

# The Ethics of Genetic Engineering

## An Islamic Viewpoint

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For a brief but necessary orientation, Islam is the last of the three monotheistic Abrahamic religions following Judaism and Christianity. Islam recognizes and respects both religions, upholds their same moral code, but takes exception to some doctrinal issues that Islam reckons to be innovations in the two religions. Besides the spiritual side, Islam brought forward the outlines of a comprehensive legal system covering all aspects of human life. The system is flexible enough to allow the human mind to legislate for a changing world and varying circumstances. However, this flexibility and ability to legislate is limited within the boundaries of a general framework. It is this system that is called the "Shari'ah" or Islamic jurisprudence. If we describe the principles of this system, it will perhaps be possible to apply them to "genetic engineering", which in spite of an initial brief moratorium, has grown in record time from the domain of laboratory research to that of applied biotechnology. This has far reaching actual and potential implications.

Let us first consider the attitude of Islam towards science. Not only was there never confrontation between them, but the pursuit of knowledge is a religious duty upon every muslim, man or woman. In Islamic juridical terminology, the equivalent of the term "scientific research" is called "the revealing of Allāh's traditions in His creation", and is part of Man's duty as God's trustee over this planet. Because there is no clergy-institution in Islam, there was no censorship over research. During the era of Islamic civilization, muslim and nonmuslim scientists experienced no impediment to unfolding their full potential. This helped Europe out of the dark ages by bridging Europe's gap between the Greek civilization, and the renaissance. Islam has never put an obstacle to scientific research, including that pertaining to genetic engineering.

When it comes to application, however, five Islamic governing rules must be reviewed.

The *first* comprises the five goals of Jurisprudence,

specified as the preservation and protection of self (i.e., life), mind, faith, ownership and procreation.

The *second* is Allāh's gift to humanity expressed in the Qur'ān. Allāh says:

"And He has made subservient to you, as from Himself, all that is in the heavens, and on earth . . ."

This verse is interpreted by exegists as endowing Man with the creative mind and giving him the mandate to make conscious use of nature and all the creatures. It seems that these two rules together give the human race a free hand to harness and manipulate nature in any way that ensures the fulfillment of the five specified goals of Jurisprudence.

This, however, does not mean that the road has been opened to be trodden without safeguards or warning signals and here comes our *third* rule, in the form of a Qur'ānic verse which stands out and catches attention when one ponders on the subject of genetic engineering. This verse refers to "changing Allāh's creation" and there is a story behind it. The Qur'ānic version of the story of Adam and Eve reports that Satan tempted both to eat from the forbidden tree, they both sinned by disobeying Allāh, they both repented, and were both forgiven. After that they were entrusted with the noble mission of populating planet earth, and the human race to act as Allāh's vicegerent therein. This version is a departure from that which charges Eve of being the prime culprit and the human race to have been sent to earth in punishment, and that every human being therefore is born in sin. When Satan saw the curve of events in favor of man whom he had planned to misguide and that man was eventually forgiven and honored by Allāh and chosen for vicegerency on earth, Satan did not despair and asked Allāh for a second chance to chase Adam and his progeny on earth and put them to the test again. Allāh granted the request, but said He would provide them with such guidance that would immunize them against Satan's temptations, except for those who willfully reject Allāh's guidance in favor of Satan's temptations. In an expression of this plan to lead mankind astray, the Qur'ān quotes the rebellions Satan addressing Allāh about the human race.

"... Verily of thy servants I shall most certainly take my due share. I shall lead them astray and fill them with vain desires. And I shall command them so that they cut off the ears of cattle (in idolatrous sacrifice) and I shall command them and they will change Allāh's creation. But all who take Satan rather than Allāh for their master do indeed most clearly lose all. He (Satan) holds out promises to them and fills them with vain desires, yet whatever Satan promises them is but meant to delude the mind."

The expression of "changing Allāh's creation" in answer to Satan's temptation has commanded attention and generated debate over the centuries. In vogue nowadays is its application on surgical sexual conversion of men into women and vice versa unless it is corrective surgery to restore the real sex. Genetic engineering is certainly a very inviting field to consider the invocation of this verse. After all, has not genetic engineering gone further than the mere changing to the capability of producing new creatures hitherto unknown in the natural order of creation? Fortunately, however, it is the consensus that this verse from the Qur'ān can not be taken as a ban on genetic engineering or else, if carried too far, it might be made to conflict with many forms of therapeutic surgery including appendectomy, tonsillectomy, cholecystectomy and others that may be life saving and life promoting although they entail a change in Allāh's creation.

