caricatures, which inflamed the Muslim World with shocked indignation. This shameful conduct was denounced by many non-Muslim writers and prominent figures.

The seminar is dismayed to see freedom of speech so abused as to justify this uncivilized attack and ridicule against a revered religious symbol which has an unparalleled status in the hearts of all Muslims around the world.

The seminar strongly condemns any act of assault, criticism or desecration of any of God's prophets and messengers, no matter what the excuse or objective.

As the seminar organizers are fully aware of the need to examine crucial issues that are closely related to man's life, the topic put

forward for investigation and discussion is “Human Genetic and Reproductive Technologies”. The seminar’s main interest is to see how this matter is viewed by the three divine religions and to compare this with the secular attitude towards these technologies.

The subject has gained great importance because the second half of the 20th century witnessed tremendous developments in science in general and in biomedical sciences in particular. New and vast horizons were opened up in the fields of genetic engineering, human genome and cloning. All indications are that the 21st century will witness even more stupendous achievements and unprecedented applications of scientific findings particularly in the field of biology.

Recent findings and applications in the fields of biomedicine, genetics and genetic engineering have given rise to heated debates in the academic communities of scientists, ethicists and theologians. Opinions have been widely divided. Some are in full support of all these technologies. Others object to some of them. A group of seculars are cautiously reserved about such innovations, while others are simply baffled by them.

The Islamic Organization for Medical Sciences (IOMS) firmly believes it is essential to study such innovations in order to recognize the views and attitudes of specialists in these new fields of science. What is equally essential is that scholars in all religions and faiths should also get to know about the nature of these scientific activities. Theologians of a certain religion should also listen to the opinions and juridical rules of their counterparts in other religions. The ultimate goal is for all these groups to have in mind a true picture of the scientific innovations in each discipline.

In light of all this, IOMS has realized that the best way to put this into effect is to join forces with the Eastern Mediterranean Regional Office of the World Health Organization (EMRO), the Islamic Educational, Scientific and Cultural Organization (ISESCO), and the International Council of Medical Sciences Organizations (CIOMS) to hold an international seminar for looking into all these issues under the general title: “Human Genetic and Reproductive Technologies”. Eminent representatives of the three divine religions in addition to

secular philosophers were invited to contribute to the seminar and participate in the discussions.

The seminar was successfully held in Cairo from Muharram 7 to 10, 1427 H. (February 6 to 9, 2006). The sessions were held at the Kuwait Auditorium situated in the Building of EMRO under the auspices of His Excellency professor Hatem Al Gabali, the minister of health in Egypt. The meetings were attended by the Grand Imam of Al-Azhar, Sheik Mohamed Sayyid Tantawi and a large group of scientists and scholars from many Arabic and Islamic countries.

Participants in the seminar activities and extensive discussions included notable specialists in various scientific fields in addition to renowned theologians representing the divine religions, besides sociologists, secular philosophers, psychologists and political figures, some of whom are decision makers. A total of 150 participants were earnestly engaged in a full-scale discussion of the seminar main topics with a view to reaching a clear understanding of the impact of these innovations on the present and future generations and the potential problems they pose to human communities in the whole world.

Along the four days of the seminar sessions, there were serious discussions about the main topics previously mentioned in the introduction. Each group expressed their opinions quite frankly in an atmosphere of freedom, brotherhood, friendship and mutual respect. Everybody was keen to know the truth and accept it when it is finally reached.

All participants were agreed that the issues under discussion were crucial as they pertained to "Man", the most honored creature on earth, and the dangers posed to human beings by an array of technological experiments that can end up all sorts of results.

Therefore, the participants were keen to remove any likely disregard for the safety of persons used as subjects in scientific experiments. This may happen if such experiments were conducted by a breed of scientists who would go to any length to satisfy their insatiable lust for getting into the heart of whatever is still mysteriously and tantalizingly unknown, even at the cost of man's humanity.