The sources of legislation in Islam are the Qur'ān (Allāh's word), the teachings of prophet Muḥammad called "Tradition" or "Sunnah" and for issues not spelled out in the Qur'ān and Sunnah legislation is to be based on legitimate reasoning, i.e., "Ijtihād" and analogy, i.e., "Qiyās". Since neither the Qur'ān nor Sunnah made mention of genetic engineering, the ruling is based on legitimate reasoning, i.e., reasoning which does not conflict with the spirit of Islam or the given goals of the Jurisprudence, i.e., preservation of life, mind, faith, ownership, and procreation. A juridical rule is in operation for such situations not specified in Qur'ān or Sunnah and this is our *fourth* guiding rule, the text of which is "Wherever the welfare exists, there stands the statute of Allāh." The feasible conclusion therefore is that there are no restrictions on genetic engineering research, but that the entry of the fruits of that research into the realm of widespread applied biotechnology should be allowed, one by one, only through the filter of juridical sanction ensuring its compliance with the benefit to humanity, the heeding of the *fifth* rule, which is the juridical dictum that reads: "Harm and harming are not of Islam". Applications leading to enhancement of human life, health, and welfare are not only permissible but are an act of charity that is commendable and rewardable by Allāh. Dangerous

applications, expressed by early concerns in the seventies about the military exploitation of biotechnology in biological warfare are obviously objectionable. So are exotic applications, or doing things only and solely because they can be done, or to assuage curiosity or to interfere with the integrity of the human personality, and its eligibility for personal accountability or to promote desires and inclinations that are prohibited by Islam. In all cases, rigorous precautions should be made to guard against unforeseen untoward complications that in this particular field might prove disastrous, even at the cost of resisting the burning desires to be the forerunner or the first on the market. Some genie might be unleashed out of its bottle one day and wreak devastation beyond control, either directly or by a chain reaction it sets off.

It is not possible to recount the applications of genetic engineering one by one, nor is it possible to look into the future for the hitherto unforeseen applications of this very fertile technology, but a few examples and projections are not out of place. New bacteria have been created to serve the pharmaceutical, nutritional, industrial and other needs of Man, but the fear that some lethal new forms of organisms might inadvertently escape out of the laboratories and cause devastating epidemics still looms. The possibility of misplaced genes eventually finding their way into the cells of human beings and producing cancer has been voiced. Not only are new plant forms are being created, but the whole concept of agriculture as a human need might well be revolutionized beyond recognition with far reaching implications upon labor and upon the environment.

An easy application to commend is gene therapy to correct genetic errors. It is the equivalent of organ transplantation at the molecular level, although its application at the germ line level will certainly be an innovation when its time comes. But what about the application of similar eugenic techniques when behavioral and personality genes become identifiable and amenable to transfer? Shall the ridding of Man of disease slide into the genetic betterment of human stock? And who should decide what betterment means? And from whose point of view? Shall Man be made to order according to a predesigned blue print? Or would this upset the human order in its totality based on variety and variability of physical, mental and spiritual attributes?

Another window of possibilities has recently been opened with the relatively easy introduction of sizeable cuts of human DNA into rat germ cells. There seems to be no doubt that further manipulation of these techniques, fueled by the scientific flare to pursue the unknown, will result - amongst other things - in the blurring of genetic identify of species and the compromising of interspecies barriers. Should one be scientifically curious about the extent

to which animals can be humanized and the extent to which Man can be animalized? And who is to set the rules of this game and acquire the mastery over its tremendous power? Is it science and the scientists? But does not science admit its incompleteness as it gropes for more knowledge by research into the vast expanse of our ignorance? When the first atomic bomb was dropped over Hiroshima, Oppenheimer said: "Today physicists have known sin". Will the day come when biotechnologists inadvertently fall into sin, albeit with much more at stake?

But the ethics of genetic engineering go beyond concepts and technicalities. Biotechnology has launched a revolution wider than the prefix "bio" implies. Life forms have been patented and the voracious appetite of industrial capital has been aroused. Scientists' past contentment with their ivory towers has eroded now that golden towers compete. Capital is interested in profit rather than philanthropy and this will influence both science and scientists. Competition evokes secrecy and the market directs research. The issues of accessibility and equity, especially in matters of life and health and especially for the poor and underprivileged, should be a concern.

When the question of scientific control was raised in the early seventies and whether it was to be entrusted to the politicians or the scientists, it was my prayer that neither the politicians nor the military would grab it. With the contemporary marriage between scientists and industry, one can see the blessings, but also the reservations. Genius has a right to be amply rewarded but also a duty to be graciously discharged. A balance should be maintained. This "balance" is described several times in the Qur'ān. Allāh says:

"It is Allāh who has sent down the book Qur'ān in

truth, and the balance (by which to judge right and wrong)".<sup>1</sup>

"And the firmament has He raised high and He has set up the balance of Justice in order that you may not transgress this balance."<sup>2</sup>

As scientists decipher the creation they should be mindful of the Creator, for as the Qur'ān says:

"... Amongst His worshippers, the learned heed him most..."<sup>3</sup>

In view of all this perhaps it is time for an Ethical Code of Genetic Engineering to be written, before we are overtaken by its rapid pace and before shortcomings are rooted beyond reversal. All concerned should give their input towards that code, which even if not legally binding should be morally guiding. In this respect, I am confident that the vast area of commonalities will provide for the formulation of a Judeo-Christian-Islamic ethic for genetic engineering.

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#### References

1. Glorious Qur'ān, Chapter 45, Verse 13.
2. Glorious Qur'ān, Chapter 4, Verse 118-120.
3. Glorious Qur'ān, Chapter 42, Verse 17.
4. Glorious Qur'ān, Chapter 55, Verse 7-8.
5. Glorious Qur'ān, Chapter 35, Verse 28.