In recognition of man's dignity and sanctity, and wishing to see to it that human life is given the value it deserves and that everything is done for its safety and prosperity, the seminar recommended that no humans should be used in experiments unless there are sufficient guarantees for their safety, and unless all necessary precautionary measures are taken to make sure they will not be put in harm's way. Researchers have a moral duty to keep within the precautions and regulations specified in world charters, of which we would like to single out the World Islamic Charter of Ethics For the Medical and Health Professions issued by IOMS in 2004.

For emphasizing world solidarity in facing the dangers of misusing the technological innovations, and in order to stress the need for issuing obligatory international legislations that conform to the principles of the three divine religions in a bid to prevent the exploitation of poor nations in the underdeveloped countries where they could be used as guinea pigs, the seminar participants agreed to issue the following declaration of principles.

**DECLARATION OF
PRINCIPLES**

Declaration of Principles

- 1 - Man is an honored being. Tampering with a human being's constituents and subjecting him to the experiments of genetic engineering without any acceptable objective is in blatant contravention of human dignity.
- 2 - Religion does not impose any restrictions on the human mind in matters relating to pure scientific research. But the product of this research should not automatically be transferred to application until it is reviewed in light of religious regulations.
- 3 - Religion recommends that we keep healthy and take all necessary preventive measures to do that. Seeking treatment when disease strikes has always been urged by religion, whether the disease is genetic or incidental. This is not in contradiction to the virtue of patience and resignation to God.
- 4 - Every human being is entitled to dignity and human rights, no matter what his genetic constitution is or his characteristics are.
- 5 - No Research may be conducted or treatment effected or diagnosis of a person's genome made without a prior rigorous evaluation of the potential risks underlying these activities. In all cases, there should be strict adherence to religious and ethical regulations set down for such activities. Furthermore, an informed consent should be obtained from the person concerned. If it happens that he is not legally qualified to give consent, then it should be obtained from his guardian who should do whatever is in the interest of that person.
- 6 - Every person has the right to freely decide whether or not he is to be informed of the results and consequences of any genetic diagnosis applied to him.
- 7 - The results of all genetic diagnoses, whether conducted at the moment or kept in records for purposes of research or for any other purpose, should be strictly confidential. The information should not be divulged except in cases stipulated in the Medical codes of ethics.

- 8 - There should be no discrimination against any person because of his genetic characteristics if the purpose or outcome of such discrimination is to infringe upon his rights and basic freedoms or to undermine his human dignity.
- 9 - No research on human genome or application thereof, especially in the fields of biology, genetics and medicine, should commit a breach of religious rules and regulations, encroach upon human rights or undermine man's basic freedoms and dignity.
- 10 - Genetic engineering may be utilized for the prevention or treatment of diseases, or for alleviating the harm caused by them. It is acceptable that a gene from a non-human being be inserted into the body of another non-human being for the purpose of obtaining a relatively profuse secretion of this gene which is then used in the treatment of certain diseases. Governments should take up such services and make them accessible to citizens of limited income because these health services are greatly expensive.
- 11 - Genetic engineering should not be utilized for evil or aggressive purposes or in breaking down the genetic barriers between different species with the intention of creating freaks with mixed up genomes. Such uncommon experimentation sometimes happens to be pursued just for kicks or to satisfy scientific curiosity.
- 12 - Genetic engineering should not be used to implement a policy of eugenics. Any attempt to manipulate the genes of a person with the purpose of "enhancing" his physical or mental abilities is religiously impermissible.
- 13 - Scientific advancement should not be monopolized by any country or group of people; neither should scientific activities and practices aim to make profits.
- 14 - No technological procedure in the fields of human reproduction and genetic engineering should be conducted if it portends real or likely dangers. If the likelihood of harm is limited, pursuit of the procedure had better be discontinued until safer circumstances obtain.
- 15 - There is nothing wrong with utilizing genetic engineering in the

fields of agriculture and animal breeding, but the utmost precautions should be made against the possibility of long-term harm to humans, animals, plants or environment.

- 16 - It is the moral duty of companies and factories that produce food-stuffs of plant or animal origins to inform the public about the nature of these products. Consumers should know if the commodities they are buying are natural or genetically engineered. Governments should keep eyes wide open about such products and heed the recommendations issued by the US Food & Drug Administration, the World Health Organization and the Food & Agriculture Organization.

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